A PERFORMANCE IMPROVEMENT MODEL OF DISCIPLINE LEADERS IN HIGHER VOCATIONAL COLLEGES IN SHANDONG PROVINCE

SUN XIAOTONG
6319002019

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Educational Administration Innovation
Graduate School of Education
Siam University
Academic Year 2026
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Title	A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province
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Abstract

Title A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province

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Degree Doctor of Philosophy

Major Educational Administration Innovation

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(Associate Professor Dr. Boonmee Nenyod) (Dr. LeeHsing Lu)

The rapid development of vocational education in China, particularly the implementation of the "Double High Plan" and professional cluster initiatives, has placed increasing demands on discipline leaders in higher vocational colleges. However, many discipline leaders continue to experience difficulties related to expanded responsibilities, competency development, organizational support, and work performance.

This study aimed to: (1) examine the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and work performance on discipline leaders' work performance; (2) investigate the mediating roles of self-efficacy and team cohesiveness and the moderating role of team feedback; and (3) develop and validate a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province.

A mixed-methods design was employed. Quantitative data were obtained from 470 valid questionnaires collected from discipline leaders in 20 sampled higher vocational colleges. Qualitative data were gathered through semi-structured focus group discussions and expert validation. Structural equation modeling, bootstrapping, moderation analysis, and thematic analysis were used to analyze the data.

The findings showed that job characteristics, competency, and organizational support had significant positive effects on self-efficacy, team cohesiveness, and work performance. Self-efficacy and team cohesiveness significantly mediated these relationships, while team feedback strengthened their effects on work performance. Based on the integrated findings, an empirically validated performance improvement model was developed. The model identifies job characteristics, competency, and organizational support as foundational antecedents; self-efficacy and team cohesiveness as core mediating mechanisms; team feedback as an amplifying mechanism; and task, contextual, and adaptive performance as the principal outcomes.

The model provides a systematic framework for improving job design, competency development, organizational support, team collaboration, and feedback practices in higher vocational colleges.

Keywords: job characteristics, competency, organizational support, self-efficacy, team cohesiveness, team feedback, work performance, higher vocational colleges

Acknowledgement

First and foremost, I would like to express my profound gratitude to my advisors, Assoc. Prof. Dr. Boonmee and Dr. LeeHsing Lu, for their invaluable guidance, constant encouragement, and insightful feedback throughout the entire research process. Their professional expertise and unwavering support have been essential to the successful completion of this dissertation.

I would also like to extend my sincere appreciation to the faculty members and administrative staff at Siam University. Their assistance, academic input, and administrative support played a significant role in shaping the direction and quality of this study. My heartfelt thanks further go to the respondents and administrative personnel from higher vocational colleges in Shandong Province, who generously contributed their time, perspectives, and experiences to this research.

My deepest thanks are also offered to my fellow researchers and classmates for their encouragement, stimulating discussions, and friendship throughout this doctoral journey. Their companionship has made this demanding path not only meaningful but also deeply fulfilling.

I am profoundly grateful to my family—especially my parents, spouse, and children—for their unconditional love, patience, and moral support. Their understanding and sacrifices have been my greatest source of strength and motivation.

Lastly, I express my sincere thanks to all individuals who, in various ways, have contributed to the development and completion of this dissertation. Without your support, this academic milestone would not have been possible.

Sun Xiaotong

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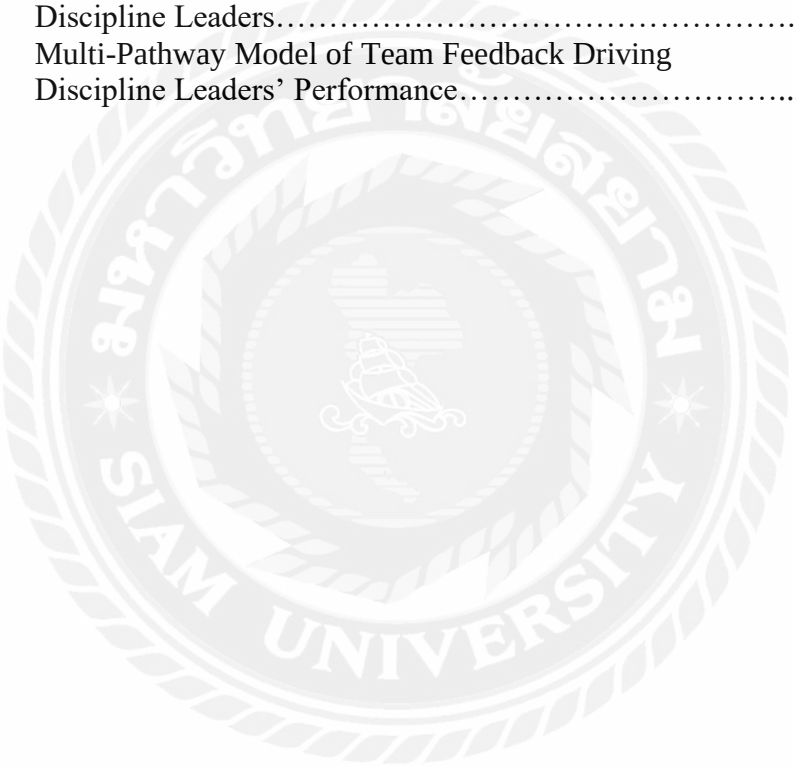
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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

In recent years, the Chinese government has attached increasing importance to the high-quality development of vocational education. The National Vocational Education Reform Implementation Plan emphasized the improvement of vocational education systems, the enhancement of training quality, and the strengthening of industry–education integration (State Council of the People's Republic of China, 2019). In 2019, the Ministry of Education and the Ministry of Finance issued the Implementation Opinions on the Construction Plan of High-Level Higher Vocational Schools and Majors with Chinese Characteristics, commonly known as the "Double High Plan," which aimed to support the development of high-level vocational colleges and major groups with Chinese characteristics (Ministry of Education & Ministry of Finance, 2019). In 2021, the Chinese government further issued policy guidelines on promoting the high-quality development of modern vocational education, emphasizing the construction of a modern vocational education system by 2025 and the global competitiveness of Chinese vocational education by 2035 (State Council of the People's Republic of China, 2021). These policies have raised new requirements for higher vocational colleges in terms of professional cluster construction, teaching team development, industry–education integration, and school–enterprise cooperation.

Against this policy background, discipline leaders in higher vocational colleges are expected to play a key role in curriculum development, teaching reform, professional cluster construction, faculty development, research coordination, and industry–education collaboration. However, the expansion of these responsibilities also increases the complexity of their work. Discipline leaders need to demonstrate not only professional and teaching competencies but also leadership, coordination, adaptability, and the ability to integrate institutional and industrial resources. Therefore, improving the work performance of discipline leaders has become an important issue for the high-quality development of higher vocational education.

Existing research on teacher development and educational management has shown that job characteristics, competency, organizational support, self-efficacy, team cohesiveness, and feedback mechanisms are closely related to individual and team performance (Hackman & Oldham, 1976; Eisenberger et al., 1986; Bandura, 1997; Borman & Motowidlo, 1993). However, relatively limited empirical research has examined how these factors jointly affect the work performance of discipline leaders in higher vocational colleges. Therefore, this study constructs and validates a performance improvement model of discipline leaders in higher vocational colleges in Shandong Province.

Meanwhile, enhancing the performance of discipline leaders in higher vocational colleges is particularly urgent and necessary. Based on the job characteristics model, competency theory, organizational support theory, and team effectiveness theory, this study will explore the multiple factors that influence the performance of discipline

leaders. This provides theoretical support for understanding the performance of discipline leaders in higher vocational colleges and offers a scientific basis for formulating effective management strategies and optimizing educational practices, promoting the high-quality development of higher vocational colleges.

1.2 Research Problem

The rapid development of higher vocational education in China has expanded the responsibilities of discipline leaders beyond traditional teaching and academic coordination. In higher vocational colleges, discipline leaders are increasingly expected to undertake curriculum reform, professional cluster development, faculty coordination, research organization, quality assurance, industry–education integration, and school–enterprise cooperation. These responsibilities require them to work across academic, managerial, and collaborative boundaries. As a result, their performance cannot be explained solely by individual professional ability; it is also related to the design of their work, the support available within their institutions, their confidence in handling complex responsibilities, and the effectiveness of collaboration within professional teams.

Despite the growing importance of discipline leaders, existing research does not yet provide a sufficiently integrated explanation of how their work performance can be improved. Relevant studies have developed along several relatively distinct lines, including job design and job characteristics (Hackman & Oldham, 1976), perceived organizational support (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002), self-efficacy (Bandura, 1986, 1997), and team cohesion and performance (Beal et al., 2003). Although these research streams provide important explanations of work behavior and performance, they offer less insight into how individual, organizational, psychological, and team-related factors operate together in the specific context of discipline leadership. In particular, greater attention is needed to the mechanisms through which job characteristics, competency, and organizational support are translated into performance outcomes. Self-efficacy and team cohesiveness are relevant to this process because discipline leaders must not only develop confidence in handling complex academic and managerial tasks, but also coordinate collective work within teaching and professional teams.

A further issue concerns the role of feedback in the performance improvement process. Feedback research has emphasized its importance for self-regulation, managerial effectiveness, learning, and performance improvement (Ashford & Tsui, 1991; London, 2013). However, in the context of discipline leadership, feedback may have significance beyond its direct informational function. Strong self-efficacy or high team cohesiveness may not always result in better performance when communication is infrequent, information is delayed, or team members have limited opportunities to provide constructive responses. This raises the possibility that team feedback may strengthen the extent to which psychological confidence and team cohesion are translated into actual performance. Accordingly, this study examines team feedback as a moderating mechanism rather than merely as a general management practice.

These considerations point to the need for a more integrated performance improvement model. Drawing on the Job Characteristics Model, Competency Theory, Perceived Organizational Support Theory, and Social Cognitive Theory, this study

examined job characteristics, competency, and organizational support as antecedent conditions; self-efficacy and team cohesiveness as mediating mechanisms; and team feedback as a moderating mechanism. Discipline leaders' work performance is treated as the principal outcome and was examined through task performance, contextual performance, and adaptive performance. The distinction between task and contextual performance was grounded in the performance framework of Borman and Motowidlo (1993), while adaptive performance reflects the capacity to respond to changing tasks, technologies, and uncertain work environments (Pulakos et al., 2000). Accordingly, the central research problem of this study is how these individual, organizational, psychological, and team-related factors interact to improve the work performance of discipline leaders in higher vocational colleges in Shandong Province.

Table 1.1 Limitations of Existing Research on Discipline Leaders' Work Performance

Focus of Existing Research	Missing Element
Individual competency and professional development	Limited integration of job design and institutional support
Individual psychological factors	Insufficient attention to team-level mechanisms such as team cohesiveness
Direct effects on work performance	Limited examination of mediating mechanisms
Teaching and task outcomes	Insufficient consideration of contextual and adaptive performance
General feedback practices	Limited examination of team feedback as a moderating mechanism
General teacher populations	Limited evidence concerning discipline leaders in higher vocational colleges

1.3 Research Questions

(1) What are the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province?

(2) What roles do self-efficacy, team cohesiveness, and team feedback play in the performance improvement process of discipline leaders in higher vocational colleges in Shandong Province?

(3) What performance improvement model can be developed and validated for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings?

1.4 Research Objectives

To achieve this aim, the study sought to focus on specific objectives:

(1) To examine the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province.

(2) To examine the mediating roles of self-efficacy and team cohesiveness and the moderating role of team feedback in the performance improvement process of discipline leaders.

(3) To develop and validate a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings.

1.5 Scope of the Study

1.5.1 Scope of Area

The regional scope of this study was Shandong Province, focusing on the higher vocational colleges within Shandong. As a province with relatively advanced vocational education development, Shandong boasts a lot of higher vocational colleges with diverse types, providing typical samples for the study.

1.5.2 Scope of Population

The population was discipline leaders in higher vocational colleges. These discipline leaders are pivotal figures in the professional development of higher vocational colleges. Enhancing their competency and work performance will elevate the overall competitiveness of the institutions. They serve as highly representative figures in the research context. Shandong Province boasts 90 higher vocational colleges, including Shandong Medical College, Heze Medical College, Shandong Commercial Technical College, Shandong Electric Power College, Rizhao Polytechnic, Qingdao Vocational and Technical College, Weihai Vocational College, Shandong Vocational College, Shandong Labor Vocational and Technical College, Laiwu Vocational and Technical College, Jining Vocational and Technical College, and Weifang Vocational College, among others. Among these, 69 are public institutions and 21 are private. There are a total of 3,690 discipline leaders across these higher vocational colleges. These discipline leaders are the core backbone within a specific field of the colleges, undertaking multiple responsibilities such as academic research, curriculum development, faculty training, and external cooperation. This study also employed focus group discussion to validate the research findings. participants included college-level leaders, department heads, and administrative personnel related to discipline construction or performance management.

1.5.3 Scope of Content

The study was centred on a performance improvement model for discipline leaders.

Independent Variables: Job Characteristics Model, Competency, Organizational Support

Mediating Variables： Self-Efficacy, Team Cohesiveness

Moderating Variable： Team Feedback

Dependent Variable: Discipline Leaders' Work Performance.

1.6 Significance of the Study

As the core of vocational education and leaders in professional development, discipline leaders in higher vocational colleges (HVCs) have their performance related to teaching quality, research capability, and professional development. However, in response to policy requirements such as the development of professional clusters and the Double High Plan promoted by the government in recent years, the performance of discipline leaders has failed to meet policy goals and market demands. Therefore, studying the factors that affect the performance of discipline leaders and exploring ways and strategies to improve it hold significant theoretical and practical value.

This study provides a new perspective on performance management theory in high vocational education. Existing research has focused on the general higher education sector, with limited studies on the performance of discipline leaders in HVCs, and most of these studies have emphasized the analysis of single factors. Exploring the impact of multiple factors, including job characteristics, competency, organizational support, self-efficacy, and team cohesiveness, on the performance of discipline leaders. This study integrates theories of management and education, including the job characteristics model, competency theory, organizational support theory, and team effectiveness theory. Applying approaches provides a multidimensional perspective for understanding the influencing mechanisms of discipline leader performance in HVCs. This study introduces team-level variables such as organizational support, team cohesiveness, and team feedback. It comprehensively examines the impact of variables at both the individual and organizational levels on the work performance of discipline leaders. This study addresses the research gap regarding the organization's impact on teacher development. This comprehensive research method helps reveal the internal logical relationships that affect performance, thereby providing a more systematic theoretical framework for research on vocational education management.

For practice, the significance of this study lies in providing scientific guidance and a decision-making basis for enhancing the performance of discipline leaders in higher vocational colleges (HVCs). The research findings will assist human resource management departments in HVCs to design more scientific and reasonable performance appraisal and incentive mechanisms. By identifying and optimizing influencing factors such as job characteristics, competency, and organizational support, managers can formulate targeted strategies, such as designing motivational work tasks, providing professional development training, and enhancing organizational support, to stimulate the intrinsic motivation and work enthusiasm of discipline leaders, thereby improving their overall performance. This study offers specific strategies and pathway suggestions for cultivating and enhancing the capacity of discipline leaders in HVCs. As the vocational education sector continues to reform, discipline leaders should possess higher qualities and diversified abilities. This study provides empirical evidence for education departments to enhance discipline leaders' knowledge, skills, and management abilities. These contribute to the individual development of leaders and promote the overall educational quality of HVCs by improving teaching quality, research capability, and social service abilities.

This study also has a positive reference value for policy formulation. By exploring the relationship between government-driven vocational education policies and the performance of discipline leaders, this study can provide a scientific basis for the

government to formulate policies on professional development and human resource development in HVCs. Especially in the context of policies such as the "Double High Plan" and "Professional Cluster Development," the government needs more research findings to guide policy implementation and optimization. The research conclusions will help the government understand potential obstacles and areas for improvement in policy implementation, thereby more effectively promoting the achievement of policy goals. This study has important social significance for advancing the development of higher vocational education in China. With economic restructuring and industrial upgrading, the demand for highly skilled talents is increasing, and HVCs play an indispensable role in meeting social talent demands and promoting employment. Improving the performance of discipline leaders, can indirectly enhance the professional abilities and employment competitiveness, provide high-quality technical talents to society, and thus support the sustainable development of the national economy. These align with the strategic direction of national vocational education reform and development. These are of great significance for improving the international competitiveness of China's vocational education.

This study provides a new perspective and theoretical foundation for higher vocational education management. It offers powerful guidance for enhancing the performance of discipline leaders and promoting the overall improvement of vocational education quality. This study also holds significant policy and social implications, capable of providing the scientific basis and strategic support for governments and education departments to optimize policy formulation and advance vocational education reform. Through in-depth exploration, this study will provide solid academic support and practical reference for promoting the rapid development and high-quality construction of Chinese HVCs in the new era.

1.7 Definition of Key Terms

Table1.2 Definition of Key Terms

Term	Definition
Job Characteristics (JC)	In the context of higher vocational colleges, job characteristics refer to the structural features of discipline leaders' positions, including skill variety, task identity, task significance, autonomy, and feedback. These characteristics influence discipline leaders' intrinsic motivation and work behavior, thereby shaping the effectiveness of teaching reform, curriculum construction, research leadership, and professional cluster development. For example, higher task identity and autonomy enable discipline leaders to lead curriculum innovation and promote the construction of professional clusters.
Competency	Competency refers to the professional knowledge, teaching ability, research capacity, and leadership skills required for discipline leaders to fulfill their academic and administrative responsibilities. Specifically, these competencies include curriculum development expertise, professional mastery, project application and management, research output

Term	Definition
	capability, industry insight, teamwork coordination, and the capacity to guide professional cluster construction. High levels of competency enable discipline leaders to undertake key tasks such as curriculum reform, talent development, and school–enterprise collaboration.
Organizational Support (OS)	Organizational support refers to discipline leaders' perceived level of care, resources, and recognition provided by their institutions, including financial support, teaching platforms and facilities, campus resources, training opportunities, institutional culture, and incentive mechanisms. Strong organizational support encourages discipline leaders to devote greater effort to teaching reform, educational innovation, professional cluster development, and performance enhancement.
Self-Efficacy (SE)	Self-efficacy refers to discipline leaders' belief in their ability to successfully complete academic and administrative tasks. High self-efficacy strengthens their confidence in managing curriculum reform, professional cluster construction, teaching innovation, and team coordination. Discipline leaders with strong self-efficacy are more likely to take initiative, respond proactively to challenges, and maintain long-term motivation for professional development and performance improvement.
Team Cohesiveness (TC)	Team cohesiveness refers to the level of unity, collaboration, and interpersonal trust among discipline leaders and their team members. It encompasses both task cohesion and social cohesion. High team cohesiveness enhances the effectiveness of teaching and research collaboration, improves problem-solving coordination, strengthens school–enterprise partnerships, and increases overall efficiency in promoting teaching reform and project implementation.
Team Feedback (TF)	Team feedback refers to the ongoing, informative, constructive, and timely feedback behavior that team members provide to discipline leaders during professional interactions. This feedback is explicitly aimed at improving teaching, research, and team collaboration. The construct particularly emphasizes the frequency of feedback, including how often team members—through formal or informal channels—offer suggestions, evaluations, or reflective comments on discipline leaders' professional actions, decision-making effectiveness, and team management during daily teaching activities, instructional meetings, project collaborations, and curriculum reform practices.
Work Performance (WP)	Work performance refers to the comprehensive behaviors and outcomes demonstrated by discipline leaders within their assigned responsibilities. It includes three dimensions:

Term	Definition
Discipline Leaders (DL)	➢ Task Performance: The quality of teaching, curriculum development, instructional material construction, research achievement, and professional competition coaching. ➢ Contextual Performance: Contributions to teamwork, organizational collaboration, school event support, and proactive participation in teaching reform. ➢ Adaptive Performance: The ability to respond to policy changes, technological innovation, and shifting industry needs, such as adjusting curriculum content or resolving emergent educational issues. In this study, discipline leaders refer to formally appointed academic or professional leaders in higher vocational colleges who are responsible for coordinating the development of a discipline, major, or professional cluster. Their principal responsibilities include curriculum planning and development, teaching reform, faculty development, research coordination, quality assurance, industry–education integration, school–enterprise cooperation, and the organization of professional teams. They serve as key links between institutional policies, teaching teams, industry partners, and professional development goals, and their work performance directly affects teaching quality, team effectiveness, and the sustainable development of vocational programs.

CHAPTER 2

LITERATURE REVIEW

This chapter is divided into 11 parts as follows:

2.1 Introduction

2.2 Job Characteristics

2.3 Competency

2.4 Organizational Support

2.5 Self-Efficacy

2.6 Team Cohesiveness

2.7 Team Feedback

2.8 Work Performance

2.9 Correlation Research on the Relationship of Variables

2.10 Theoretical Framework, Conceptual Framework, Hypothesis and Explanation of Hypothesis

2.11 Conclusion

2.1 Introduction

In globalization and the knowledge-based economy, higher vocational education faces unprecedented opportunities and challenges. As key drivers of program development and talent cultivation in higher vocational colleges, discipline leaders undertake teaching and research tasks that play a central role in professional development and team management. Therefore, an in-depth exploration of the factors influencing the performance of discipline leaders in higher vocational colleges holds significant theoretical and practical value for optimizing human resource management and enhancing educational quality. In recent years, academia has conducted extensive research on the performance of discipline leaders in higher vocational colleges, focusing on the influence mechanisms and interrelationships among job characteristics, competency, organizational supports, self-efficacy, team cohesiveness, and team feedback. To reveal the functioning of these influencing factors, this chapter systematically reviews and analyses relevant literature based on classic theories such as the job characteristics model, competency theory, organizational support theory, and team effectiveness theory, clarifying the relationships among different variables and their mediating effects. This chapter summarizes the theoretical foundation of the job characteristics model and its impact on the performance of discipline leaders, focusing on analysing how core characteristics such as skill variety, task identity, task significance, and autonomy indirectly enhance performance through self-efficacy or team cohesiveness. This chapter explores the correlation between competency and performance, emphasizing the facilitating role of competency in enhancing Self-Efficacy and team cohesiveness. It also discusses how the incentive mechanisms,

supportive culture, and training opportunities provided by organizational support influence the psychological state and team effectiveness of discipline leaders, improving work performance. Through a comprehensive analysis of relevant research in the fields of management and educational administration, this research aimed to provide theoretical support and empirical evidence for the systematic study of factors influencing the performance of discipline leaders in higher vocational colleges and to offer new perspectives and insights for subsequent research and educational practice.

2.2 Job Characteristics

2.2.1 Definition of Job Characteristics

The evolution from the division of labor theory, scientific management theory, to the two-factor theory, validates that job design can fulfill employees' psychological and social needs (Garg & Rastogi, 2006), thereby enhancing the motivational capacity of work itself, stimulating employees' work motivation, and elevating their enthusiasm and creativity at work. In a broad sense, job characteristics refer to the unique factors that embody an individual's job value and distinguish it from other job variables (Reif & Luthans, 1972). At a narrower level, job characteristics pertain to the inherent attributes of the job (or tasks), such as knowledge and skills required, job nature, compensation and benefits, and career development.

Herzberg et al. (1959) introduced the Two-Factor Theory in his research, categorizing workplace factors into motivators and hygiene factors. The fulfillment of motivators enhances employees' work enthusiasm and satisfaction, while hygiene factors merely reduce employee dissatisfaction without truly motivating them. The Two-Factor Theory demonstrates an intention to study job characteristics. As research progresses, job design gradually becomes the focus of scholars' attention. Seashore & Taber (1975) pointed out that job design encompasses various aspects such as the work environment, job promotion, interpersonal relationships, safety and security, compensation, and benefits, among others. With the continuous development of theory, job design is not limited to meeting economic interests but also needs to accommodate employees' interests.

Research on job characteristics began in the 1970s, with its root theories including work design theory, job characteristics model (JCM), and Social Information Processing Model, among others. Based on the research of Faunce et al. (1965) and Hackman & Oldham (1976), Hackman & Oldham (1976) proposed the job characteristics model (JCM). established a comprehensive analytical framework for the job characteristics model. This theory introduces five core dimensions of job characteristics: skill variety, task identity, task significance, autonomy, and feedback (Hackman, 1980). Hackman and Oldham (1976) proposed that the five core job dimensions influence three critical psychological states: experienced meaningfulness of work, experienced responsibility for work outcomes, and knowledge of the actual results of work activities. These three critical psychological states further influence individuals' work attitudes, behaviors, and performance, such as work passion, engagement, satisfaction, and efficiency (Oldham & Kulik, 1983). Job characteristics serve as a crucial theoretical foundation for job design and redesign, with related research focusing on two directions: work stress, burnout, and intrinsic motivation. The first category of research emphasizes work stress and burnout issues, with representative theories including the Demand-Control Model (DC Model) proposed by Katsikea et al. (2011) and the Job Demands-Resources Model (JDR Model) put forward by Demerouti et

al. (2001). The DC Model reveals the sources of work stress from theoretical and practical perspectives by distinguishing between job demands and job control in the workplace. From the perspective of job burnout and engagement, the Job Demands–Resources Model summarizes work-related factors into two aspects: job demands and job resources (Schaufeli & Bakker, 2004). The research focuses on intrinsic motivation, with the most representative being the Job Characteristics Model (JC Model) proposed by Hackman and Oldham (1976). This model emphasizes that the content of work itself can intrinsically motivate employees. Such motivational effects rely on objectively existing job characteristics that correlate with employees' subjective perceptions of these characteristics (Demerouti et al., 2001).

This study, grounded in the Demand-Control (DC) model and the Job Demands-Resources (JDR) model, defines job characteristics as the factors or attributes related to work. Job characteristics involve skills and abilities, a complete task process, and the ability to complete tasks independently and make autonomous decisions. These job characteristics enable employees to understand the actual outcomes of their work activities. Employees experience a sense of meaning in their work and accountability for its results. Understanding job characteristics contributes to enhancing the satisfaction of employees' growth needs, leading to higher job satisfaction, a high degree of intrinsic work motivation, and high-quality work efficiency.

2.2.2 Dimensions of Job Characteristics

The academic community primarily uses scales as the primary measurement tool for job characteristics. Based on theories related to job design, Turner & Lawrence (1965) introduced the Requisite Task Attributes Index (RTA) to measure the correlation between job attributes and employee work engagement. Since the RTA index reflects the relationship between job characteristics job satisfaction, and job accomplishment. It was widely applied in research. The foundation for the development of later professional versions of job characteristic scales.

Hackman & Oldham (1976) developed the Job Diagnostic Survey (JDS) based on the five-factor. This survey includes seven dimensions: skill variety, task identity, task significance, autonomy, feedback from the job, feedback from others about job results, and working relationships. It comprises eight questionnaire modules with a total of 87 items. To quantify individuals' perceptions and experiences in the work process, Sims et al. (1976) created the Job Characteristic Inventory (JCI), which encompasses six dimensions: job diversity, job autonomy, interpersonal relationships at work, friendships at work, task identity, and feedback in work, involving 30 items. Some scholars have also developed scales targeting specific job characteristics, such as Pearce & Gregersen's (1991) Task Interdependence scale and Frese et al.'s (1996) Work control and complexity scale. Dwyer and Gangsters (1991) developed a Work Control scale.

Among the job characteristic scales, the JDS scale is the most widely used in academia. In research, scholars have pointed out the shortcomings of the JDS scale. The positive and negative items in the scale's item setting result in an artificial error variable when conducting factor analysis. This issue pertains to variable error in research models. Therefore, Idaszak & Drasgow (1987) further revised the JDS scale by unifying the items into positive statements, mitigating this problem to a certain extent. This study integrates job characteristic scales and proposes research measurement items based on the scales by Hackman et al. (1975) and Idaszak & Drasgow. (1987). The job characteristic measurement scale includes 10 items

related to skills, abilities, process tasks, autonomous decision-making, impact of outcomes, and feedback.

2.2.3 Research on Job Characteristics

Job characteristics have always been regarded as an important research topic in human resources. Research on the impact of job characteristics on employees is divided into two aspects: one is studying the impact of job characteristics on individuals based on mature job characteristic models; the other is examining the influence of single job characteristics on individuals. Some studies investigate the impact of job characteristics on individual behavior based on integrated, mature job characteristic models. Gagné et al. (2019) used a job design questionnaire to explore the effects of job characteristics at different levels on individuals' knowledge-sharing and knowledge-hiding behaviors. Katsikea et al. (2011) conducted empirical research based on job characteristic models, revealing that job autonomy, skill variety, and feedback mechanisms can significantly enhance individual job satisfaction. Researchers have found that there is a positive correlation between perceived motivating job characteristics and employees' well-being. Researchers also discovered a significant positive association between job characteristics and both task performance and contextual performance of managers. Scholars have pointed out that the five core elements of job characteristic models can effectively promote individuals' knowledge-sharing behavior (Humphrey et al., 2007). All five core dimensions of job characteristic models have a positive impact on innovation performance. These studies reveal the multiple influences of job characteristics on individual behavior and performance in different contexts, providing theoretical and empirical support for a deeper understanding of the relationship between job characteristics and employee performance (Hackman & Oldham,1976).

Research on job characteristics in educational organizations shows that reasonable job design significantly promotes team cohesiveness, work performance, and employee self-efficacy. The core work in educational organizations involves knowledge transfer, skill development, and individual growth, making the effective design of job characteristics crucial for achieving educational goals. In educational organizations, task identity, significance, and job feedback are key factors in enhancing team cohesiveness (Humphrey et al., 2007). The impact of job characteristics on work performance is particularly prominent. Studies indicate that skill variety and autonomy are core job characteristics that affect teachers' work performance. Diversified skills such as curriculum design, classroom management, student psychological counseling, and academic research help teachers continuously improve their abilities and enrich their teaching experience, enhancing teaching quality (Soleimani & Mohammadi Hoseini, 2021). The impact of job characteristics on employees' self-efficacy is also significant. Self-efficacy refers to an individual's belief in their ability to complete specific tasks. It influences employees' motivation, work engagement, and career development. In educational organizations, autonomy, and job feedback are the main factors enhancing teachers' self-efficacy (Kelkay & Mola, 2020; Soleimani & Mohammadi Hoseini, 2021).

Relevant research shows that job characteristics influence individuals' knowledge-sharing and knowledge-hiding behaviors, and have a significant positive impact on job satisfaction, well-being, task performance, and contextual performance (Humphrey et al., 2007; Oldham & Fried, 2016). In educational organizations, the rational design of job characteristics also plays an important role. The optimized design of job characteristics is particularly crucial for achieving educational goals. Job characteristics significantly

contribute to teachers' work performance. Job characteristics influence individuals' behavior (Oldham & Fried, 2016; Humphrey et al., 2007), performance, and satisfaction, and through skill variety, autonomy, task significance, and feedback mechanisms, they stimulate individual potential, enhance team cohesiveness, and promote the improvement of self-efficacy. Based on these theoretical and empirical foundations, this study will explore the specific mechanisms through which job characteristics affect individual behavior and performance in different organizational contexts.

Table 2.1 Summary of Studies on Dimensions of Job Characteristics

Author(s) & Year	Theory / Model	Core Dimension	Key Finding / Specific Construct
Herzberg et al. (1959)	Two-Factor Theory	Motivators & Hygiene Factors	Job design fulfills psychological and social needs; motivators enhance satisfaction; hygiene factors reduce dissatisfaction
Turner & Lawrence (1965)	Requisite Task Attributes (RTA)	Task attributes related to employee involvement	Job characteristics correlate with job satisfaction and job accomplishment
Hackman & Oldham (1976, 1980)	Job Characteristics Model (JCM)	Skill Variety, Task Identity, Task Significance, Autonomy, Job Feedback	Five core dimensions improve meaning of work, responsibility, and knowledge of results; enhance motivation, satisfaction, performance
Sims et al. (1976)	Job Characteristics Inventory (JCI)	Job diversity, Autonomy, Interpersonal relationships, Friendship at work, Task identity, Job feedback	Measures employees' work experiences and intrinsic motivation
Idaszak & Drasgow (1987)	Revision of JDS	Unified Positive Items	Addresses artificial measurement errors in factor analysis; improves scale validity
Katsikea et al. (2011)	Demand–Control Model	Job Demands, Job Control	Work stress is influenced by job structure; autonomy and skill variety increase satisfaction
Demerouti et al. (2001)	Job Demands–Resources (JDR) Model	Job Demands & Job Resources	Work burnout relates to job demands; job resources stimulate intrinsic work motivation
Gagné et al. (2019)	Job Design Questionnaire	Multi-level job characteristics	Job characteristics positively influence knowledge sharing and knowledge hiding
Humphrey et al. (2007)	JCM Extensions	Core JCM dimensions	Promote team cohesiveness, knowledge sharing, innovation performance
Oldham & Fried (2016)	Job Design Research	Job characteristics and performance	Positive effects on task performance, contextual performance, satisfaction, and well-being

Author(s) & Year	Theory / Model	Core Dimension	Key Finding / Specific Construct
Soleimani & Hoseini (2021)	Educational Job Design	Skill variety & autonomy	Enhances teachers' abilities, instructional quality, and work performance
Kelkay & Mola, (2020)	Educational Self-Efficacy	Autonomy & feedback	Major determinants of teachers' self-efficacy and motivation

2.3 Competency

2.3.1 Definition of Competency

In research, White (1959) first introduced the concept of competence related to talent identification and personality traits. McClelland (1973) established a competence-focused research system, shifting the emphasis from Talent to Competence. McClelland (1973) also proposed a landmark method for constructing competence models: The Behavioral Event Interview (BEI). As research on competence deepened, scholars made significant contributions to its development. Sternberg (1985) put forward the tribrachic theory of human intelligence, systematically elucidating the inner world of individuals and examining the relationship between individuals and their external environments. Prahalad et al. (2006) introduced the concept of competence into organizational strategic management, proposing the notion of a corporation's core competence. Among a corporation's competitive capabilities, those fundamental ones that enable it to maintain long-term stable competitive advantages and secure stable excess profits constitute its core competitiveness. At the end of the 20th century, research proposed three hypotheses: the business environment for commercial success, the organizational mission, and the essential competencies required for employees to fulfill the mission. Special emphasis was placed on the competencies of employees, which was viewed as the prerequisite and fundamental guarantee for the realization of the other two sets of hypotheses.

The competence was first introduced academically by McClelland. Competence is the abilities, skills, traits, and motivations directly related to work or performance that can effectively predict work performance. Building on McClelland's definition, scholars have proposed various interpretations of competence, continuously expanding its connotation and extension. Mclagan (1980) defined competence as a combination of knowledge, skills, and abilities sufficient to complete a task. Boyatzis (1982) viewed competence as an individual's underlying traits, which include motives, qualities, skills, self-image, social roles, and the knowledge they apply. Competence is a trait that influences an individual's ability to demonstrate higher work performance and outcomes. It is a fundamental, underlying characteristic of an individual that has a causal relationship with the reference standard and can influence work behavior and performance.

In subsequent research, scholars revised the definition of competence, stating that it refers to motives, traits, self-concepts, attitudes, values, knowledge, and identifiable behavioral skills that can distinguish high performers from average performers and can be measured through effective means. This definition has been recognized and widely applied in academic circles (Cheetham & Chivers, 1996).

In the early stages of competence development, scholars typically defined it as various measurable characteristics necessary for individual performance, including professional skills, knowledge, attitudes, or values, which are closely related to the successful implementation of teaching (Cheetham, G., & Chivers, G., 1996). The stronger a teacher's abilities, the more capable they are considered. However, with the advent of modern educational concepts, the original definition of teacher competence became too narrow to meet the requirements of teaching methods. Teacher competence consists of six components: self-image, self-esteem, work motivation, job satisfaction, task perception, and prospects (Yuan et al., 2017). A crucial distinction in modern teaching methods is the shift from "teacher-centered" to "student-centered." Therefore, the role of teachers is to stimulate

powerful knowledge construction rather than explicitly providing knowledge and information (Johanson et al., 2023). Teachers are selected for their special educational qualifications and their characteristics (Alimmudin, 2022). Expert teachers are a significant area of focus in teacher competence research. Scholars have identified three characteristics that distinguish expert teachers from novice teachers: expert-level knowledge to adopt more strategies in teaching, efficient and creative problem-solving in less time, and novel and appropriate creativity and insight. The concept of teacher competence is central to competence research (Kramer et al., 2021). Teacher competence refers to the professional knowledge, skills, and values related to successful teaching possessed by individual teachers. Scholars believe that teacher competence is a set of personality traits, knowledge, teaching skills required in different teaching situations, and attitudes necessary for effective performance in various teaching environments (Spencer & Spencer, 1993).

College teacher competence refers to their knowledge management competence. The concept of college teacher knowledge management competence limits the second key element of the competence concept to specific activities (Herman et al., 2022). The specific activities in the concept of college teacher competence are the management activities conducted by college teachers in fulfilling their responsibilities (Lubyanova & Belousova, 2020). Therefore, college teacher competence should be the sum of intellectual and non-intellectual factors that contribute to personal knowledge management goals and comply with the laws of college teacher knowledge management activities. The components of college teacher competence should comply with activities. Due to the specificity of their duties, college teachers' competence differs from general competence. Therefore, the determination of the components of teacher competence should be integrated with the tasks and characteristics of their main duties, such as learning, teaching, research, and social services, as well as the internal mechanisms of knowledge conversion.

2.3.2 Dimensions of Competency

In 1973, McClelland employed the Behavioral Event Interview (BEI) method to select Foreign Service Officers for the U.S. government, developing the first competency model. This model encompasses three core competencies: cross-cultural interpersonal sensitivity, positive expectations of others, and the ability to navigate into local political networks. Subsequently, McClelland (1973) introduced the classic Iceberg Model of Competencies. This model comprises six components: knowledge, professional skill, comprehensive ability, personality characteristics, motives, and values. Knowledge and professional skills reside in the "above-water" portion of the iceberg model, representing superficial and explicit factors that are easily perceived, measured, and cultivated through education and training. These belong to the threshold competencies. Conversely, comprehensive ability, personality characteristics, motives, and values lie in the "below-water" section, constituting implicit and deep-level competencies that are not easily perceived, measured, or acquired. They serve as crucial factors distinguishing high performers from average performers. Boyatzis & Dubuc (1982) proposed the Onion Model of Competencies, which portrays competencies as layers within an onion, with motives, traits, self-image, values, social roles, attitudes, knowledge, and skills arranged from the innermost to outermost layers. The outer layers are easier to identify, cultivate, and evaluate, while the inner layers are more difficult to discern, assess, and acquire. Essentially, the Iceberg and the Onion models share a common ground in emphasizing core competency elements, with assessments of these

elements predictive of one's long-term performance. As for their differences, the Onion Model offers a more nuanced illustration of the intrinsic relationships among competency elements compared to the Iceberg Model.

With the development of society, research on competency models has flourished. Scholars have employed methods such as Behavioral Event Interviews (BEIs), factor analysis, the Delphi method, and questionnaire surveys with scales to focus on three aspects: the construction of competency models, the classification of competency models, and the application of competency models. Regarding the construction of competency models (Johanson et al., 2023). Competency researcher attempts to build a model. A questionnaire survey on professional competency in internal auditing within enterprises, using a hierarchical structure based on competency elements, revealed that a general competency model for internal auditing includes three aspects: professional knowledge, professional skills, and professional traits. In terms of the classification of competency models, scholars have divided competencies into six types: meta-competencies, general industry competencies, internal organizational competencies, standard technical competencies, technical industry competencies, and technical competencies, based on three dimensions: task specificity, industry specificity, and company specificity. Academically, it is more common to classify competency models into two: excellent and general competency models. When it comes to the application of competency models, scholars adopt the latest competency evaluation techniques internationally. By utilizing competency-based methods, scholars have extracted competency characteristics for various positions and developed structured interview questions for recruiting middle and senior management talent in enterprises (Ní Ríordáin et al., 2019). With the expansion of school autonomy and the influence of the teacher professionalization movement, competency theory has been applied in fields such as the qualification analysis and selection of school administrators and teachers, training, competency diagnosis, evaluation and performance appraisal, incentive mechanisms, and career development (Cheetham & Chivers,1996).

For teachers' competencies, a competency model centered on skills suggests that teachers' competencies should include four dimensions: planning and preparation, teaching, professional responsibility, and environmental monitoring in teaching. Scholars believe teachers' competencies can be grouped into four-factor structures: personal charm, student-oriented teaching proficiency, research ability, and others (Alimmudin et al., 2022). Academic teaching ability should focus on curriculum development and instructional design, leading to the proposal of three characteristic factors for teachers' competencies: academic ability, teaching ability, and teaching attitude. Another competency model for college teachers’ centers on qualities, where scholars believe that teachers' competencies refer to professional knowledge, professional skills, and professional values. The competency model for college teachers includes seven constituent factors: innovation ability, information acquisition ability, interpersonal understanding, sense of responsibility, relationship building, thinking ability, and achievement orientation. With the development of competency research, these two tendencies show convergence. Teachers' competencies are divided into three categories: professional knowledge, professional skills, and professional attitudes (Alimmudin, 2022). Subsequently, scholars have constructed and analyzed a four-dimensional competency model for college teachers' teaching, encompassing knowledge literacy, teaching ability, professional ethics, and personality traits.

2.3.3 Research on Competency

Competency in educational teaching work refers to the characteristics of teachers. These characteristics include abilities, self-awareness, motivations, and related personality traits. Competencies can be divided into threshold competencies and differentiating competencies. Threshold competencies, which are explicit, encompass professional knowledge and skills. Differentiating competencies encompass professional attitudes or values. Competency is multiple underlying personal characteristics, such as knowledge, motivations, traits, self-image, attitudes, or values, that distinguish high performers from average performers in teachers' work. With the deepening of competency research, scholars have begun to study competencies according to their research purposes (Ludwikowska, 2022). College teacher competency describes the knowledge, abilities, values, and personal traits required to implement college education, teaching, research services, and other professional activities in behavioral terms. These behavioral patterns are instructive, observable, and measurable, and are of great significance to personal development and organizational success. The teaching competency of young college teachers refers to the traits that a young college teacher possesses to effectively achieve teaching goals, which can be described by their teaching behaviors (Alimmudin et al., 2022). Scholars have proposed the concept of multiple academic perspectives, including the academics of teaching, inquiry, and application, as other concepts for teacher competency (Ní Ríordáin et al., 2019). This development concept further enriches the connotation of college teacher competency.

In terms of applied research on college teacher competency, it can be divided into four aspects: teacher recruitment, work performance management, and teacher compensation. In teacher competency to teacher recruitment systems, scholars have used the analytic hierarchy process (AHP) to explore teacher recruitment in universities based on competency models (Johanson et al., 2023). Competencies include job motivation, professional personality, ability quality, and knowledge quality. For performance management strategies, scholars have introduced competency theory into the training system for college career guidance teachers and discussed the demand analysis, content design, method selection, and effect evaluation of teacher training. For work performance relationships, scholars have found through regression analysis that the three dimensions of interpersonal interaction, teaching ethics (Ní Ríordáin et al., 2019), and knowledge and skills in the college teacher competency model have significant predictive effects on work performance. Scholars believe that there is a significant correlation between the competency, self-efficacy, and work performance of college counselors. The competency characteristics of teachers at research universities positively promote innovation performance, mainly through the dimensions of interpersonal characteristics and scientific research drive. The competency characteristics of teachers at research universities also positively promote both task performance and contextual performance, and further reveal the mechanism of human resource management intensity on the relationship between competency and work performance among teachers at research universities (Ludwikowska, 2022). In research on teacher compensation systems, scholars have used Behavioral Event Interview (BEI) assessment techniques to obtain teacher competency factors and overall competency levels, providing scientific and objective standards for matching teachers to positions.

A comprehensive review of scholars' research on teacher competency reveals the following characteristics: firstly, there is a gradual shift from previously borrowing mature competency research paradigms to focusing on educational practice research (Ludwikowska, 2022). Secondly, in constructing competency models, there is a strong emphasis on empirical methods such as behavioral event interviews, factor analysis, questionnaire surveys, and mathematical statistics. Thirdly, the competency integrates practical needs such as teacher work performance and human resource management.

Table 2.2 Summary of Studies on Dimensions of Competency

Author(s) & Year	Model Type or Number of Dimensions	Specific Dimension or Component
McClelland (1973)	Three Core Competencies	Cross-cultural sensitivity, positive expectations, local political adaptability
McClelland (1973), Boyatzis & Dubuc (1982)	Six Components (Iceberg or Onion Model)	Knowledge, professional skills, ability, personality traits, motives, values
Alimmudin et al., (2022)	Four-Factor Teacher Competency	Personal charisma, student-oriented teaching proficiency, research ability, others
Ní Ríordáin et al. (2019)	Competency Impact Model	Competency dimensions significantly predict task and contextual performance
Ludwikowska (2022)	Performance Impact Model	Competencies affect innovation performance and work outcomes through interpersonal characteristics, scientific drive, human resource intensity

2.4 Organizational Support

2.4.1 Definition of Organizational Support

The concept of organizational support was introduced in the 1980s by social psychologists such as Eisenberger et al. (1986). In their study on employee motivation, Eisenberger et al. (1986) found that employees generally pay attention to their organization's attitude towards them, such as recognition of their efforts, and attitudes towards employee welfare. The more employees perceive recognition, care, and support from their organization, the more likely they are to develop identification and trust in the organization, and the easier it is to achieve motivation. Employees who receive organizational support invest more in their work and performance. Based on social exchange theory and the norm of reciprocity, Eisenberger et al. proposed and defined the concept of Perceived Organizational Support (POS), which refers to the degree to which employees perceive that their organization values their contributions and cares about their well-being and life happiness.

The subsequently derived organizational support theory suggests that the degree to which employees perceive support from their organization will influence their legitimacy beliefs as organizational members. This theory posits that employees and organizations form an interactive relationship based on each other's needs and expectations. Eisenberger et al. (1986) pointed out that employees' expectations of the organization include the fulfilment of work-related needs and the satisfaction of their own socio-emotional needs (Hayunintyas et al., 2018). When employees experience treatment from the organization (such as promotions, rewards, and benefits), they develop a psychological and emotional attachment to the organization and a sense of obligation to reciprocate, leading to higher levels of organizational commitment, job involvement, and better job satisfaction and organizational performance (Eisenberger et al., 2001). Eisenberger et al. (1986) believed that perceived organizational support significantly influences the relationship between employees and the organization. The higher the organizational support, the more they view the relationship as "relational," develop positive emotions towards the organization, and make efforts to reciprocate. If employees do not perceive organizational support, they are more likely to define their relationship as "transactional." (Newman et al., 2012) Therefore, organizations should actively pay attention to and try to meet employees' interest, so that employees can personally perceive organizational support, which will help create incentives for employees.

Researchers have conducted studies on the motivational effects of organizational support, focusing on its positive psychological impact on employees: Firstly, based on the principle of reciprocity, organizational support for employees can, in turn, motivate employees to develop a sense of identification and emotional commitment to the organization (Demir, 2015). Employees may develop a sense of responsibility to safeguard the organization's interests and promote organizational goals due to perceived organizational support. Secondly, it can satisfy employees' psychological needs for being cared for and respected. This satisfaction is not only limited to their role within the organization but also extends to their social roles, promoting harmony and unity among employees' multiple roles (Kirkland et al., 2017). Thirdly, it can increase employees' trust in the organization, including trust in organizational rewards and commitments. Thus, while organizational support has a positive impact on employees' psychology, it also produces positive effects on the organization itself (Kalidass & Bahron, 2015).

Subsequent researchers have further refined and expanded the understanding of organizational support. In addition to emotional support, perceived organizational support should encompass various instrumental supports in their work, such as material resources, access to information, and professional skills training (Demir, 2015; Kalidass & Bahron, 2015). Comprehensive consideration of organizational support should be made from three aspects: the work itself, employee benefits, and employee values. Organizations should not only focus on employees' current needs and feelings on their long-term development.

2.4.2 Dimensions of Organizational Support

Organizational support refers to a sustained and comprehensive cognition held by employees stemming from their perception that the organization cares for them and values their contributions. This ongoing cognition can prompt positive psychological changes in employees, encouraging them to tap into their inherent potential, yielding higher job output and performance. As research on organizational support has deepened, some scholars have argued that the theory of organizational support primarily focuses on emotional support, reflecting a general perception that is relatively vague and prone to confusion. McMillin (1997) supplemented Eisenberger's viewpoint by asserting that a unidimensional scale of organizational support is inadequate for exploring the antecedents of perceived organizational support and its internal effects on employee attitudes and behaviors. Kraimer and Wayne (2004) conducted multidimensional studies on perceived organizational support from a behavioral perspective. The variety in scholars' classifications of organizational support dimensions stems from several factors. Firstly, there is a lack of uniformity in the classification criteria adopted by scholars. Some dimensions of organizational support are based on the source of support (organization, supervisors, colleagues), some on the content or domain of support (work, life), some on the form or pathway of support (emotional, instrumental), some on combinations of multiple criteria (such as emotional support, instrumental support, supervisor support, and colleague support), and others take an enumerative approach (such as developmental support, interpersonal support, recognition and reuse, benefits and job security, organizational justice, etc.). Secondly, the research on organizational support is still relatively recent, and a unified understanding has not yet formed within the academic community. Scholars have interpreted and explored this concept from different perspectives and dimensions.

Kurtessis et al. (2017) classified organizational support into five dimensions based on its sources: support from top-level managers, middle-level managers, frontline immediate supervisors, mutual support among production employees, and support from administrative staff. Scholars' research on the measurement dimensions of organizational support has been continuously expanded in terms of the functions, sources, and purposes of organizational support, building on the scales developed by scholars such as Robert Eisenberger.

Table 2.3 Summary of Studies on Dimensions of Organizational Support

Author(s) & Year	Dimension	Specific Dimension
Eisenberger et al. (1986) Atoum & Al-Shoboul (2018)	One Dimension	Emotional Support
McMillin (1997)	Two Dimensions	Emotional Support and Instrumental Support
Mathieu et al. (2019)		Sense of Work Support and Sense of Life Support
Chimote & Srivastava (2013)	Three Dimensions	Employee Values Recognition, Job Support and Concerned Interests
Chou & Robert (2008)		Emotional Support, Informational Support, and Organizational Support
Shin et al. (2018)	Four Dimensions	Emotional Support, Instrumental Support, Supervisor Support, And Coworker Support
Chong et al. (2001)	Five Dimensions	Top Management Support, Middle Management Support, First-Line Direct Supervisor Support, Mutual Support Among Production Employees and Executive Management Support
Kraimer & Wayne (2004)	Seven Dimensions	Career Assistance, Leadership Relationships, Work Environment, Work Life Balance, Self-Achievement Development, Goal Clarity
Maslach et al. (2001)	Nine Dimensions	Emotional Support, Instrumental Support, Developmental Support, Interpersonal Support, Valuing and Re-employing, Benefits and Job Security, Organizational Justice, Tolerance and Compassion, Meaningful and Challenging Work

2.4.3 Research on Organizational Support

Organizational support has a significant impact on various outcome variables such as employee work performance, organizational commitment, organizational citizenship behavior (OCB), and job satisfaction. Numerous studies have found that organizational support fosters organizational identification, commitment, and work engagement (Eisenberger et al., 2001), leading to higher job satisfaction and enhancing individual and organizational performance (Eisenberger et al., 2001).

Regarding work performance, the perception of organizational support encourages employees to engage in extra-role behaviors, such as helping the organization mitigate risks, providing constructive suggestions, and acquiring knowledge and skills beneficial to the organization, thereby improving work performance (Hayunintyas et al., 2018). A collective culture promotes mutual assistance and performance enhancement, and in the Chinese cultural context, employees' perception of organizational support positively influences their work performance. While most scholars believe that there is a strong relationship between organizational support and employee work performance, some scholars have found a weaker connection. Byrne & Hochwarter (2008) found that the relationship between the perception of organizational support and work performance is only slight, and collectivist ideology makes the support employees receive in the workplace affect their performance.

For organizational commitment, scholars such as Newman et al. (2012), with Chinese enterprises as their research subjects, demonstrated that perceived organizational support influences turnover intention through organizational commitment. Atypical employees, when motivated by a sense of responsibility, have fewer self-centered considerations and are less sensitive to differences in benefits. Consequently, researchers proposed and validated the research hypothesis that organizational support for atypical employees positively influences organizational commitment.

Regarding OCB, studies have found a positive correlation between organizational support and OCB directed toward the organization (Hayunintyas et al., 2018). Organizational support has a positive impact on affective commitment and altruistic behavior. As for job satisfaction, studies have shown a positive correlation between organizational support, overall job satisfaction, and multidimensional job satisfaction. The perception of organizational support alleviates employee job stress and burnout, enhancing job satisfaction and organizational commitment. Scholars have verified the significant positive correlation between the perception of organizational support and job satisfaction through regression analysis (Kirkland et al., 2017). These studies have effectively expanded the depth and breadth of research on organizational support. With the deepening of research on organizational support, related variables and mechanisms of action have also been explored. Studies have found that antecedents of organizational support include organizational justice, organizational rewards, working conditions, and human resource management practices (Mathieu et al., 2019). Outcomes of organizational support include employee work performance, organizational commitment, OCB, and job satisfaction (Chimote & Srivastava, 2013). Organizational support plays a mediating or moderating role between these antecedents and outcomes.

2.5 Self-Efficacy

2.5.1 Definition of Self-Efficacy

In 1977, Bandura introduced the concept of self-efficacy and the self-efficacy theory in his book *Self-efficacy: Towards a Unitizing Theory of Behavioral Change*. In this book, Bandura pointed out that social learning theory lacked an element: self-beliefs, and thus introduced the concept of "self-efficacy." Self-efficacy refers to an individual's belief in their ability to organize, execute, and complete tasks in specific situations to achieve particular goals. As research progressed, Bandura (2012) continually enriched the conceptual connotation of self-efficacy. Self-efficacy is an individual's belief in their capacity to control their functional levels and influence events. This belief not only influences an individual's sensations, thought patterns, self-motivation, and behavioral choices but also impacts their potential future achievements. In research on self-efficacy, scholars have used various expressions such as self-efficacy beliefs, self-efficacy expectancy, and perceived self-efficacy, which the becoming the standardized term. Self-efficacy is an individual's belief in their abilities, and scholars have explored the functional role of self-efficacy from a dynamic perspective of individual physical and mental skill utilization. Bandura (2018) believed that individual behavior is jointly influenced by efficacy and outcome expectancy. An individual's self-efficacy should not be confused with their judgments about the consequences of their actions. Some people may understand that a certain behavior may lead to a specific outcome, but they may not necessarily engage in that behavior or activity. Before taking action, individuals will first assess and speculate on whether they can succeed. This process of assessment and speculation is a manifestation of the functional role of self-efficacy (Liao et al., 2021). Individual behavior is influenced by outcome expectancy and self-efficacy. Self-efficacy also determines how individuals interpret their thoughts, actions, and emotions in specific situations. Bandura's research on the importance and differences between outcome and efficacy expectancy laid a crucial foundation for scholars to develop scales for teachers' self-efficacy. They found that two independent factors in teachers' self-efficacy—general teaching efficacy and personal teaching efficacy—are similar to outcome expectancy and efficacy expectancy, respectively (Hoy & Spero, 2005; Schunk, 1991). This discovery became a basis for dividing the structural dimensions of teachers' self-efficacy. General teaching efficacy reflects teachers' beliefs in overcoming external constraints, while personal teaching efficacy mainly reflects teachers' beliefs in their ability to promote student learning. Scholars have conducted extensive research on self-efficacy, and different scholars have proposed various definitions based on their findings (Hoy & Spero, 2005; Schunk, 1991). See Table 2.2 for details.

Table 2.4 Summary of Studies on Definition of Self-Efficacy

Author(s)	Year	Definition of Self-Efficacy
Bandura	1977	Self-efficacy expectations are personal beliefs about one's ability to successfully perform a task or behavior.
Bandura	1982	Self-efficacy is an individual's belief about the extent to which he or she can accomplish a course of action in a given situation.
Bandura	1986	Self-efficacy is an individual's judgment of his or her ability to organize and perform actions necessary to achieve a given task. Self-efficacy is distinguished into outcome expectations and efficacy expectations.
Baron & Kenny	1986	Task-specific self-efficacy is the intention of an individual to utilize mental or physical effort to achieve a target level of performance.
Schunk	1991	Employees with high self-efficacy beliefs will set challenging goals or make greater efforts to face challenges.
Lorig & Holman	1998	Defining self-efficacy as a belief that an individual is successful in performing a behavior, it plays a key role in personal motivation.
Hoy & Spero	2005	Self-efficacy is an individual's subjective presumption of his or her ability to perform a behavior.
Bandura	2018	Self-efficacy is a person's confident expectation of his or her ability to succeed in a task, i.e., his or her perception of his or her potential to succeed in a task.
Liao et al.	2021	Self-efficacy refers to an individual's judgment of his or her ability to organize and carry out a certain course of action to achieve a certain operational purpose in a given situation.
Öztuzcu & Misirli	2023	Self-efficacy is the degree to which people are confident in their ability to use the skills to perform a particular work behavior.

Source: Author 2024

Regardless of its form, past research has unequivocally demonstrated the pivotal role of self-efficacy in explaining or predicting individual behavioral responses. Summarizing the definitions of self-efficacy proposed by various scholars (Öztuzcu & Misirli, 2023). Self-efficacy refers to an individual's belief in their ability to confront problems, adhere to their convictions, and successfully resolve issues when faced with work or life events. Self-efficacy influences the degree of effort an individual is willing to put into action and their persistence in the face of adversity. In this study, Bandura (1977) defines self-efficacy expectancy as an individual's belief in their ability to perform behaviors. Generally, when Bandura (1977) defines teachers' self-efficacy in his research, combining their self-efficacy in teaching. Existing research has shown that college teachers' self-efficacy is closely related to their teaching enthusiasm, teaching motivation, job involvement, job satisfaction, career commitment, teaching investment, teaching monitoring ability, teaching outcomes, teaching performance, basic psychological needs, positive emotions, occupational stress, burnout levels, and mental health status. In cognition and emotions, when college teachers have higher self-efficacy, their teaching motivation tends to be stronger, their teaching enthusiasm higher, and their level of career commitment. College teachers' self-efficacy has a positive predictive effect on their career commitment.

2.5.2 Dimensions of Self-Efficacy

With the deepening of research, scholars have gradually realized that self-efficacy is not a single construct but presents a multidimensional structure under different task domains and role requirements. Existing studies have proposed several representative ways of conceptualizing its dimensions.

First, there is the affective–cognitive–behavioral three-factor structure. From a group psychology perspective, Forsyth (2010) argued that self-efficacy can be decomposed into affective, cognitive, and behavioral components. The affective component is reflected in individuals' emotional states and subjective experiences when facing tasks, such as tension, anxiety, or positive anticipation. The cognitive component refers to individuals' rational judgments about their own capabilities, task difficulty, and available resources. The behavioral component is manifested in the concrete action strategies and levels of effort individuals choose to exert. This three-factor structure emphasizes that self-efficacy is not purely a cognitive belief but rather the integrated result of emotional experience, value judgment, and action tendency. It is highly consistent with Bandura's (1997) view that self-efficacy influences performance through both emotional regulation and behavioral regulation.

Second, there is the three-dimension structure of teacher self-efficacy. In the field of teacher research, Tschannen-Moran and Hoy (2001) synthesized and validated a large number of scales and proposed that teacher self-efficacy mainly comprises three dimensions: instructional strategies, classroom management, and student engagement. Efficacy for instructional strategies refers to teachers' beliefs in their ability to design curricula, select appropriate teaching methods, and conduct learning assessment. Efficacy for classroom management concerns teachers' confidence in maintaining classroom order, handling conflict, and managing student behavior. Efficacy for student engagement refers to the degree to which teachers believe they can stimulate students' interest, promote active learning, and support students with learning difficulties. This three-dimension structure has become the foundation of a large body of subsequent

research on teacher self-efficacy and provides direct implications for understanding discipline leaders' efficacy beliefs on the instructional dimension in higher vocational colleges.

Third, in leadership settings, scholars have examined academic leadership self-efficacy. Academic leaders in higher education are responsible for tasks such as resource integration, team building, and decision implementation. Chemers (1991) proposed the concept of leadership self-efficacy and divided it into three types of capability beliefs: task leadership efficacy—the ability to formulate goals, plan work, and monitor execution; relationship leadership efficacy—the ability to motivate members, build a positive climate, and handle interpersonal conflict; and change leadership efficacy—the ability to initiate reform, cope with uncertainty, and promote organizational learning. Empirical studies have shown that leadership self-efficacy is significantly related to Team Cohesiveness, organizational commitment, and collective performance (Walumbwa et al., 2011). For discipline leaders, leadership self-efficacy is directly linked to their capacity to organize teaching teams, promote the development of professional clusters, and coordinate internal and external resources.

Fourth, there is the multidimensional structure of occupational self-efficacy based on role tasks. In general work settings, Schwarzer and Hallum (2008) proposed the concept of occupational self-efficacy, emphasizing that it is mainly expressed as the belief in one's ability to cope with complex tasks, solve problems, and persist in goals under pressure. Some studies further subdivide occupational self-efficacy according to job content into dimensions such as efficacy for knowledge and skills, for communication and coordination, and for innovation and improvement (Luthans et al., 2007). In the context of higher vocational colleges, discipline leaders' occupational self-efficacy can be concretely reflected in several areas: efficacy for programme development and curriculum design, efficacy for teacher cultivation and team leadership, efficacy for school–enterprise cooperation and social services, and efficacy for managing research and teaching-reform projects.

Fifth, there are the developmental sources of self-efficacy. Strictly speaking, the four sources proposed by Bandura (1997)—mastery experiences, vicarious experiences, social persuasion, and physiological and affective states—belong to "antecedent factors." However, a large body of research has treated them as important dimensions for understanding the structure and change of self-efficacy. Mastery experiences are the most direct and stable source of enhanced self-efficacy: previous successes in programme development, project research, or teaching competitions markedly strengthen discipline leaders' efficacy beliefs. Vicarious experiences operate through observing the successes of peers or role models and forming the cognitive judgment that "if they can do it, I can as well." Under policy initiatives such as the "Double High Plan" and "professional cluster construction," the experiences of benchmark institutions exert a clear role-model effect on the self-efficacy of discipline leaders in other colleges. Social persuasion reinforces individuals' capability beliefs through positive messages such as superior evaluations, peer support, and student feedback. Finally, emotional and physiological states shape self-efficacy indirectly by influencing how individuals perceive task pressure and resource constraints.

In summary, across different contexts self-efficacy exhibits diverse dimensional structures, yet its core always revolves around whether individuals believe that they can

achieve success in specific role tasks. Taking into account the work characteristics of discipline leaders in higher vocational colleges, the present study conceptualizes self-efficacy as a comprehensive form of occupational self-efficacy manifested mainly in four domains: teaching reform, programme development, research and project development, and team management. Self-efficacy is thereby treated as a key mediating variable linking job characteristics, competency, and organizational support with performance outcomes.

2.5.3 Research on Self-Efficacy

2.5.3.1 Relationship between self-efficacy and individual performance

Early research primarily examined the predictive effect of self-efficacy on performance in general work settings. Synthesizing multiple empirical studies, Bandura and Locke (2003) argued that self-efficacy influences performance through three main pathways. First, it affects the level of goal difficulty chosen; individuals with high self-efficacy tend to set more challenging goals. Second, it determines the amount of effort exerted and the persistence shown during task execution. Third, by regulating emotional responses, self-efficacy buffers the negative impact of failure experiences on subsequent performance. A meta-analysis by Judge et al. (2007) showed a significant positive correlation between self-efficacy and job performance, and even after controlling for intelligence and personality traits, self-efficacy remained an important predictor of performance.

In the field of education, Tschannen-Moran and Hoy (2001), based on large-scale survey data from American primary and secondary school teachers, found that higher teacher self-efficacy was associated with better classroom management, instructional design, and student support, as well as higher student achievement. Klassen and Chiu (2010) further demonstrated in a longitudinal design that teacher self-efficacy not only affects current teaching quality but also predicts long-term job satisfaction and intention to remain in the profession. Caprara et al. (2006) reported that, even after controlling for school resources and student background variables, teacher self-efficacy still significantly improved overall school academic performance and value-added outcomes.

In the context of higher education, McCormick (2001) found that academic leaders' self-efficacy is positively associated with their professional development planning, resource acquisition, and team performance. Teacher self-efficacy has also been shown to relate to research output, curriculum innovation, and the use of educational technology (Skaalvik, 2020). These findings indicate that, for teachers who assume the role of discipline leaders, self-efficacy affects not only their individual job performance but also has far-reaching implications for their programme teams and student development.

2.5.3.2 The mediating and moderating roles of self-efficacy in organizational contexts

As research progressed, self-efficacy shifted from being treated solely as an outcome variable to being regarded as a central mediator explaining organizational processes. Gist and Mitchell (1992) proposed that self-efficacy lies between job characteristics, training interventions, and performance outcomes, and plays a core role

in cognitive processing and motivational regulation. Many subsequent studies have confirmed this view.

Regarding job characteristics, core dimensions such as task autonomy, task identity, and task feedback have been found to improve performance indirectly by enhancing self-efficacy. Xanthopoulou et al. (2007) showed that job resources (e.g., job control, feedback, learning opportunities) increase employees' work engagement and performance via self-efficacy. In terms of competency, the meta-analysis by Stajkovic and Luthans (1998) indicated that skill training and capacity-building programmes improve performance largely by strengthening participants' self-efficacy. Judge et al. (2007) also pointed out that ability levels do not automatically translate into high performance; only when individuals have strong confidence in their ability to use their skills can their potential be fully activated.

With respect to organizational support, drawing on perceived organizational support theory, Eisenberger and Stinglhamber (2011) argued that fair systems, adequate resources, and clear career paths enhance employees' confidence in their career prospects and role capabilities, thereby promoting task performance and organizational citizenship behavior through self-efficacy. Research on psychological capital by Luthans et al. (2007) similarly showed that organizational training and development opportunities significantly improve employees' self-efficacy, hope, and resilience, and these positive psychological resources jointly predict job performance and innovative behavior.

2.5.3.3 Relationships between self-efficacy and team process variables

In recent years, research has increasingly moved from the individual to the team level, and the relationships between self-efficacy and Team Cohesiveness, trust, and feedback have attracted attention. Bandura (2000) proposed the concept of collective efficacy, emphasizing that when team members generally believe that the team can accomplish its tasks, the team exhibits higher goal commitment and coordinated action. Zaccaro et al. (1995) found that the average self-efficacy level of team members can indirectly improve team performance by enhancing team Cohesiveness; conversely, in low-cohesion teams, even strong individual capabilities are difficult to transform into collective outcomes.

Regarding feedback mechanisms, Kluger and DeNisi's (1996) feedback intervention theory suggests that timely, specific, and constructive feedback enhances self-efficacy by increasing individuals' perceived control and competence, whereas vague or disrespectful feedback may weaken efficacy beliefs and trigger defensive reactions. Podsakoff et al. (2003) further showed that leaders' positive feedback and supportive behaviors indirectly promote organizational citizenship behavior and performance by raising subordinates' self-efficacy and trust.

For discipline leaders in higher vocational colleges, team-level variables are particularly important. As both members and leaders of their teams, their self-efficacy is shaped not only by personal experiences and organizational support but also by Team Cohesiveness and the feedback climate. On the one hand, mutual help and knowledge sharing in highly cohesive teams bolster discipline leaders' confidence to promote reforms and take risks. On the other hand, frequent feedback from team members, college leaders, and enterprise mentors helps discipline leaders more accurately assess

their strengths and weaknesses, thereby forming a more stable and realistic level of self-efficacy.

2.5.3.4 Research on Self-efficacy research in the context of vocational education and higher vocational colleges

In the field of vocational education, international studies have mainly focused on the relationship between vocational teachers' self-efficacy and the quality of practice-oriented teaching. For example, Skaalvik (2020) found that vocational teachers' self-efficacy in guiding practical training, supporting self-directed learning, and cultivating professional ethics significantly influences students' vocational identity and learning engagement. In China, scholars have examined self-efficacy in the contexts of professional development, "dual-qualified" teacher training, and teaching competitions in higher vocational colleges. They generally find that teaching experience, enterprise practice, school-based training, and institutional support can promote teaching investment, curriculum innovation, and reduce burnout via enhanced self-efficacy, thereby improving teachers' job performance and professional commitment.

However, research specifically targeting discipline leaders—a key group in higher vocational colleges—remains very limited. Existing studies typically focus on ordinary vocational teachers and pay insufficient attention to the central role of discipline leaders in programme development, team leadership, and performance improvement. Moreover, self-efficacy has rarely been embedded in a systematic "performance improvement model" that integrates job characteristics, competency, organizational support, team cohesiveness, and team feedback.

Building on the above progress and limitations, the present study positions self-efficacy as a key mediating variable within the performance improvement model. It aims to examine how discipline leaders' perceived job characteristics, competency levels, and organizational support enhance task, contextual, and adaptive performance through increased self-efficacy, and further explores the moderating role of team feedback in the relationship between self-efficacy and performance. In doing so, the study seeks to provide theoretical and empirical support for constructing a "Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province."

2.6 Team Cohesiveness

2.6.1 Definition of Team Cohesiveness

Team cohesiveness was defined by social psychologists Festinger et al. (1950) as the sum of the attractions among team members and the motivation for members to remain in the team. This definition emphasizes the social and relational characteristics of team cohesiveness and focuses on emotional connections and identifications. team cohesiveness refers to the shared beliefs or commitments toward team tasks or interpersonal relationships. As research progressed, team cohesiveness was viewed as a multidimensional and complex phenomenon. Carron et al. (1985) proposed the most representative multidimensional model, dividing team cohesiveness into two dimensions: task cohesion and social cohesion. Task cohesion (task cohesion) is the willingness and ability of team members to collaborate around shared goals or tasks.

Social cohesion (Social Cohesion) represents the emotional bonds and relational attractiveness among team members. Mullen & Copper (1994) further verified through meta-analysis the positive correlation between task cohesion and team performance, while social cohesion primarily influences member satisfaction and team atmosphere. Marks et al. (2001) emphasized that team cohesiveness is a dynamic process manifesting as team members' identification with team goals and the team itself at specific times. Beal et al. (2003) suggested that team cohesiveness can be shaped through interventions such as leadership behaviour, communication styles, and team culture.

Team cohesiveness is a dynamic process in which team members unite to achieve team goals. It manifests as members' sense of belonging to the organization. Team cohesiveness is an indicator of the internal integration of a team and has a significant impact on individuals' attitudes and behaviours. Different leadership motivations lead to different team cultures. In high-cohesion teams, members have stronger attraction to each other, are more united, have higher levels of commitment to team goals, and invest more effort and dedication into their work (Graham & Jones, 2019). Teams with strong cohesion can allocate tasks according to members' strengths and advantages. Communication and cooperation among team members can effectively reduce emotional exhaustion and encourage members to engage in their work in a positive and energetic state. In high-cohesion teams, members exhibit higher effort and dedication due to their sense of belonging (Susilaningsih et al., 2018). Members in such teams have close relationships and actively share knowledge, increase inclusiveness, and collaborate towards team visions and goals in a more open and trusting mind-set (Stashevsky & Koslowsky, 2006).

Scholars have provided more universally applicable definitions of team cohesiveness by integrating existing research. Forsyth (2010) defined team cohesiveness as the holistic commitment of team members to the team and its goals on emotional, cognitive, and behavioural levels. The emotional dimension involves social attractiveness and a sense of belonging among members. The dimension pertains to members' identification with team goals. The behavioural dimension concerns members' actions in teamwork. Breuer et al. (2016) pointed out that in remote work and digital environments, team cohesiveness relies more on the synchronicity of task completion and the support of technological tools, while social cohesion may be weaker (Ashton-James & McNeilage, 2022).

2.6.2 Dimensions of Team Cohesiveness

Festinger et al. (1950) proposed that team cohesiveness can be divided into attractiveness and group integration. Attractiveness reflects individuals' emotions and interests towards the team. Group integration, on the other hand, refers to the harmony and collaborative ability of the team as a whole. Carron et al. (1997) suggested that team cohesiveness was categorized into task cohesion and social cohesion. Task cohesion refers to the degree of unity displayed by team members in pursuit of common goals. Social cohesion emphasizes the importance of emotional bonds and social relationships among members (Kim & Kim, 2018). This classification laid the foundation for research on team cohesiveness, recognizing that the combination of task and social relationships jointly influences team performance. Task cohesion directly drives team performance, while the emotional dimension contributes to enhancing long-

term cooperation within the team. Research on team cohesiveness also proposes that it should include cognitive consistency among members, which refers to their shared understanding of team goals and values (Ashton-James & McNeilage, 2022). This cognitive dimension addresses the inadequacy of early research in focusing on psychological cognition. The dynamic dimension of team cohesiveness emphasizes that it is not static but changes dynamically with factors such as team development stages and environmental changes (Ashton-James & McNeilage, 2022).

This dynamic perspective adds complexity in time and environment to the study of team cohesiveness. In research on scientific research project teams, scholars have proposed that the structure of team psychological capital encompasses dimensions such as team self-confidence, team hope, team efficacy, team expectations, team cohesiveness, and team heterogeneity (Madson & Burns, 2019). Studies have analysed the impact of the composition of corporate top management teams on team cohesiveness, delving into the dimensions of team cohesiveness and the influence of various team composition variables on it (Ashton-James & McNeilage, 2022; Madson & Burns, 2019). In research on the dynamics of executive teams, scholars have examined team cohesiveness and the concepts of social integration and behavioral integration derived from it, exploring their impact on team effectiveness and process quality. In studies on teamwork characteristics, scholars have proposed that they include dimensions such as skill diversity, task identity, task significance, feedback, and autonomy, emphasizing their impact on team performance (Dey & Ganesh, 2020).

The development of measurement scales for team cohesiveness lacks continuous research. Due to the dispersed nature of the measurement field, the applicability of scales is limited. Therefore, this study selects the GEQ-Group Cohesion Scale proposed by Chang and Bordia (2001), which consists of eight items.

2.6.3 Research on Team Cohesiveness

Team cohesiveness refers to shared beliefs or commitments towards team tasks or relationships among each other. The formation of team cohesiveness requires a long-term accumulation process and is stored in the value beliefs of team members. Researchers have found that cohesiveness is one of the main factors influencing individuals' decisions to participate in teamwork (Ashton-James & McNeilage, 2022; Madson & Burns, 2019). In teams with high cohesiveness, members are more willing to engage in team communication, share opinions or beliefs, and are more likely to enhance team satisfaction. Through meta-analysis and structural equation modelling, Mathieu et al. (2015) discovered a reciprocal relationship between team cohesiveness and team performance, indicating that one influences the other. Researchers have also found positive correlations between team cohesiveness and team effectiveness, team satisfaction, and the sustainability of team development (Bravo et al., 2019). However, team cohesiveness also has some negative impacts, such as reducing the quality of team decisions, increasing conformity pressure, and leading to groupthink. These discrepancies arise due to the complexity of the concept of team cohesiveness and differences in researchers' understandings of it (Baughman et al., 2019).

Early research on team cohesiveness attributed its formation to interpersonal factors, where team members remain in the team due to interpersonal attraction. Researchers have found that interpersonal attraction among team members is only one

aspect, and team cohesiveness has multiple sources and constitutes a multidimensional structure (Bravo et al., 2019). Carron et al. (1997) argue that team cohesiveness includes social and task aspects. Individual team members' integration or connection to the entire team (social cohesiveness) and their desire to complete team tasks (task cohesiveness) can increase their willingness to invest time and effort in the team. Social cohesiveness was associated with enhanced collective identity and the influence of social interactions on team members. Task cohesiveness is linked to effectively achieving collective goals and increasing team collective efficacy (Baughman et al., 2019; Miles et al., 2021).

In existing literature, team cohesiveness is an environmental variable that influences team performance or effectiveness. Researchers believe that the mechanisms of team cohesiveness primarily include the following aspects: First, team cohesiveness functions like a powerful social lever, assimilating team members' views and beliefs through frequent interactions, thereby promoting team standards and rules, which the identification and implementation of team members. Second, team members form a shared mental model through communication, exchanges, and shared experiences (Miles et al., 2021). These shared mental models are based on team members' descriptions, explanations, and predictions of events occurring in the environment. When facing decisions and judgments, these mental models tend to make team members' attitudes similar. Team cohesiveness is influenced by various factors, with team leadership having a significant impact on it (Baughman et al., 2019).

In teams, team cohesiveness is an integral part of the team structure. When a team has high cohesiveness, team members openly and freely discuss their views and learn from each other. When a team determines a plan, team members participate in the implementation activities of the project and address difficulties encountered during task completion (Baughman et al., 2019; Bravo et al., 2019). Team cohesiveness can promote the initiative and enthusiasm of team members in carrying out activities. Team members improve themselves based on fully tapping into team resources and strengths.

Table 2.5 Summary of Studies on Team Cohesiveness

Author(s) & Year	Main Focus	Key Points on Team Cohesiveness
Festinger et al. (1950)	Early definition	Defined team cohesiveness as the sum of attractions among members and the motivation to remain in the team; emphasized social-relational nature and members' desire to stay.
Carron et al. (1985, 1997)	Multidimensional structure	Proposed the classic multidimensional model: **task cohesion** (unity around shared goals and tasks) and **social cohesion** (emotional bonds and interpersonal attraction); both jointly influence team performance and long-term cooperation.
Mullen & Copper (1994)	Meta-analysis of cohesion–performance link	Demonstrated a **positive correlation** between task cohesion and team performance; social cohesion mainly predicts member satisfaction and team climate.
Marks et al. (2001)	Dynamic view	Viewed cohesiveness as a **dynamic process**, reflecting members' identification with the team and its goals at specific time points.
Beal et al. (2003)	Shaping cohesiveness	Argued that cohesiveness can be enhanced through **leadership behaviour, communication style, and team culture**.
Forsyth (2010)	Integrative definition	Defined team cohesiveness as members' overall commitment to the team and its goals at **emotional, cognitive, and behavioural** levels: social attraction and belonging (emotional), identification with team goals (cognitive), and cooperative actions (behavioural).
Breuer et al. (2016); Ashton-James & McNeilage (2022)	Virtual / digital teams	Found that in remote and digital contexts, cohesiveness relies more on **synchrony of task completion and technological support**, while social cohesion may be relatively weaker; highlighted a **cognitive and technological** dimension.

Author(s) & Year	Main Focus	Key Points on Team Cohesiveness
Madson & Burns (2019)	Team psychological capital	Treated cohesiveness as one component of team psychological capital (e.g., confidence, hope, expectations, heterogeneity), affecting team effectiveness in research-project and executive teams.
Chang & Bordia (2001)	Measurement	Developed the **GEQ Group Cohesion Scale** (8 items), widely used to measure overall team cohesiveness in empirical studies.
Mathieu et al. (2015)	Reciprocal effects	Using meta-analysis and SEM, showed a **reciprocal relationship** between team cohesiveness and performance—each reinforces the other.
Bravo et al. (2019); Baughman et al. (2019)	Outcomes and mechanisms	Found that cohesiveness positively relates to team effectiveness, satisfaction, and sustainable development, but excessive cohesion may reduce decision quality and increase groupthink. Mechanisms include: (a) frequent interaction assimilates members' beliefs and strengthens team norms; (b) shared mental models make members' attitudes more similar; (c) leadership style strongly influences cohesiveness.
Susilaningsih et al. (2018); Matt Graham & Jones (2019); Stashevsky & Koslowsky (2006)	Applied research in organizations	Showed that high-cohesion teams have stronger sense of belonging, greater effort and commitment, more effective task allocation and communication, lower emotional exhaustion, more active knowledge sharing, higher inclusiveness, and better alignment with team vision and goals.

2.7 Team Feedback

2.7.1 Definition of Team Feedback

Team feedback refers to the ongoing, informative, constructive, and timely professional communication that team members provide to discipline leaders during teaching, management, research, and professional activities. This construct emphasizes the frequency, clarity, and constructiveness of feedback that team members—through formal or informal channels—offer regarding academic decisions, teaching actions, curriculum innovation, instructional meetings, team collaboration, and leadership performance. Such feedback is explicitly aimed at improving instructional quality, strengthening team collaboration, and enhancing the overall effectiveness of discipline leaders' professional practice (Ashford & Tsui, 1991; Brett & Atwater, 2001).

As research expanded, scholars conceptualized team feedback as a multidimensional and interactive organizational process (London, 2013). On the one hand, feedback provides real-time information and evaluation on professional actions, helping discipline leaders correct errors, refine decision-making, and improve instructional strategies. On the other hand, feedback also functions as an affective and motivational mechanism that enhances confidence, reinforces self-efficacy, and promotes psychological safety within academic teams (Edmondson, 1999).

In educational and organizational contexts, team feedback is closely related to leadership effectiveness, innovation capability, and team development. Effective team feedback promotes continuous learning, strengthens reflective practice, and fosters collaborative improvement within teaching and research groups (Watling & Ginsburg, 2019). During professional interactions, constructive team feedback enhances discipline leaders' ability to manage complex academic tasks, maintain instructional quality, and optimize decision-making under dynamic institutional conditions

Team feedback occurs through diverse communication channels including instructional meetings, lesson observations, collaborative curriculum design, peer evaluations, reflective discussion groups, student performance analytics, and administrative conferencing (Hattie & Timperley, 2007). As feedback becomes more frequent and transparent, discipline leaders are better able to identify performance gaps, deepen professional insight, and sustain psychological readiness in the face of academic challenges (Boud & Molloy, 2013). High-quality feedback requires clarity, constructiveness, immediacy, and emotional safety, ensuring that performance corrections do not undermine professional identity or interpersonal trust (Anseel et al., 2015).

Overall, team feedback is a dynamic process embedded within collaborative academic environments. It is not merely corrective information but also an important relational resource that strengthens motivation, confidence, and professional reflection. Within higher vocational colleges, the effectiveness of discipline leaders largely depends on their ability to receive, interpret, and internalize professional feedback from colleagues, administrators, and instructional partners.

2.7.2 Dimensions of Team Feedback

Researchers have conceptualized team feedback as comprising cognitive, behavioral, and relational dimensions. The cognitive dimension refers to the

information accuracy, clarity, and relevance of feedback, helping leaders recognize instructional gaps and make informed decisions (Hattie & Timperley, 2007). The behavioral dimension focuses on how feedback supports actual changes in teaching actions, leadership practices, and collaborative processes, forming a bridge between knowledge and practice (Molloy & Clarke, 2021). The relational dimension reflects the emotional tone, interpersonal trust, and psychological safety embedded in feedback delivery, which significantly influence whether feedback is accepted, rejected, or internalized.

Other scholars emphasize the frequency of feedback, arguing that frequent professional feedback enables faster adjustment of instructional strategies, enhances the continuity of learning processes, and prevents performance stagnation (London, 2013). Constructive feedback quality is another critical dimension, referring to specificity, solution focus, developmental guidance, and reflective suggestions that promote long-term professional growth (Anseel & Lievens, 2007). Finally, data-informed feedback has emerged as a new dimension in digital learning environments, involving the use of learning analytics, classroom interaction data, and teaching performance indicators to provide objective, evidence-based guidance (Boud & Molloy, 2013).

Team feedback is also influenced by organizational and team contexts. In cohesive academic teams, feedback tends to be more frequent, transparent, and collaborative, leading to stronger learning effects and higher performance outcomes (Molloy & Clarke, 2021). Conversely, in low-trust or conflict-prone teams, feedback is often limited, defensive, or emotionally sensitive, weakening its developmental function (Steelman et al., 2004). Effective team feedback depends not only on communication content, but also on team norms, shared goals, reflective culture, and leadership behaviors that support open dialogue and mutual accountability.

2.7.3 Research on Team Feedback

Team feedback has been widely examined in relation to team performance, leadership effectiveness, and collaborative innovation. Researchers have confirmed that frequent and constructive feedback significantly enhances individual task performance, psychological engagement, learning motivation, and professional competence (Hattie & Timperley, 2007; Anseel et al., 2015). In collaborative academic environments, discipline leaders who frequently receive feedback develop stronger self-efficacy, greater reflective capacity, and higher resilience in managing instructional uncertainty (Watling & Ginsburg, 2019).

At the team level, feedback strengthens shared mental models by aligning interpretations, expectations, and instructional decisions across members (Molloy & Clarke, 2021). These shared cognitive structures increase collaboration efficiency, reduce misunderstandings, and enhance collective decision-making. Moreover, feedback cycles help academic teams sustain reflective learning, evaluate teaching outcomes, integrate student performance analytics, and maintain adaptive improvement in curriculum development (Boud & Molloy, 2013).

Empirical studies demonstrate that team feedback positively predicts teamwork quality, collaborative innovation, and leadership performance across organizational settings (London, 2013; Shin & Zhou, 2007; Zhou & George, 2001).In higher education, teaching teams that institutionalize systematic feedback mechanisms—

lesson planning conferences, peer observation groups, student analytics reviews, or action research meetings—tend to exhibit stronger professional identity, deeper knowledge sharing, and higher instructional quality (Watling & Ginsburg, 2019).

However, scholars also caution that without psychological safety and trust, team feedback may induce conformity, emotional defensiveness, or reluctance to share professional challenges (Steelman et al., 2004). These conditions weaken learning value and reduce leaders' willingness to modify instructional approaches. Therefore, feedback must be delivered through supportive communication norms and collaborative learning culture to maintain its developmental function.

In sum, existing research confirms that team feedback is a critical developmental mechanism that enhances self-efficacy, collaboration, reflective learning, and performance outcomes. In the context of vocational colleges, discipline leaders rely on sustained team feedback to strengthen teaching quality, curriculum leadership, and organizational adaptability.

Table 2.6 Summary of Studies on Team Feedback

Author(s) & Year	Dimension	Specific Dimension / Key Concept
Hackman & Oldham (1976); Argyris & Schön (1996)	One Dimension	Constructive feedback as a continuous learning and performance-improvement mechanism within teams
Chang & Bordia (2001)	Two Dimensions	Feedback frequency and feedback constructiveness
Forsyth (2010)	Three Dimensions	Informational communication, reflective suggestions, and instructional feedback within daily professional activities
Ashton-James & McNeilage (2022); Breuer et al. (2016)	Four Dimensions	Task-based real-time feedback, psychological reinforcement, technological support for digital teamwork, and collaborative decision-making
Baughman et al. (2019)	Five Dimensions	Feedback supporting shared mental models, team learning, joint decision adjustments, performance reflection, and collective efficacy building
This Study (2025)	Five Mechanisms (used as moderator)	High-frequency feedback, professional reflection, data-informed evaluation, self-efficacy reinforcement, and team cohesiveness building

2.8 Work Performance

2.8.1 Definition of Work Performance

There are three viewpoints among scholars regarding the definition of work performance. One perspective views performance as the result or output, focusing on what contributions employees make in their specific positions, rather than how they make those contributions. The second perspective sees performance as behavior or process. The third perspective considers performance as a combination of both results and behaviors.

Based on the concept of performance as a result or output, Taylor's piece-rate system applied performance in terms of results or outputs in practice. Munsterberg focused on individual employee performance. As early as the beginning of the 20th century, he defined performance as reflecting work outcomes. Bernardin and Beatty (1984) initially believed that work performance referred to the results of specific activities, job functions, or behaviors within a particular time and space. Bernardin et al. (1995) refined performance as a record of results produced by specific job functions or activities. Some scholars have deepened and developed the concept of performance as a result or output, proposing that performance is the outcome of completed tasks and introducing methods for assessing performance requirements such as responsibility, goals, job descriptions, and abilities. When assessing employee performance, evaluation indicators include responsibility, output, key result areas, and key performance indicators.

As research on work performance deepened, the view of performance as an outcome was gradually rejected by many scholars, giving rise to the behavioral view of work performance as a corresponding alternative. First proposed measuring performance based on organizational outcomes rather than solely on organizational operational results. They argued that performance should be defined in terms of organizational behavior, pointing out that work performance is a set of behaviors engaged in by individuals that are linked to organizational or individual goals, including productive and counterproductive performance behaviors. Campbell (1990) also adhered to this view, advocating that work performance should be defined as behaviors controlled by employees that are related to organizational goals. Rotundo (2002) also believed that performance is behavior that employees can subjectively determine and that is meaningful for achieving organizational goals.

Scholars have integrated the result-oriented and behavior-oriented views of work performance, proposing a comprehensive view that work performance should include both results and behaviors. Barry and Stewart (1997) defined performance as both behavior and result, noting that behavior is the implementation of work tasks demonstrated by those performing the work and is one of the conditions for achieving high performance. Behavior is a measurement tool for results representing results, reflecting the mental and physical effort expended to complete work tasks. Mathew et al., (2012) also found through research that performance is not a single behavior or result but a combination of both. Some scholars have proposed work performance, arguing that competency is an individual's intrinsic characteristic that has a causal relationship with performance benchmarks. Therefore, performance is neither the outcome of production nor the behavior displayed but rather the deep-seated and

inherent potential characteristics (Mathew et al., 2012; Mumford, 1994). Performance is related to work and can predict or influence work behavior and performance. The prevailing academic view integrates the result-oriented and behavior-oriented approaches to performance, defining performance as a series of visible and perceivable specific behaviors and the achievements or effects produced through these behaviors (Baughman et al., 2019).

2.8.2 Dimensions of Work Performance

As the concept of work performance becomes increasingly well-defined, defining its measurement dimensions solely as either outcomes or behaviours is biased, as these two aspects are interdependent and complementary (Reaves, 2023). In parallel with the development of the connotation and denotation of work performance, positive progress has been made in the measurement dimensions of work performance, shifting from a univariate to a multivariate approach (Reaves et al., 2023).

The earliest scholars to propose the structure of work performance were Katz and Kahn (1978) suggested that individual behaviour in organizations includes three activities: joining and remaining in the organization, fulfilling performance tasks required by the organization, and initiating activities beyond the organization's specified performance standards. Scholars built the measurement dimensions of work performance based on this foundation. Campbell et al. (1993) proposed a new work performance model, which was divided into eight aspects: proficiency in specific tasks, proficiency in non-specific tasks, personal discipline, written and verbal communication skills, leadership and supervisory abilities, effort, facilitation for colleagues and groups, and management and administration (Reaves et al., 2023; Zhang & Phromphitakkul, 2021). Some scholars believed that this univariate work performance model focusing only on behaviour was too narrow (untranslated, as it is a Chinese idiomatic expression) for practical application in the workplace (Li & Wang, 2020; Reaves et al., 2023; Speer et al., 2020; Zhang & Phromphitakkul, 2021). On this basis, Borman & Motowidlo (1993) first divided work performance into task performance and contextual performance. Task performance refers to the requirements stipulated in the job description, involving the content of work and the degree of task fulfilment, which is closely related to individual abilities, work proficiency, and knowledge and skills (Zhang & Phromphitakkul, 2021). Contextual performance, also known as peripheral or relational performance, assesses organizational citizenship behaviours and is influenced by psychological factors such as personality and temperament. The construction of the dichotomy between task performance and contextual performance established that work performance is a unity of outcomes and behaviours, significantly promoting the scientific and standardized development of work performance measurement dimensions (Li & Wang, 2020).

Work performance dimensions are divided into job dedication and interpersonal facilitation. Job dedication focuses on self-regulatory behaviours, such as complying with regulations, working hard, and actively overcoming difficulties in work. Interpersonal facilitation refers to behaviours taken by employees in the organizational environment to promote interpersonal relationships and help others achieve effective work performance, which can assist others and enhance organizational morale (Li & Wang, 2020; Zhang & Phromphitakkul, 2021). As the organizational environment rapidly changes, it has been found that the two-dimensional structure of work

performance cannot fully explain issues in performance management (Li & Wang, 2020). Therefore, scholars such as Allworth & Hesketh (1997) proposed a third dimension independent of task performance and contextual performance, namely adaptive performance, and verified the existence of this performance through empirical research on samples. Hesketh & Neal (1999) formally defined the concept of adaptive performance, considering it mainly as the behaviour demonstrated by employees in response to change. Adaptive performance reflects the proficiency of employees in adjusting their behaviour in response to changes in the environment, events, or new careers. However, some scholars have questioned the independence of adaptive performance, arguing that its connotation overlaps with "task performance-contextual performance." To identify the core components of adaptive performance and improve its operability, some scholars have explored the structure of adaptive performance. Pulakos et al. (2000) proposed an eight-dimensional model of adaptive performance. In subsequent research, scholars successively proposed the learning dimension and innovation dimension of work performance, but the three-dimensional structure model of work performance has been basically established.

Compared to the research level on employee performance in corporate organizations, research on the work performance of college teachers lags significantly, with its theoretical outcomes primarily sourced from human resource management (Sittar et al., 2021). Additionally, the quantity and quality of research findings are far inferior to those concerning employee performance in corporate organizations (Fei & Tien, 2024). Research on the work performance of college teachers has predominantly emerged after the year 2000, with literature mainly focusing on teachers' work performance, while direct research on the connotation and measurement dimensions of college teachers' work performance is relatively scarce.

Early research on college teachers' work performance emphasized the guiding and motivating functions of performance evaluation for college teachers. Lazear (1996) analyzed the efficiency of compensation systems for research college teachers from the perspective of dynamic incentives within the multitasking agent theory. The purpose of teacher performance evaluation indicators is to provide teachers with a clear direction based on the needs of the college and the state. Teacher performance evaluation indicator systems encompass three indicators: political ideology, teaching achievements, and research achievements (Hameed et al., 2022). With the development of work performance, and by fully drawing upon and absorbing research outcomes in organizational management, work performance research in education has gradually formed a performance view oriented towards behavior and outcomes (Fei & Tien, 2024; Hameed et al., 2022; Sittar et al., 2021).

The measurement dimensions of college teachers' work performance were divided into two categories. One category revolves around the functions of universities, namely talent cultivation, scientific research, social service, and cultural inheritance. Typical measurement dimensions of college teachers' work performance include those proposed by Lally & Myhill (1994), which, combining evaluation purposes and teachers' effectiveness, suggest using multiple aspects such as teachers' values, teaching, and research as content for assessing teachers' work performance to form evaluation criteria. The dimensional structure of work performance has gradually shifted from a narrow focus on task completion to a broader understanding that includes contextual and

adaptive behaviors. Borman and Motowidlo (1993) distinguished task performance from contextual performance, emphasizing that employees contribute to organizational effectiveness not only by completing assigned duties but also by supporting the social and psychological environment of the organization. Task performance refers to the execution of core job responsibilities, while contextual performance reflects cooperation, interpersonal support, initiative, and voluntary contributions beyond formal task requirements.

In addition, adaptive performance has become increasingly important in dynamic work environments. Pulakos et al. (2000) argued that adaptive performance reflects an individual's ability to respond effectively to changing tasks, unexpected situations, new technologies, interpersonal demands, and uncertain environments. In the context of higher vocational colleges, discipline leaders are required not only to complete teaching, curriculum development, research, and professional construction tasks, but also to collaborate with teams and adapt to policy, technological, and industry changes.

Therefore, based on the above theoretical foundations, this study conceptualizes discipline leaders' work performance as comprising three dimensions: task performance, contextual performance, and adaptive performance.

2.8.3 Research on Work Performance

Work performance has been widely examined in the fields of organizational behavior, human resource management, and educational administration. Early studies tended to understand performance mainly as the completion of assigned tasks and measurable work outputs. However, later research gradually shifted from a single result-oriented view to a multidimensional perspective that emphasizes both work outcomes and work behaviors.

Campbell (1990) argued that work performance should be understood as behavior that is relevant to organizational goals rather than merely as final outcomes. This perspective indicates that performance is not only reflected in what employees achieve, but also in how they perform their responsibilities. For discipline leaders in higher vocational colleges, performance therefore includes not only visible achievements such as teaching tasks, curriculum construction, research outputs, and project implementation, but also the behavioral processes through which they organize teams, coordinate resources, and respond to institutional requirements.

Borman and Motowidlo (1993) further expanded the understanding of performance by distinguishing between task performance and contextual performance. Task performance refers to the effectiveness with which individuals perform core job duties directly related to their formal responsibilities. Contextual performance refers to behaviors that support the organizational, social, and psychological environment, such as cooperation, initiative, interpersonal support, and voluntary contributions to the team. This distinction is particularly relevant to discipline leaders, whose responsibilities involve both the completion of professional tasks and the promotion of teamwork, teaching reform, and organizational collaboration.

In addition to task and contextual performance, adaptive performance has become increasingly important in dynamic work environments. Pulakos et al. (2000) emphasized that adaptive performance reflects an individual's ability to adjust to

changing tasks, unexpected situations, new technologies, interpersonal demands, and uncertain environments. In the context of higher vocational education, discipline leaders are required to respond to policy changes, technological development, curriculum reform, industry transformation, and new requirements for school–enterprise cooperation. Therefore, adaptive performance is an essential component of their overall work performance.

Based on these theoretical foundations, this study conceptualizes discipline leaders' work performance as a multidimensional construct consisting of task performance, contextual performance, and adaptive performance. Task performance reflects the fulfillment of core responsibilities, such as teaching, curriculum development, research coordination, professional construction, and project management. Contextual performance reflects cooperation, organizational support, team contribution, and proactive participation in institutional development. Adaptive performance reflects the ability to respond effectively to changing policies, technologies, industry needs, and educational environments.

Therefore, work performance in this study is not limited to the completion of assigned work tasks. It represents a comprehensive set of behaviors and outcomes through which discipline leaders contribute to teaching quality, professional development, team effectiveness, and the high-quality development of higher vocational colleges.

Table 2.7 Summary of Studies on Work Performance

Author(s) & Year	Dimension Structure	Specific Dimension / Content
Taylor (1911); Munsterberg (1913); Bernardin (1984,1995)	Result-oriented Performance	Performance defined as task outputs or results, measured through job outcomes, responsibility fulfillment, KPIs, key result areas, or quantitative productivity.
Campbell (1990); Rotundo (2002)	Behavior-oriented Performance	Performance defined as employee behaviors related to organizational goals; includes productive and counterproductive behaviors, controllable work efforts, and observable behavioral contributions.
Barry & Stewart (1997); Mathew et al. (2012); Mumford (1994)	Integrated View: Results + Behavior	Performance is both behavior and output; behaviors reflect physical and mental efforts toward task execution, and outputs reflect measurable achievements or effects produced.
Katz & Kahn (1978)	Three Behavioral Categories	(1) Joining and remaining in the organization, (2) prescribed task behaviors, (3) innovative and spontaneous activities beyond formal job requirements.
Campbell et al. (1993)	Eight Performance Components	Task proficiency, non-task proficiency, personal discipline, written/oral communication, leadership, individual effort, facilitation for colleagues or groups, management & administration.
Borman & Motowidlo (1993)	Two Dimensions: Task & Contextual	Task Performance: job execution and task fulfillment; Contextual Performance: organizational citizenship, interpersonal facilitation, morale building, helping others.

Author(s) & Year	Dimension Structure	Specific Dimension / Content
Allworth & Hesketh (1997); Hesketh & Neal (1999); Pulakos et al. (2000)	Three Dimensions (Task, Contextual, Adaptive)	Adaptive Performance: behavioral adjustment in response to environmental or role changes; includes stress handling, continuous learning, innovation, interpersonal adaptation, cultural adjustment.
Pulakos et al. (2000)	Three-dimensional work performance structure	Task performance, contextual performance, and adaptive performance explain core duties, extra-role contributions, and adaptation to changing work demands.

2.9 Correlation Research on the Relationship of Variables

2.9.1 Impact of Job Characteristics on Work Performance, Self-Efficacy, and Team Cohesiveness

Job characteristics are closely related to employees' work performance, self-efficacy, and team functioning. According to the Job Characteristics Model, skill variety, task identity, task significance, autonomy, and feedback can enhance employees' experienced meaningfulness, responsibility, and knowledge of results, thereby improving motivation and performance (Hackman & Oldham, 1976). Subsequent research on work design further confirmed that enriched job characteristics are positively associated with motivation, satisfaction, well-being, and performance outcomes (Humphrey et al., 2007; Oldham & Fried, 2016).

Job characteristics may also strengthen self-efficacy. When individuals are given meaningful tasks, autonomy, and clear feedback, they are more likely to believe that they can successfully complete work-related responsibilities. This logic is consistent with social cognitive theory, which emphasizes that self-efficacy is shaped by mastery experience, feedback, and environmental support (Bandura, 1997). In the context of higher vocational colleges, discipline leaders with greater autonomy, clearer task identity, and more timely feedback may develop stronger confidence in managing curriculum reform, professional cluster construction, and team coordination.

Job characteristics can also contribute to team cohesiveness. When work tasks require interdependence, shared goals, and continuous feedback, team members are more likely to develop cooperation, trust, and commitment to collective tasks. Team cohesion research has shown that cohesion is positively related to team processes and performance, particularly when task coordination and shared goals are emphasized (Mullen & Copper, 1994; Carron et al., 1985). Therefore, this study assumes that job characteristics positively influence self-efficacy, team cohesiveness, and discipline leaders' work performance.

2.9.2 Impact of Competency on Work Performance, Self-Efficacy, and Team Cohesiveness Competency is closely related to work performance, self-efficacy, and team cohesiveness. In competency theory, competency refers to the underlying characteristics, knowledge, skills, motives, values, and behavioral abilities that enable individuals to achieve superior performance (McClelland, 1973; Boyatzis, 1982; Spencer & Spencer, 1993). For discipline leaders in higher vocational colleges, competency includes professional knowledge, curriculum development ability, teaching reform capacity, research ability, coordination skills, and leadership in professional cluster construction.

Competency may directly enhance work performance because discipline leaders with stronger professional and managerial abilities are more capable of completing complex academic and administrative tasks. They can organize curriculum reform, guide teaching teams, coordinate school–enterprise cooperation, and respond to changing policy and industry requirements more effectively. Therefore, competency provides the knowledge and behavioral foundation for task performance, contextual performance, and adaptive performance.

Competency may also strengthen self-efficacy. According to social cognitive theory, individuals' efficacy beliefs are shaped by mastery experiences, successful task completion, feedback, and perceived capability (Bandura, 1997). When discipline leaders possess adequate professional knowledge and practical skills, they are more likely to believe that they can successfully manage teaching reform, research coordination, and team development tasks. In this sense, competency becomes an important source of self-efficacy.

At the team level, competency can contribute to team cohesiveness. Discipline leaders with stronger professional and coordination abilities are better able to clarify team goals, allocate tasks, support members, and build trust. When team members perceive that their leader is competent and capable of guiding collective work, they are more likely to develop shared commitment and cooperation. Therefore, this study assumes that competency positively influences discipline leaders' work performance, self-efficacy, and team cohesiveness.

2.9.3 Impact of Organizational Support on Work Performance, Self-Efficacy, and Team Cohesiveness

Organizational support is an important antecedent of work performance, self-efficacy, and team cohesiveness. Perceived organizational support refers to employees' general belief that the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). Subsequent research further demonstrated that organizational support is positively associated with employees' attitudes, motivation, organizational commitment, and work performance (Rhoades & Eisenberger, 2002). In higher vocational colleges, organizational support is reflected not only in the provision of resources and institutional policies but also in professional development opportunities, recognition, fair evaluation, administrative coordination, and a supportive working climate. When discipline leaders perceive adequate institutional support, they are more likely to identify with organizational goals and devote greater effort to teaching reform, curriculum construction, research coordination, and professional team development.

Organizational support also helps strengthen discipline leaders' self-efficacy. For discipline leaders, many work tasks involve uncertainty and coordination pressure, such as leading curriculum reform, organizing teaching teams, applying for research projects, and promoting school–enterprise cooperation. Institutional support can provide the resources, training, feedback, and emotional encouragement needed to complete these tasks. These supportive conditions help discipline leaders develop stronger confidence in their professional roles and increase their willingness to persist when facing difficulties. This is consistent with social cognitive theory, which emphasizes that environmental support can shape individuals' efficacy beliefs and behavioral outcomes (Bandura, 1997).

At the team level, organizational support can further promote team cohesiveness. A fair, resource-rich, and collaborative institutional environment helps reduce internal friction and strengthens team members' sense of shared responsibility. When colleges provide clear goals, necessary resources, and recognition for team achievements, members of professional teams are more likely to build trust, maintain cooperation, and work toward common tasks. Therefore, this study assumes that organizational support

positively influences discipline leaders' work performance, self-efficacy, and team cohesiveness.

2.9.4 Mediating Role of Self-Efficacy

Self-efficacy is an important psychological mechanism in explaining how job characteristics, competency, and organizational support affect work performance. According to social cognitive theory, self-efficacy refers to individuals' beliefs about whether they are capable of organizing and carrying out the actions needed to achieve expected outcomes (Bandura, 1986, 1997). In work settings, individuals with stronger self-efficacy tend to show higher confidence when facing complex tasks. They are also more willing to set challenging goals, invest continuous effort, and persist when difficulties occur.

In the context of this study, job characteristics, competency, and organizational support may all contribute to the development of discipline leaders' self-efficacy. Enriched job characteristics, such as autonomy, task significance, and feedback, allow discipline leaders to experience a stronger sense of control and accomplishment in their work. Competency provides the professional knowledge, teaching ability, research capacity, and coordination skills needed to perform academic and managerial responsibilities effectively. Organizational support, including resources, recognition, training opportunities, and institutional encouragement, further strengthens discipline leaders' confidence in fulfilling their roles.

Self-efficacy may then influence work performance by shaping discipline leaders' motivation and behavioral responses. Discipline leaders with higher self-efficacy are more likely to take initiative in curriculum reform, persist in professional cluster construction, coordinate team tasks actively, and respond constructively to changes in policy, technology, and industry needs. Therefore, this study proposes that self-efficacy serves as a mediating variable through which job characteristics, competency, and organizational support influence discipline leaders' work performance.

2.9.5 Mediating Role of Team Cohesiveness

Team cohesiveness is another important mechanism through which job characteristics, competency, and organizational support may influence work performance. It reflects the degree of unity, trust, cooperation, and shared commitment among team members. Previous studies have shown that cohesive teams are more likely to develop common goals, maintain effective communication, support one another, and sustain collective effort toward task completion (Carron et al., 1985; Mullen & Copper, 1994).

In higher vocational colleges, the work of discipline leaders is rarely completed by individuals alone. Tasks such as curriculum reform, teaching team construction, professional cluster development, research coordination, and school–enterprise cooperation all require collaboration among teachers, administrators, and external partners. When job characteristics provide clear task goals, appropriate autonomy, meaningful responsibilities, and timely feedback, team members are more likely to understand their roles and participate in shared work, which helps strengthen team cohesiveness.

Competency may also contribute to team cohesiveness. Discipline leaders with stronger professional knowledge, coordination ability, and leadership capacity are better able to clarify work objectives, assign responsibilities, solve problems, and guide team members during complex tasks. Their professional competence can increase team members' trust and willingness to cooperate. At the same time, organizational support can provide resources, recognition, fair evaluation, and a supportive working climate, all of which help reduce internal friction and enhance members' sense of belonging to the team.

Team cohesiveness may further improve discipline leaders' work performance by strengthening cooperation, reducing conflict, and increasing collective commitment to teaching, research, and professional development tasks. Therefore, this study proposes that team cohesiveness mediates the effects of job characteristics, competency, and organizational support on discipline leaders' work performance.

2.9.6 Moderating Effect of Team Feedback

Team feedback may strengthen the relationships between self-efficacy, team cohesiveness, and work performance. Feedback provides individuals with information about the adequacy of their behavior and the gap between current and desired performance. In team contexts, frequent and constructive feedback can improve communication, support learning, and help members adjust their actions toward shared goals (Ashford & Tsui, 1991; London, 2013). Feedback also supports psychological safety and learning behavior within teams, which are important conditions for collaboration and performance improvement (Edmondson, 1999). Therefore, this study proposes that team feedback serves as a moderating mechanism that strengthens the effects of self-efficacy and team cohesiveness on discipline leaders' work performance.

2.10 Theoretical Framework, Conceptual Framework, Hypothesis and Explanation of Hypothesis

2.10.1 Theoretical Framework

Based on the review of existing literature and the structural requirements of the proposed conceptual framework, this study synthesizes and reorganizes the theoretical foundations into three core theories that collectively explain all variables included in the model. These theories—the Job Characteristics Model (JCM), Perceived Organizational Support (POS) Theory, and Social Cognitive Theory (SCT)—provide a coherent and integrated theoretical lens for understanding how job characteristics, competency, and organizational support shape self-efficacy, team cohesiveness, team feedback, and ultimately discipline leaders' work performance. The refinement into three theories is aligned with the supervisor's recommendation to enhance theoretical parsimony while maintaining comprehensive explanatory power.

This study integrates several classical theories, including the Job Characteristics Model (Hackman & Oldham, 1976), Social Cognitive Theory (Bandura, 1986), Perceived Organizational Support Theory (Eisenberger et al., 1986), Organizational Learning Theory (Argyris & Schön, 1996), and the Three-Dimensional Performance Model (Borman & Motowidlo, 1993).

These theoretical perspectives explain, from different dimensions, the key mechanisms influencing the work performance of discipline leaders in higher

vocational colleges—covering aspects of job design, psychological motivation, organizational support, team learning, and performance outcomes.

By synthesizing these theories, this study establishes a systematic theoretical foundation that provides the intellectual basis for the subsequent development of the conceptual framework.

Job Characteristics Model (JCM)

First, the Job Characteristics Model proposed by Hackman and Oldham (1976) emphasizes five core job dimensions—skill variety, task identity, task significance, autonomy, and feedback—which jointly affect employees' internal motivation and performance.

The Job Characteristics Model (Hackman & Oldham, 1976) posits that task identity, task significance, autonomy, and feedback are key motivational properties embedded in work design. These structural characteristics stimulate psychological meaningfulness, responsibility, and knowledge of results, which in turn enhance individual motivation and performance. In the context of higher vocational colleges, discipline leaders are responsible for curriculum development, instructional leadership, team coordination, and professional cluster construction. A well-designed job structure offers them the autonomy to innovate, the sense of significance to engage deeply, and the feedback needed for performance improvement.

In this study, job characteristics serve as a major antecedent, influencing self-efficacy and team cohesiveness, and directly contributing to work performance. JCM thus provides the structural foundation of the model, explaining how job design drives motivational and behavioral outcomes.

Within the context of higher vocational education, discipline leaders undertake teaching, research, and team-management responsibilities that are complex and require a high degree of autonomy. When job design is appropriate, task goals are clearly defined, and effective feedback mechanisms are in place, these factors can stimulate a strong sense of professional enthusiasm and responsibility, thereby improving teaching quality and research productivity.

Perceived Organizational Support (POS) Theory

Perceived Organizational Support Theory (Eisenberger et al., 1986) emphasizes that employees develop global beliefs about the extent to which the organization values their contributions and cares about their well-being. When individuals experience strong organizational support—through adequate resources, fair evaluation, recognition, and developmental opportunities—they are more likely to reciprocate with higher commitment and improved performance.

In the case of discipline leaders, organizational support encompasses institutional funding, digital platforms, administrative coordination, and recognition systems. The theory explains why organizational support significantly shapes team cohesiveness and enhances the effects of job characteristics and competency on performance. Furthermore, a supportive institutional climate promotes feedback mechanisms, which are crucial for reflective teaching, continuous improvement, and adaptive leadership behavior.

Thus, POS anchors the organizational determinants of the conceptual framework and accounts for team-level psycho-social processes.

Social Cognitive Theory (SCT)

Social Cognitive Theory (Bandura, 1986) proposes that human behavior is shaped by dynamic interactions between personal factors, cognitive beliefs, and environmental influences. The construct of self-efficacy is central to this theory and determines an individual's motivation, persistence, and performance. Individuals with higher self-efficacy demonstrate stronger problem-solving abilities, greater adaptability, and higher engagement in complex roles.

In this study, SCT explains how self-efficacy mediates the relationships among job characteristics, competency, organizational support, and work performance. Additionally, SCT is used to conceptualize team feedback as an external social cue that reinforces learning, strengthens efficacy beliefs, and enhances discipline leaders' work performance.

Therefore, SCT provides the psychological mechanism linking structural and organizational conditions to performance outcomes.

Integration of Theories into the Conceptual Framework

The final conceptual framework integrates the three theories into an interconnected model that explains discipline leaders' work performance from structural, organizational, and psychological perspectives.

JCM explains how job characteristics stimulate internal motivation and influence self-efficacy and team cohesiveness.

POS Theory explains how organizational support enhances collective functioning, reinforces feedback systems, and facilitates team cohesiveness.

SCT explains how self-efficacy and team feedback operate as psychological and social mechanisms that shape performance outcomes.

Together, these theories provide a coherent explanation for the relationships among the variables: job characteristics, competency, and organizational support serve as antecedents; self-efficacy and team cohesiveness operate as mediating mechanisms; team feedback functions as a moderator; and work performance constitutes the ultimate outcome.

The final theoretical framework thus achieves conceptual parsimony while retaining full theoretical coverage of all variables in the model (Figure 2.1 and Figure 2.2).

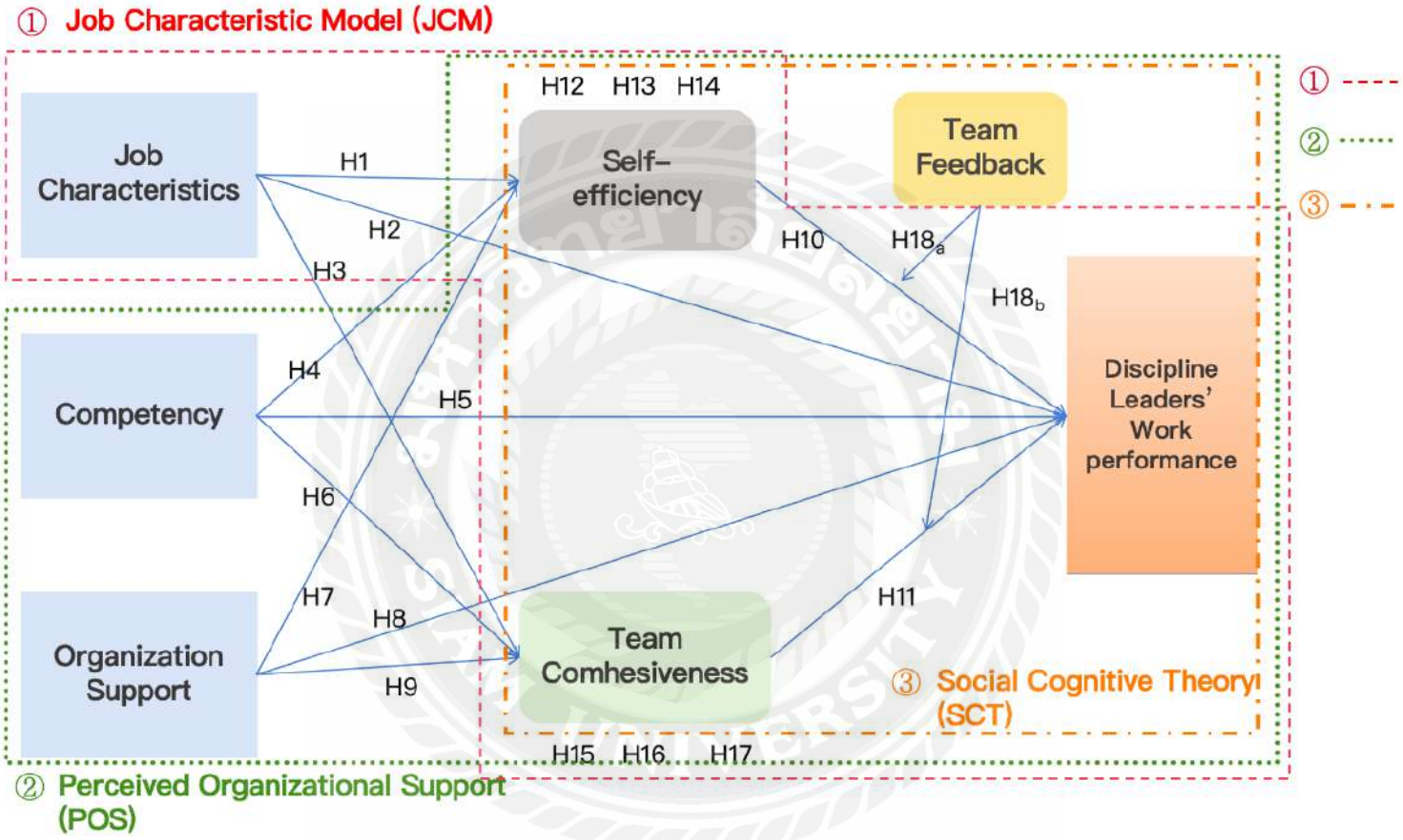


Figure 2.1 Theoretical Framework

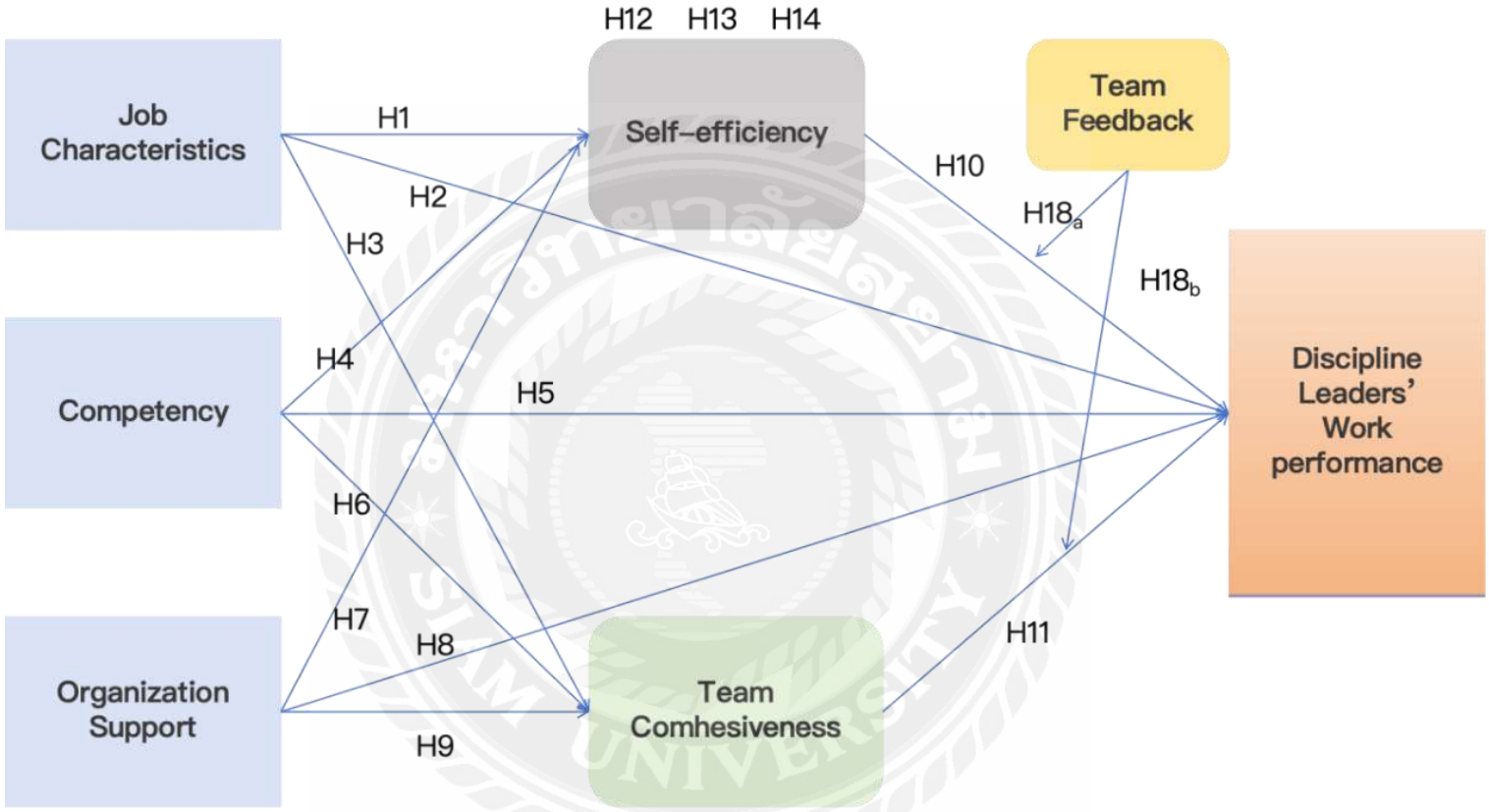


Figure 2.2 Conceptual Framework

2.10.2 Conceptual Framework and Hypothesis

Base on literature review and analysis of related research models, this study proposed a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province. Self-efficacy and team cohesiveness are intermediary variables, while job characteristics, competency, and organizational support are the independent variables. The dependent variable is the work performance of discipline leaders. Team feedback acts as a moderating variable. The model establishes the correlations among these variables.

From the above framework, hypothesis were formulated as follows:

Hypothesis 1: Job characteristics has a positive impact on self-Efficacy.

Hypothesis 2: Job characteristics has a positive impact on discipline leaders' work performance.

Hypothesis 3: Job characteristics has a positive impact on team cohesiveness.

Hypothesis 4: Competency has a positive impact on self-efficacy.

Hypothesis 5: Competency has a positive impact on discipline leaders' work performance.

Hypothesis 6: Competency has a positive impact on team cohesiveness.

Hypothesis 7: Organizational support has a positive impact on self-efficacy.

Hypothesis 8: Organizational support has a positive impact on discipline leaders' work performance.

Hypothesis 9: Organizational support has a positive impact on team cohesiveness.

Hypothesis 10: Self-Efficacy has a positive impact on discipline leaders' work performance.

Hypothesis 11: Team cohesiveness has a positive impact on discipline leaders' work performance.

Hypothesis 12: Self-efficacy mediates the relationship between job characteristics and discipline leaders' work performance.

Hypothesis 13: Self-efficacy mediates the relationship between competency and discipline leaders' work performance.

Hypothesis 14: Self-efficacy mediates the relationship between organizational support and discipline leaders' work performance.

Hypothesis 15: Team cohesiveness mediates the relationship between job characteristics and discipline leaders' work performance.

Hypothesis 16: Team cohesiveness mediates the relationship between competency and discipline leaders' work performance.

Hypothesis 17: Team cohesiveness mediates the relationship between organizational support and discipline leaders' work performance.

Hypothesis 18a: Team feedback moderates the relationship between self-efficacy and discipline leaders' work performance.

Hypothesis 18b: Team feedback moderates the relationship between team cohesiveness and discipline leaders' work performance.

2.11 Conclusion

This study elucidates the related research on Job Characteristics, Competency, Organizational Support, Self-Efficacy, Team Cohesiveness, Team Feedback, and Work Performance. Job characteristics are recognized as factors influencing employees' intrinsic motivation and team collaboration. Research indicates that well-designed job characteristics can enhance employees' self-efficacy and facilitate collaboration among team members, thereby significantly improving work performance. Competency refers to the knowledge, skills, and abilities required for an individual to complete tasks and indirectly enhances overall work performance by affecting employees' self-efficacy and team cohesiveness. Organizational support fulfilling employees' psychological needs and fostering a sense of belonging and work engagement, further promotes teamwork and performance optimization. Self-efficacy and team cohesiveness play roles between the aforementioned variables and work performance. Self-efficacy is a psychological resource, that connects external environmental factors with individual performance, motivating employees to overcome difficulties and complete tasks efficiently. Team cohesiveness translates individual efforts into team-level outcomes. High-cohesion teams are efficient in task execution and demonstrate greater adaptability and creativity in complex environments. Team feedback, as an important moderating variable, influences these pathway relationships. Frequent feedback reinforces the positive effects of self-efficacy and team cohesiveness on performance by providing timely information exchange and psychological support to team members. Job characteristics, competency, and organizational support collectively drive the enhancement of work performance by boosting self-efficacy and team cohesiveness, team feedback plays a modulating and optimizing role in this process. A systematic review of the literature suggests that organizations should adopt a multi-dimensional approach to stimulate employee potential and team effectiveness by optimizing job design, enhancing employee competency, providing organizational support, and increasing the frequency of team feedback.

Table 2.8 Operationalization of Variables

Characteristic	Definition	Item	Source	Measure
Independent Variable				
Job Characteristics	Job characteristics refer to skill variety, task identity, task significance, autonomy, and feedback. These characteristics influence employees' work experiences and intrinsic motivation, affecting their performance.	1.The job requires the use of diverse skills and abilities. 2.The job is relatively simple and repetitive. 3.The job is a whole work with a clear beginning and end. 4.I initiate tasks and complete them on my own. 5.The outcomes of my work impact others' well-being. 6.The job is important. 7.The job allows me to decide how to complete it. 8.The job allows me to accomplish it independently. 9.The job provides clues about the effectiveness of my work. 10.I have many opportunities to understand my performance.	Hackman & Oldham (1975) and Idaszak & Drasgow (1987)	Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree
Competency	Competency refers to the knowledge, skills, self-concept, traits, and motivations required for an individual to excel in their professional role. These competence characteristics are crucial for discipline leaders.	1.I can control my emotions and show tolerance towards others. 2.I excel at listening and influencing others. 3.I am interested in my discipline and seizing development opportunities. 4.I can tailor my teaching to individual students, igniting their passion for learning. 5.I use clear language and technology to aid students' understanding.	McClelland (1973) Olson & Wyett (2000)	Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree

Characteristic	Definition	Item	Source	Measure
		6.I can manage classroom dynamics and understand the characteristics of students. 7.I possess research methodologies and am willing to pursue scientific research in the long term. 8.I can identify cutting-edge issues and improve research methods. 9.I am skilled at reflecting on problems and improving my work. 10.I am a lifelong learner and allocate my time and energy effectively.		
Organizational Support	Organizational support refers to employees' perceptions of the care and support provided by the organization, including incentives, organizational culture, and training opportunities. Support from higher vocational colleges for discipline leaders contributes to their job satisfaction and enhanced performance.	1.The organization values my contributions to teaching. 2.The organization respects my teaching goals. 3.The organization cares about my well-being. 4.The organization is concerned about my teaching performance. 5.The organization acknowledges my achievements in teaching. 6.The organization provides me with the funding necessary for teaching. 7.The organization offers me opportunities for teaching evaluation. 8.The organization provides me with abundant opportunities for teaching exchanges. 9.The organization provides me with a good teaching environment 10.The organization supports me with a platform for teaching development.	Eisenberger et al. (1986)	

Characteristic	Definition	Item	Source	Measure
Mediating Variables				
Self-Efficacy	Self-efficacy is an individual's belief in their ability to accomplish specific tasks. Discipline leaders with strong self-efficacy are likely to take proactive actions, overcome workplace challenges, and achieve success.	1.Higher vocational education plays a role in student development. 2.Higher vocational educations can bring changes to students' learning abilities. 3.Teachers can help students. 4.Teachers play a significant role in influencing students' academic achievement. 5.Teachers can help students with learning abilities achieve progress. 6.Teachers impart professional knowledge to cultivate students' character and spirit.	Bandura (1977) and Woolfolk & Spero (2005)	Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree
Team Cohesiveness	Team cohesiveness refers to the cooperation and unity among team members, encompassing task and social cohesion. High levels of team cohesiveness facilitate team members in completing tasks more effectively.	1.Our team can unite and accomplish our work goals. 2.Members are capable of taking responsibility together for mistakes made at work. 3.When a member of the team encounters difficulties, others will go to help him. 4.Members of our team can freely discuss their respective responsibilities at work. 5.Our team always presents itself as a cohesive unit when outside. 6.Members of our team frequently engage in social activities together. 7.Beyond working hours, team members also enjoy spending time together. 8.In addition to team projects, team members remain united as a group.	Chang & Bordia (2001)	Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree

Characteristic	Definition	Item	Source	Measure
Moderating Variable				
Team Feedback	Team Feedback refers to the regularity, quality, and usefulness of information exchanged among team members regarding individual or collective performance, behaviors, or outcomes. It includes constructive comments, performance appraisals, and suggestions that help individuals and teams adjust their efforts and improve performance.	What is the frequency of Team Feedback? 1. Seldom 2. Frequency		
Dependent Variable				
Discipline Leader Work Performance	Work performance refers to the performance of discipline leaders in their roles, encompassing three dimensions: task performance, adaptive performance, and contextual performance. Task performance relates to work performance in teaching, and research. Contextual performance	1.I can complete the research tasks assigned by the school. 2.I care for students in my teaching work. 3.I provide constructive suggestions for the teaching work. 4.I can complete the teaching tasks as required. 5.I remain responsible in my work when unsupervised. 6.I discuss matters that are beneficial to my colleagues. 7.I feel proud of the achievements of my colleagues.	Katz and Kahn (1978) Lally & Myhill (1994)	Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree

Characteristic	Definition	Item	Source	Measure
	pertains to contributions to teamwork and organizational support. Adaptive performance is the behaviour of an individual whose learning on one task can be effectively transferred to another when job requirements and conditions change.	8.I won't shift work responsibilities onto my colleagues. 9.I am willing to share knowledge with my colleagues. 10.I can adapt to work that I have not encountered before. 11.I can maintain good relationships with people of different cultural backgrounds. 12.I am open to accepting different values and cultures.		

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

This study employed a mixed-methods approach, integrating quantitative research and qualitative research to comprehensively investigate the performance improvement mechanisms for discipline leaders in higher vocational colleges in Shandong Province.

Quantitative Research focuses on establishing empirical relationships among variables through a structured survey. Based on Social Cognitive Theory and the Job Characteristics Model, the study examined self-efficacy, team cohesiveness, job characteristics, competency, organizational support, and team feedback as predictors of discipline leaders' work performance. Validated scales were adapted to the higher vocational context, with data collected from 560 discipline leaders via web-based questionnaires. Analyses included confirmatory factor analysis (CFA) and structural equation modeling (SEM) using SPSS 27 and AMOS 27 to test hypotheses and validate the Performance Improvement Model.

Qualitative Research complements the quantitative findings through semi-structured focus group discussions with 24 senior academic administrators. These discussions explored contextual barriers to performance enhancement, perceptions of competency development, and strategies for optimizing organizational support. Thematic analysis via NVivo identified patterns and triangulates results with quantitative data, ensuring contextual relevance and refining the proposed model. The integration of both methods enhanced theoretical robustness and practical applicability, adhering to ethical standards with IRB approval and participant anonymity.

3.2 Quantitative Research

3.2.1 Population and Sampling Methods

Shandong Province currently has 90 higher vocational colleges, comprising 69 public institutions and 21 private institutions. To ensure that the research sample is sufficiently representative and accurately reflects the overall profile of discipline leaders in Shandong's higher vocational colleges, this study employed a combined Stratified Random Sampling and Proportionate Sampling strategy. This approach was designed to reduce sampling bias and to capture institutional diversity across the province.

- Stratification Criteria

Based on publicly available datasets issued by the Shandong Provincial Department of Education—such as the *Annual Quality Report of Higher Vocational Colleges in Shandong Province* and the *Evaluation Index System for Professional Cluster Development*—the 90 vocational colleges were stratified according to the following dimensions:

(1) Stratification by Institutional Type

Public vocational colleges

Private vocational colleges

This dimension captured systemic differences in funding structures, governance models, faculty development systems, and support mechanisms.

(2) Stratification by Institutional Quality Level

According to provincial evaluation reports on institutional performance and professional cluster development, colleges were categorized into:

High-performing institutions

Medium-performing institutions

Low-performing institutions

This ensured that the sampling framework covered institutional variations in educational resources, reform capacity, organizational structures, and leadership development environments. The stratification process helped avoid overrepresenting high-performing institutions and ensured that the resulting sample reflected the structural realities of the province's vocational education system.

- Institutional Sampling

After completing the stratification, random sampling was conducted within each stratum to select institutions proportionally. A total of 20 vocational colleges were ultimately included in the study sample.

According to official statistics from the Shandong Provincial Department of Education, as of 31 November 2024, the total population of discipline leaders in these sampled colleges was 822 individuals. The institutions and the number of discipline leaders are shown in Table 3.1.

Table 3.1 Population and Sample of Discipline Leaders Across the 20 Sampled Vocational Colleges in Shandong Province

No.	Vocational College	Population	Sample
1	Shandong Medical College	42	33
2	Shandong Commercial Vocational and Technical College	43	29
3	Rizhao Institute of Vocational Technology	40	27
4	Qingdao Institute of Vocational Technology	39	27
5	Weihai Vocational College	26	18
6	Shandong Vocational College	45	31
7	Yantai Vocational College	46	31
8	Zibo Vocational College	40	27
9	Qingdao Hotel Management Vocational College	45	31
10	Jinan Vocational College	44	30

No.	Vocational College	Population	Sample
11	Shandong Higher College of Traditional Chinese Medicine	37	25
12	Shandong Business College	38	26
13	Yantai Vocational College of Automobile Engineering	40	27
14	Linyi Vocational College	45	26
15	Zaozhuang Vocational College	41	28
16	Shandong Polytechnic Vocational College	41	28
17	Shandong Maritime Vocational College	44	30
18	Shandong Art and Design Vocational College	51	35
19	Rizhao Navigation Engineering Vocational College	33	22
20	Binzhou Science and Technology Vocational College	42	29
	Total	**822**	**560**

Note. Table 3.1presents, for each sampled institution, the total number of discipline leaders (Population), and the number of participants selected through proportionate sampling (Sample).

In structural equation modeling, a ratio of at least 5:1 between the sample size and the number of estimated parameters is required to ensure the reliability of parameter estimation, a ratio of at least 10:1 is necessary to ensure the validity of significance testing (Bentler & Chou, 1987). Some scholars have also pointed out that for continuous data and normally distributed structural equation models using maximum likelihood estimation, the n: q rule (where n is the sample size and q is the number of parameters to be estimated in the model) can be used to roughly determine the required sample size, with a recommended ratio of 20:1, which can also be relaxed to 10:1 (Jackson, 2003).

This study includes 6 latent variables and 56 observed variables, requiring a minimum sample size of 560. Generally speaking, a larger sample size is beneficial for the estimation and testing of complex models. Therefore, this study ultimately used 560 samples as the formal survey sample. For these 560 respondents, this study used proportional sampling based on the number of employees reported by each vocational college. The calculation formula is as follows.

$$Sample\ size = \frac{Sample\ size \times pupuleation\ of\ each\ Vocational\ College}{total\ population}$$

The sampling frame comprised 822 discipline leaders across the 20 sampled institutions. Based on the proportional sampling procedure, 560 discipline leaders were selected for the formal survey.

3.2.2 Research Instrument and Construction

The instrument for quantitative research is a survey questionnaire designed to collect data from 20 representative vocational colleges in Shandong Province. The

primary focus of the questionnaire encompasses self-efficacy, team cohesiveness, job characteristics, competency, organizational support, and work performance of discipline leaders. The questionnaire is structured into two parts.

Part 1: This section captures demographic information of the respondents, including gender, age, educational background, tenure, and job position. Statistical sampling requirements for the number of respondents from each vocational college are outlined in the questionnaire.

Part 2: This section contains measurement items for each variable. It gathers opinions from respondents regarding Self-Efficacy, team cohesiveness, job characteristics, competency, organizational support, and work performance. These opinions indicate the suitability of performance improvement models for discipline leaders in vocational colleges in Shandong Province for the target users of this study. The questionnaire employs a five-point Likert scale, where 5 represents "Strongly Agree," 4 represents "Agree," 3 indicates a "Neutral" stance (neither agree nor disagree), 2 signifies "Disagree," and 1 stands for "Strongly Disagree."

Questionnaire Design

1. Independent Variables

The independent variables include job characteristics, competency, and organizational support. Job characteristics encompass aspects such as job skills, task identity, and task significance. There are 10 measurement items for job characteristics, designed based on the research by Hackman & Oldham (1976) and Idaszak & Drasgow (1987). Examples include "The job requires diverse skills and abilities." and "The outcomes of my work impact others' well-being." Specific details are shown in Table 3.2.

Competency refers to the abilities, skills, traits, and motivations directly related to the job or performance that can effectively predict work performance. There are 10 measurement items for competency, designed based on the research by McClelland (1973) Olson & Wyett (2000). Detailed information is provided in Table 3.3.

Organizational support refers to the degree to which employees perceive that their organization values their contributions, cares about their well-being, and is concerned with their interests and life's happiness. Eisenberger et al. (1986) has designed a measurement scale with a total of 10 measurement items for organizational support. These items are presented in Table 3.4.

Table 3.2 Job Characteristics Measurement Scales

Variable	No.	Item	
Job Characte-ristics	1	The job requires the use of diverse skills and abilities.	JC1
	2	The job is relatively simple and repetitive.	JC2
	3	The job is a whole work with a clear beginning and end.	JC3
	4	I initiate tasks and complete them on my own.	JC4
	5	The outcomes of my work impact others' well-being.	JC5
	6	The job is important.	JC6
	7	The job allows me to decide how to complete it.	JC7
	8	The job allows me to accomplish it independently.	JC8

Variable	No.	Item	
	9	The job provides clues about the effectiveness of my work.	JC9
	10	I have many opportunities to understand my performance.	JC10

Table 3.3 Competency Measurement Scales

Variable	No	Item	
Compe-tency	1	I can control my emotions and show tolerance towards others.	CO1
	2	I excel at listening and influencing others.	CO2
	3	I am interested in my discipline and seizing development opportunities.	CO3
	4	I can tailor my teaching to individual students, igniting their passion for learning.	CO4
	5	I use clear language and technology to aid students' understanding.	CO5
	6	I can manage classroom dynamics and understand the characteristics of students.	CO6
	7	I possess research methodologies and am willing to pursue scientific research in the long term.	CO7
	8	I can identify cutting-edge issues and improve research methods.	CO8
	9	I am skilled at reflecting on problems and improving my work.	CO9
	10	I am a lifelong learner and allocate my time and energy effectively.	CO10

Table 3.4 Organizational Support Measurement Scales

Variable	No	Item	
Organiza-tional Support	1	The organization values my contributions to teaching.	OS1
	2	The organization respects my teaching goals.	OS2
	3	The organization cares about my well-being.	OS3
	4	The organization is concerned about my teaching performance.	OS4
	5	The organization acknowledges my achievements in teaching.	OS5
	6	The organization provides me with the funding necessary for teaching.	OS6
	7	The organization offers me opportunities for teaching evaluation.	OS7
	8	The organization provides me with abundant opportunities for teaching exchanges.	OS8
	9	The organization provides me with a good teaching environment	CO9

Variable	No	Item	
	10	The organization supports me with a platform for teaching development.	OS10

2. Mediating Variable

The mediator variables in this study are self-efficacy and team cohesiveness. Teachers' self-efficacy generally refers to their self-efficacy in teaching. The measurement scale for this study was designed based on the research findings of Bandura (1977) and Woolfolk & Spero (2005), consisting of a total of 6 items, as shown in Table 3.5.

Team cohesiveness refers to the shared beliefs or commitments of team members towards team tasks or the relationships among themselves. The measurement scale for this study was designed based on the research findings of Chang & Bordia (2001), consisting of a total of 8 items, Specific details are provided in Table 3.5.

Table 3.5 Self-Efficacy Measurement Scales

Variable	No	Item	
Self-Efficacy	1	Higher vocational education plays a role in student development.	SE1
	2	Higher vocational education can bring changes to students' learning abilities.	SE2
	3	Teachers can help students.	SE3
	4	Teachers play a significant role in influencing students' academic achievement.	SE4
	5	Teachers can help students with learning abilities achieve progress.	SE5
	6	Teachers impart professional knowledge to cultivate students' character and spirit.	SE6

Table 3.6 Team Cohesiveness Measurement Scales

Variable	No	Item	
Team Cohesiveness	1	Our team can unite and accomplish our work goals.	TC1
	2	Members are capable of taking responsibility together for mistakes made at work.	TC2
	3	When a member of the team encounters difficulties, others will go to help him.	TC3
	4	Members of our team can freely discuss their respective responsibilities at work.	TC4
	5	Our team always presents itself as a cohesive unit when outside.	TC5
	6	Members of our team frequently engage in social activities together.	TC6
	7	Beyond working hours, team members also enjoy spending time together.	TC7

Variable	No	Item	
	8	In addition to team projects, team members remain united as a group.	TC8

3. Dependent Variable

The dependent variable in this study is work performance. Katz and Kahn (1978) proposed that individual behavior in organizations includes three activities: joining and remaining in the organization, completing performance tasks required by the organization, and initiating activities beyond the organization's prescribed performance standards. Scholars have built measurement dimensions of work performance based on this framework. The measurement scale for work performance in this study was designed based on the research findings of Katz and Kahn (1978) and Lally & Myhill (1994). Work performance includes task performance, contextual performance, and adaptive performance, with a total of 12 measurement items, as shown in Table 3.7.

Table 3.7 Work Performance Measurement Scales

Variable	No	Item	
Task Performance	1	I can complete the research tasks assigned by the school.	WP1
	2	I care for students in my teaching work.	WP 2
	3	I provide constructive suggestions for the teaching work.	WP 3
	4	I can complete the teaching tasks as required.	WP 4
	5	I remain responsible in my work when unsupervised.	WP 5
Contextual Performance	6	I discuss matters that are beneficial to my colleagues.	WP 6
	7	I feel proud of the achievements of my colleagues.	WP 7
	8	I won't shift work responsibilities onto my colleagues.	WP 8
	9	I am willing to share knowledge with my colleagues.	WP9
Adaptive Performance	10	I can adapt to work that I have not encountered before.	WP10
	11	I can maintain good relationships with people of different cultural backgrounds.	WP11
	12	I am open to accepting different values and cultures.	WP12

3.2.3 Quality of Research Instrument

The questionnaire was tested for validity and reliability. Tests were conducted to ensure the validity and reliability of the questionnaires.

3.2.3.1 Content Validity

Content Validity is a crucial indicator for assessing whether research instruments (such as questionnaires) accurately reflect the constructs or parameters involved in the research objectives. Its core lies in ensuring that the content of each item reasonably and accurately represents the areas of focus in the research. This study designed the survey questionnaire based on classic scales. Experts in the field were invited to review each item to judge its appropriateness and relevance. The questionnaire content was examined to comprehensively cover all key concepts or dimensions set out in the research. Items unrelated to the research or ambiguous ones were avoided to improve the quality of the

questionnaire. The Index of Item-Objective Congruence (IOC) was used to evaluate the relevance and fit of each item in the questionnaire with the research objectives.

The index comprises three types of scores: +1, 0, and -1, each with its distinct meaning as detailed below;

+1 means "the measurement item is consistent with the objective of the study"

0 means "the measurement item is undecided with the objective of the study"

-1 means "the measurement item is inconsistent with the objective of the study"

$$IOC = \frac{\sum R}{n}$$

where IOC = Index of item-objective congruence value

R = Score from experts

ΣR = Total score from all experts

n = number of experts

Items with an Index of Objectives Congruence (IOC) score between 0.00 and 0.49 are not included in the questionnaire. Conversely, questions scoring above 0.50 on the IOC are deemed valid (content validation) items. This approach ensures that only the most appropriate and relevant questions are included in the assessment tool, thereby enhancing its content validity

Table 3.8 IOC Results of the Questionnaire

Construct	Number of Items	IOC Range	Interpretation
Job Characteristics	10	0.80–1.00	Acceptable
Competency	10	0.80–1.00	Acceptable
Organizational Support	10	0.80–1.00	Acceptable
Self-Efficacy	6	0.80–1.00	Acceptable
Team Cohesiveness	8	0.80–1.00	Acceptable
Work Performance	12	0.80–1.00	Acceptable
Overall Questionnaire	56	0.80–1.00	Acceptable

Note: Team feedback frequency was measured as a categorical moderating variable and was not treated as a multi-item latent construct in the measurement model.

3.2.3.2 Reliability Test

Reliability is a key indicator for measuring whether research instruments (such as questionnaires) can produce consistent results across multiple measurements. Cronbach's Alpha is a commonly used method for assessing the internal consistency of scales, the correlation between items, and the reliability of measurements. The range of Cronbach's Alpha is between 0 and 1. When Cronbach's Alpha is above 0.9, it indicates a high internal consistency of the questionnaire. When $0.8 \leq$ Cronbach's Alpha < 0.9, it indicates high internal consistency. When $0.7 \leq$ Cronbach's Alpha < 0.8, it indicates good internal consistency. When $0.6 \leq$ Cronbach's Alpha < 0.7, it indicates that the questionnaire is marginally acceptable but needs improvement. When Cronbach's

Alpha is below 0.6, it indicates low internal consistency, and substantial revision is required.

For this study, Binzhou Vocational and Technical College was selected as the target for the pretest. The questionnaire was pretested with 30 professional leaders from Binzhou Vocational and Technical College. The Cronbach's Alpha values from the pretest results were all above 0.8, indicating the high reliability of the survey questionnaire. Specific details are shown in Table 3.9.

Table 3.9 Cronbach's Alpha Coefficient Test Results (n=30)

Latent	Observed Variable	N of Items	Cronbach's Alpha
Job Characteristics	-	10	0.811
Competency	-	10	0.822
Organizational Support	-	10	0.842
Self-Efficacy	-	6	0.848
Team Cohesiveness	-	8	0.809
Discipline Leaders' Work Performance	Task Performance	5	0.812
	Contextual Performance	4	0.820
	Adaptive Performance	3	0.839

3.2.4 Data Collection

During the formal data collection phase, a total of 560 questionnaires were distributed to discipline leaders in the sampled institutions. To ensure data quality, the research team implemented standardized procedures for questionnaire distribution and recovery. With the assistance of institutional coordinators, questionnaires were administered to target respondents, and all returned questionnaires were screened and cleaned to remove invalid or incomplete responses. This process ensured the reliability and scientific rigor of the final dataset used for analysis. During the formal data collection phase, 560 questionnaires were distributed, of which 470 were valid, resulting in an effective response rate of 83.93%.

3.2.5 Statistical Methods of Analysis

This study conducted a systematic analysis of the questionnaire data using the Statistical Package for the Social Sciences (SPSS 27.0) to validate the research hypotheses. AMOS 27.0 was utilized to explore the complex relationships between variables. During the data analysis process, the collected data were coded and tabulated, laying the foundation for subsequent statistical tests. Descriptive statistics were employed to outline the characteristics of the sample, including frequency, percentage, mean, minimum, maximum, and standard deviation. These statistics provided an overview of the sample's overall distribution characteristics.

To verify the alignment between the measured variables and underlying constructs in the study, Confirmatory Factor Analysis (CFA) was tested. CFA assumes the accuracy of the hypothesized variables and is used to assess the relationship between measured variables and latent structures. The rationality of the model was judged

through fit indices such as chi-square, RMSEA, CFI, and others. This step validated whether the questionnaire design accurately measured the core constructs of the study. Structural Equation Modeling (SEM) was adopted to explore the relationships between variables. SEM is a comprehensive statistical technique that can simultaneously analyze the relationships between multiple independent and dependent variables. Through path analysis and covariance structure analysis, SEM revealed the direct relationships between variables and allowed for the exploration of effects between latent variables. AMOS 27.0 software was used for SEM analysis in this study. The evaluation criteria for the overall fit of the SEM model are shown in Table 3.10.

Table 3.10 Evaluation Criteria for the Overall Model Fitness of SEM

Fitting Index	Standard or Critical Value
x^2	Significance probability value p > 0.05
x2/df	Between 1 and 3
GFI	> 0.90 or above
AGFI	> 0.90 or above
RMSEA	< 0.50
NFI	> 0.90 or above
IFI	> 0.90 or above
CFI	> 0.90 or above

Source: (Hair et al., 2019; Kline, 2023)

3.3 Qualitative Research

3.3.1 Focus Group Discussion

The qualitative part of this study complements and validates the quantitative research by exploring experts' perspectives and suggestions on relevant topics through focus group discussions. During the research process, a semi-structured focus group discussion framework was designed to ensure flexibility and targeting of the interviews while guiding experts to discuss key topics such as self-efficacy, team cohesiveness, job characteristics, competence, organizational support, and the work performance of discipline leaders. The research team focused on the authenticity and objectivity of the data, ensuring that the opinions of each interviewee were fully expressed. Additionally, the analytical results from Nvivo were compared and integrated with the statistical analysis results from the quantitative research, providing multidimensional explanations and in-depth insights for the study. The outcomes of the qualitative data analysis enriched the research conclusions and provided an important basis for refining the theoretical framework.

3.3.2 Participant Selection

Participant Selection

The principles in selecting participants for the focus group to ensure the validity and reliability of the findings.

(1) Number of Participants

A total of 9 interviewees were selected for this study, aligning with the standard practice of having 6-12 participants in a focus group discussion to ensure depth and diversity in the discourse. This number of participants ensured a broad discussion encompassing multi-dimensional perspectives while allowing individuals ample opportunity to contribute, facilitating in-depth exploration.

(2) Selection Criteria

The 9 participants selected for this research were all discipline leaders from the 20 higher vocational colleges in Shandong Province, ensuring high representativeness and diversity. These discipline leaders span various academic fields, including engineering, liberal arts, arts, and applied technology, ensuring a wide range of research perspectives and balanced disciplinary backgrounds. In professional tenure, the participants' experience ranged from 8 to 22 years, covering educators at different stages of development. This sample provided multi-tiered experiences, from newly emerged backbones to seasoned experts. In terms of academic achievements, the sample includes a diverse array of accomplishments, such as leading provincial-level projects, publishing textbooks, publishing papers, winning teaching achievement awards, and guiding students in competitions. This fully reflected their comprehensive capabilities in teaching and research. The participants hold managerial positions such as vice deans of teaching, department heads, or heads of professional clusters. They have accumulated extensive experience in team building, E-learning system development, and annual training organization. Therefore, this sample not only embodies managers' suggestions for effectively enhancing discipline leaders' work performance in practice but also reveals universal patterns and critical issues in the educational practice of higher vocational colleges from an organizational perspective, making it highly representative and typical. The focus group principles are presented in Table 3.11.

Table 3.11 Characteristics of Focus Group Participants

No	Institution	Academic Field	Years of experience	Academic achievement (representative indicators)	Leadership Role/Position	E-learning system construction experience
1	A Higher Vocational College	Engineering	18 years	Presided over 3 provincial-level projects and 10 papers	Department Chair, Professional Leader	Leading platform development
2	B Vocational and Technical College	Applied Technology	12 years	Published 8 core papers	Head of Professional Group	Skillful in using multi-platform teaching
3	C College of Science and Technology	Arts	15 years	Published 2 textbooks and 12 papers	Head of Teaching and Research Department	Promote the construction of course resources

No	Institution	Academic Field	Years of experience	Academic achievement (representative indicators)	Leadership Role/Position	E-learning system construction experience
4	D Art Vocational College	Arts	20 years	1 provincial teaching achievement award	Specialty Leader	Building virtual simulation training system
5	E Vocational College	Engineering	10 years	2 utility model patents	Dual-teacher backbone teachers	Introducing MOOC resources
6	F Engineering College	Applied Technology	22 years	Guided students to win more than 30 awards in competitions	Department Chairpersons	Construct online course system
7	G Higher Vocational College	Arts	8 years	Participated in 2 provincial-level projects	Specialty Leader	Participate in platform content design
8	H Vocational and Technical College	Engineering	17 years	3 teaching achievement awards at school level	Vice President of Teaching and Learning	Acting as the person in charge of informatization projects
9	I College of Finance and Economics	Arts	14 years	Wrote 1 textbook and 8 papers	Director of Teaching and Research Center	Online + Offline Mixed Teaching

3.3.3 Research Instrument

In the qualitative research, a semi-structured discussion outline was utilized for conducting focus group interviews. The outline was designed around the core variables of the study, covering topics such as self-efficacy, team cohesiveness, job characteristics, competence, organizational support, and work performance. The design of the outline balanced openness and targetedness, with both guiding questions, such as "Please share specific challenges in team management," and spaces left for respondents to express their personal experiences and viewpoints. The flexibility of the outline allowed the research team to adjust the order of questions or add supplementary questions based on the actual interview situation, ensuring the depth and completeness of the interview content. Nvivo was used to analyze the qualitative data, mining key information from expert interviews through coding, classification, and thematic induction to support the research conclusions.

3.3.4 Data Collection

This study acquired qualitative data through focus group discussions, aiming to deeply explore qualitative information related to the research topics from the experiences and viewpoints of respondents. The research selected 10 discipline leaders

from the 20 sampled vocational colleges in Shandong Province as focus group participants. Invitations were sent via email, clearly outlining the purpose, process, and confidentiality agreement to ensure that participants were informed and willing to participate. To ensure the systematisms and flexibility of the focus group, the research team designed a semi-structured discussion outline covering open-ended questions related to core variables. These questions not only guided respondents to focus on the research topics but also reserved space for free discussion and experience sharing. The focus group were conducted in a combination of offline and online formats, focus group lasting approximately 90 minutes. The discussions environment was kept quiet and undisturbed to allow participants to focus on expressing themselves. One member of the research team was responsible for hosting the discussions to ensure the orderly advancement of questions, while another member was responsible for recording and observing the non-verbal feedback of respondents. All discussions were recorded with the participant, providing accurate first-hand data for subsequent analysis. After the focus group, the recording files were transcribed into text data by the research team to ensure that the viewpoints of each participant were fully preserved. All focus group texts were organized and stored in an encrypted database, along with other relevant materials provided by the participant, in preparation for subsequent analysis. These data were imported into Nvivo software for coding and thematic classification, providing the foundation for the qualitative analysis of the study.

3.3.5 Content Analysis

This study employed thematic analysis to analyze the focus group discussion data, following the procedure proposed by Braun and Clarke (2006). The transcribed texts were open-coded using Nvivo software, breaking down the data into meaning units and assigning labels to them. The research team classified the coding results, identifying themes related to the research variables, such as self-efficacy, team cohesiveness, and job characteristics, and further analyzing the relationships and interaction patterns among these themes. During the data analysis process, the research team ensured the reliability of the results through cross-checking and discussion. The research analysis revealed core concepts and implicit relationships in the qualitative data, complementing and validating the quantitative analysis results, and further enriching the theoretical support and practical implications.

3.4 Triangulation and Validation of Research Model

To enhance the credibility and robustness of the study, a triangulation strategy was employed at the final stage of the research design. Methodological triangulation was implemented by combining qualitative focus group discussions, quantitative expert evaluation, and document analysis, thereby strengthening the trustworthiness, confirmability, and transferability of the findings in line with best practices in qualitative research validation (Patton, 1999; Flick, 2018).

First, data-source triangulation was achieved through semi-structured discussion with discipline leaders and domain experts from five universities. Each discussions lasted approximately 90 minutes and focused on core constructs in the conceptual framework, including job characteristics, competency, organizational support, self-efficacy, team cohesiveness, team feedback, and work performance. Immediately after the discussion, a “refreshing report” was prepared for each expert, summarizing key

discussion points, clarifications, and reflections. Experts were invited to review and amend these summaries to ensure accuracy and contextual fidelity before they were used for subsequent analysis.

Second, investigator–method triangulation was realized via a structured expert evaluation of the proposed. Based on the themes emerging from the focus group and literature review, a 15-item evaluation questionnaire was developed, organized into three dimensions: Propriety, Feasibility, and Utility (five indicators each). Nine domain experts with relevant experience in vocational education, higher education management, discipline development, and related fields independently rated each item using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Quantitative analysis included the calculation of means and standard deviations for each indicator, following established procedures for content-validity assessment (Lynn, 1986; Hyrkäs et al., 2003; Creswell & Plano Clark, 2018).

Third, a Delphi-style consensus analysis was conducted to further examine the convergence of expert judgments. For each of the 15 indicators, the interquartile range (IQR) was computed as the difference between the third quartile (Q3) and first quartile (Q1) of expert ratings (Diamond et al., 2014; von der Gracht, 2012). In accordance with Delphi guidelines, $IQR \leq 1.0$ was predefined as acceptable consensus and $IQR < 0.5$ as high consensus. These thresholds were used as decision rules to judge whether the indicators should be retained or refined in the final evaluation framework.

Finally, distributional assumptions underlying subsequent regression analyses were examined using the expert-rating dataset. A histogram of standardized residuals with an overlaid normal curve and a normal probability (P–P) plot were generated to assess the normality of residuals. Visual inspection, together with the mean and standard deviation of the standardized residuals, was used to evaluate whether the data approximated a normal distribution, consistent with recommendations for linear modeling diagnostics (Field, 2018; Hair et al., 2019).

Overall, this multi-method triangulation procedure ensured that the model and its indicators were simultaneously grounded in qualitative insights and supported by quantitative evidence, thereby reinforcing the methodological rigor and validity of the study's findings.

3.5 Ethical Considerations

Ethical considerations were incorporated throughout the quantitative and qualitative phases of the study. The study followed the principles of respect for persons, voluntary participation, informed consent, and protection of participants from potential harm (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). Before data collection began, participants were informed of the purpose of the research, the procedures involved, the expected use of the data, and the measures taken to protect their privacy. Participation was voluntary, and data were collected only after participants had been given sufficient information to make an informed decision about whether to take part.

Participants were informed that they could withdraw from the study at any stage without penalty or adverse consequence. They were also free to decline to answer any question that made them feel uncomfortable and were not required to provide a reason

for doing so. These principles applied to both questionnaire respondents and interview participants.

Confidentiality was maintained throughout data collection, analysis, and reporting. Personal identifying information was not included in the analysis, and participant identities were replaced by codes where necessary. Questionnaire responses, focus group transcripts, and related research materials were used only for the purposes of this study. Findings were reported in an aggregated or anonymized form to reduce the risk of identifying individual participants or institutions, consistent with accepted procedures for protecting participants in mixed-methods research (Creswell & Plano Clark, 2018).

Additional safeguards were applied to the qualitative phase. Before each interview, participants were informed of the interview procedures and the intended use of audio recordings. Recording was undertaken only with the participant's consent. The recordings were transcribed for research analysis, after which the transcripts were checked and organized for coding. Audio files, transcripts, and other research materials were stored in password-protected and encrypted electronic files, with access limited to the researcher and authorized members of the research team.

The study also followed the requirements of the relevant research ethics review process. Ethical review materials, including the participant information, consent-related documents, questionnaire, and interview outline, were submitted to the Research Ethics Committee of Panyapiwat Institute of Management for consideration. Data collection and subsequent research procedures were carried out in accordance with the conditions of the approved ethical review.

CHAPTER 4

RESEARCH RESULTS

This study adopted a mixed-methods design, combining quantitative and qualitative approaches to examine the performance improvement model for discipline leaders in vocational colleges in Shandong Province. The quantitative phase focused on the relationships among self-efficacy, team cohesiveness, job characteristics, competency, organizational support, discipline leaders' work performance, and team feedback. Reliability was assessed with Cronbach's Alpha, while validity was tested through confirmatory factor analysis and path coefficients. Structural equation modeling was then applied, with model fit evaluated using indices such as GFI, NFI, CFI, AGFI, and RMSEA. Path analysis further verified the hypotheses and provided the empirical basis for the study's conclusions.

A total of 560 questionnaires were distributed. After data screening, 470 questionnaires were retained as valid responses, yielding an effective response rate of 83.93%.

The qualitative phase adopted a semi-structured focus group discussion to collect expert opinions. 9 experienced discipline leaders, educational administrators, and scholars participated, sharing perspectives on self-efficacy, team management, and job characteristics. Data were analyzed with Nvivo software using open, axial, and selective coding to identify core themes and patterns. This qualitative evidence complemented the quantitative findings, enriching the interpretation and enhancing the validity of the model.

4.1 Demographic Characteristics of Respondents

Table 4.1 presents the demographic characteristics of the 470 valid respondents, providing an overview of the sample composition of discipline leaders in vocational colleges in Shandong Province.

Table 4.1 Sample Feature Description

Variable	Option	Frequency	Percent%
Gender	Male	229	48.723
	Female	241	51.277
Age	18-30	100	21.277
	31-40	252	53.617
	41-50	81	17.234
	Above50	37	7.872
Education	Bachelor's degree	223	47.447
	Master degree	185	39.362
	Ph.D.	20	4.255
	Others	42	8.936

Variable	Option	Frequency	Percent%
Position	Assistant Lecturer	204	43.404
	Lecturer	101	21.489
	Senior Lecturer	31	6.596
	Others	134	28.511
Tenure	Less than/or equal to 3	102	21.702
	Between 3-5	186	39.574
	Between 6–10	167	35.532
	11 and over	15	3.191
Frequency of team feedback	Seldom	236	50.213
	Frequent	234	49.787
	Total	470	100.0

In terms of gender, the distribution is relatively balanced, with 229 males (48.72%) and 241 females (51.28%), reflecting near gender parity in the discipline leader population. This balance ensures that the findings are not skewed by gender dominance, allowing for more generalizable results.

Regarding age, the largest proportion of respondents are in the 31–40 age group (53.62%), suggesting that the majority of discipline leaders are in their early- to mid-career stage, with sufficient experience and strong potential for further professional development. Younger leaders aged 18–30 account for 21.28%, while those aged 41–50 make up 17.23%. Only 7.87% are above 50, indicating that older leaders form a small minority within vocational colleges, which reflects the relatively young professional structure of discipline leadership.

For educational background, the majority hold either a bachelor's degree (47.45%) or a master's degree (39.36%), together comprising over 86% of the sample. A small proportion hold a doctoral degree (4.26%), while 8.94% fall into the "Others" category (such as professional diplomas or specialized certifications). This distribution suggests that most leaders are well-educated, though advanced academic qualifications (Ph.D.) remain limited.

In terms of professional position, Assistant Lecturers (43.40%) form the largest group, followed by Lecturers (21.49%) and Senior Lecturers (6.60%). The "Others" category (28.51%) indicates that a considerable number of discipline leaders hold administrative or hybrid teaching-management roles. This distribution highlights that leadership roles in vocational colleges are not confined to senior lecturers but also widely assumed by early- to mid-career academics.

When considering tenure, most respondents fall within 3–5 years (39.57%) or 6–10 years (35.53%) of experience, showing that discipline leaders typically have accumulated moderate professional experience. A smaller group has less than or equal to 3 years (21.70%), representing newer entrants to leadership, while only 3.19% have over 11 years of tenure, underscoring that long-serving discipline leaders remain rare in the sample.

Finally, regarding team feedback, the distribution is nearly even: 236 respondents (50.21%) reported seldom participation, while 234 respondents (49.79%) reported frequent participation in relevant activities. This suggests heterogeneity in workload intensity and participation levels among discipline leaders, likely reflecting differences in institutional responsibilities and personal engagement.

4.2 Normality Test of Data Distribution

Table 4.2 presents the descriptive statistics of all measured dimensions, including mean, standard deviation, skewness, and kurtosis, to evaluate the normality of the data distribution.

In terms of mean scores, the highest value was observed for Self-efficacy (M = 3.808, SD = 0.768), indicating that discipline leaders generally report strong confidence in their ability to handle work-related challenges. Other dimensions such as Organizational Support (M = 3.624), Team Cohesiveness (M = 3.730), and Task Performance (M = 3.673) also scored relatively high, suggesting that discipline leaders perceive considerable institutional backing, effective collaboration, and satisfactory task execution. Competency (M = 3.604) and Adaptive Performance (M = 3.710) were slightly lower but still above the midpoint, reflecting a generally favorable assessment of professional capabilities and adaptability. The lowest mean score appeared in Contextual Performance (M = 3.562), though it still indicates moderate to high evaluation levels.

Table 4.2 Descriptive Statistics of Dimension

Dimension	Mean	Std. Deviation	Skewness	Kurtosis
Job Characteristics	3.579	0.915	-0.326	-1.037
Competency	3.604	0.903	-0.327	-1.088
Organizational Support	3.624	0.866	-0.239	-1.092
Self-Efficacy	3.808	0.768	-0.312	-0.841
Team Cohesiveness	3.73	0.818	-0.291	-1.024
Task Performance	3.673	0.933	-0.361	-1.098
Contextual Performance	3.562	0.966	-0.284	-1.03
Adaptive Performance	3.71	0.94	-0.329	-0.947
Discipline Leaders' Work Performance	3.645	0.777	-0.238	-1.001

Regarding standard deviations, values ranged from 0.768 to 0.966, reflecting moderate variability across participants' responses. Dimensions with smaller dispersion, such as Self-Efficacy (SD = 0.768) and Organizational Support (SD = 0.866), suggest higher consensus among respondents. Conversely, dimensions with larger dispersion, such as Contextual Performance (SD = 0.966) and Task Performance (SD = 0.933), imply greater variability in how different leaders perceive these aspects.

Analysis of skewness reveals that all dimensions displayed negative values (ranging from -0.238 to -0.361), indicating a slight left skew. This suggests that

responses tend to concentrate on higher values, meaning that most discipline leaders provided relatively positive evaluations.

As for kurtosis, all values were negative (ranging from -0.841 to -1.098), which indicates platykurtic distributions—flatter than the normal curve—implying fewer extreme values and a more even spread of responses across the scale.

According to the statistical criteria, when the absolute skewness is less than 3 and the absolute kurtosis is less than 10, the data can be considered approximately normally distributed. In this study, all skewness and kurtosis values fall well within these thresholds, thereby confirming that the dataset satisfies the assumption of normality.

4.3 Common Method Bias Test

Since all variables in this study were measured using self-reported questionnaires collected from the same respondents at a single point in time, the possibility of common method bias (CMB) was assessed before conducting further analyses.

Following the recommendation of Podsakoff et al. (2003), Harman's single-factor test was conducted to examine common method bias. The first unrotated factor explained 36.18% of the total variance, which was below the recommended threshold of 50%. Therefore, common method bias was not considered a serious concern in this study.

Table 4.3 Common Method Bias Assessment Using Harman's Single-Factor Test

Factor	Variance Explained (%)
Factor 1	36.18

4.4 Multicollinearity Assessment

Prior to conducting structural equation modeling, multicollinearity among the predictor variables was examined using the Variance Inflation Factor (VIF).

The results showed that all VIF values ranged from 1.38 to 2.04, which were substantially below the recommended threshold value of 5.00 (Hair et al., 2019). Therefore, multicollinearity was not considered a concern in this study. (Hair et al., 2019).

Table 4.4 Variance Inflation Factor (VIF) Results

Variable	VIF
Job Characteristics (JC)	1.68
Competency (COM)	1.82
Organizational Support (OS)	1.71
Self-Efficacy (SE)	1.96
Team Cohesiveness (TC)	2.04
Team Feedback (TF)	1.38

Note. VIF values below 5.00 indicate the absence of serious multicollinearity.

4.5 Discriminatory Power, Reliability Analysis and Validity Analysis

The research questionnaire garnered 470 valid responses. Reliability and validity tests were performed on the questionnaire data. Upon passing these tests, structural equation modeling analysis was carried out.

4.5.1 Reliability Analysis

Table 4.5 presents the reliability analysis results for each dimension of the measurement model, evaluated through Cronbach's Alpha coefficients. Cronbach's Alpha is a widely used index for assessing internal consistency, with values above 0.70 generally considered acceptable and values above 0.80 indicating strong reliability. In this study, all constructs demonstrated coefficients exceeding 0.80, confirming that the scales employed in the questionnaire are highly reliable.

Table 4.5 Reliability Analysis

Dimension		Cronbach's Alpha	No. of Items
Job Characteristics		0.943	10
Competency		0.927	10
Organizational Support		0.921	10
Self-Efficacy		0.883	6
Team Cohesiveness		0.900	8
Discipline Leaders' Work Performance	Task Performance	0.880	5
	Contextual Performance	0.833	4
	Adaptive Performance	0.808	3

Among the independent variables, Job Characteristics (α = 0.943), Competency (α = 0.927), and Organizational Support (α = 0.921) recorded particularly high values, suggesting excellent internal consistency and stable measurement across their 10 items each. Self-Efficacy (α = 0.883, 6 items) and Team Cohesiveness (α = 0.900, 8 items) also demonstrated strong reliability, reflecting consistent responses across participants.

For the dependent variable, Discipline Leaders' Work Performance, the three sub-dimensions exhibited acceptable to high reliability: Task Performance (α = 0.880, 5 items), Contextual Performance (α = 0.833, 4 items), and Adaptive Performance (α = 0.808, 3 items). Although these sub-dimensions reported slightly lower alpha values compared to the independent constructs, they remain above the recommended threshold, confirming stable measurement of performance outcomes.

4.5.2 Validity Analysis

CFA was conducted to examine whether the observed indicators adequately represented their corresponding latent constructs, consistent with construct validation procedures (Chen et al., 2004). The latent variables measured through CFA are effectively reflected by the observed variables. The Model Fit Indicators in the table encompass several commonly used goodness-of-fit test parameters. By comparing the

observed values of these indices with the recognized threshold ranges, one can determine whether the model's adequacy meets statistical requirements.

Factor loadings are assessed for statistical significance with values exceeding 0.7. Composite reliability (CR) denotes the internal consistency of the items within a construct, with higher reliability indicating greater consistency among these items, necessitating a value above 0.7. Average Variance Extracted (AVE) calculates the explanatory power of each measurement item of a latent variable on the variable's variance. A higher AVE value signifies greater reliability and convergent validity of the items, with a recommended standard value exceeding 0.5.

Table 4.6 presents the model fit indices from the confirmatory factor analysis (CFA), comparing observed values with the commonly accepted thresholds. The ratio of chi-square to degrees of freedom (CMIN/DF) was 1.306, well below the recommended maximum of 3, indicating a good fit. The GFI (0.879), AGFI (0.868), and NFI (0.888) values fall within the acceptable range of 0.8–0.9. In contrast, the IFI (0.971), TLI (0.969), and CFI (0.971) all exceed the 0.9 threshold, suggesting strong incremental and comparative fit. Additionally, the RMSEA value of 0.026 is below the conventional cutoff of 0.08, demonstrating a low level of approximation error. Collectively, these indices show that the observed values fall within or exceed the accepted threshold ranges for SEM research.

Table 4.6 Confirmatory Factor Analysis Model Fit Intercept (N=470)

Model Fit Indicator	Threshold Range	Observed Value
CMIN		1915.944
DF		1466
CMIN/DF	Below 5, best below 3	1.306
GFI	Above 0.9，0.8-0.9Acceptable	0.879
AGFI	Above 0.9，0.8-0.9Acceptable	0.868
RMSEA	Below 0.08	0.026
IFI	Above 0.9，0.8-0.9Acceptable	0.971
NFI	Above 0.9，0.8-0.9Acceptable	0.888
TLI(NNFI)	Above 0.9，0.8-0.9Acceptable	0.969
CFI	Above 0.9，0.8-0.9Acceptable	0.971

Figure 4.1 illustrates the confirmatory factor analysis (CFA) path diagram, showing the relationships between latent variables and their observed indicators. The standardized factor loadings for measurement items (e.g., JC1–JC10, Com1–Com10, OS1–OS10, SE1–SE6, TC1–TC8, DLWP11–DLWP33) generally range between 0.70 and 0.83, reflecting strong item reliability. The dependent construct, Discipline Leaders' Work Performance (DLWP), is modeled as a second-order factor composed of Task Performance (TP), Contextual Performance (CP), and Adaptive Performance (AP). These second-order dimensions show loadings primarily in the range of 0.72 to 0.80, confirming their contribution to the overall performance construct. Correlations among latent variables (e.g., JC ↔ Com, OS ↔ SE, TC ↔ DLWP) are statistically significant, with standardized coefficients ranging from approximately 0.38 to 0.66.

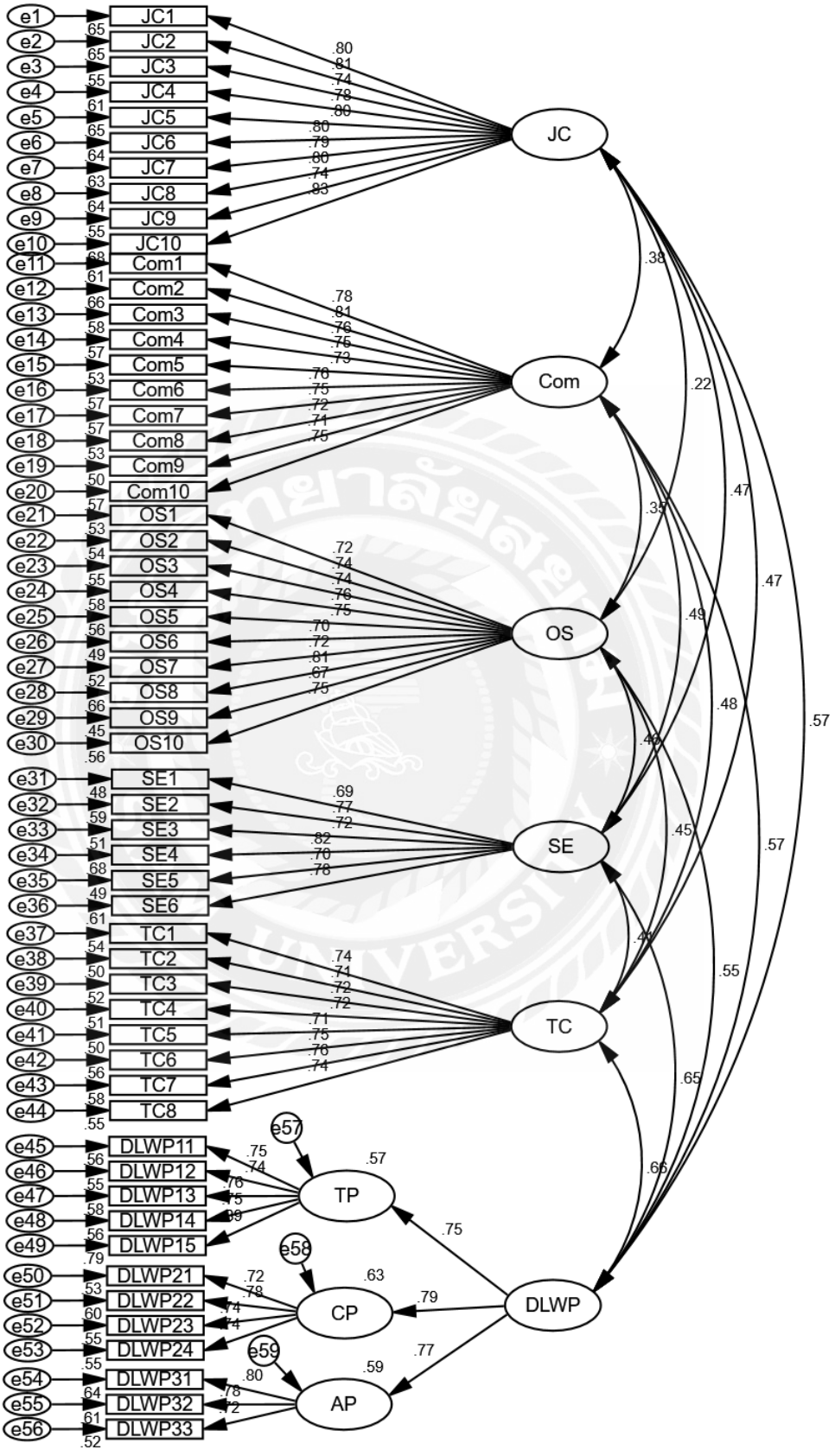


Figure 4.1 Confirmatory Factor Analysis

The results of factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR) values in the Confirmatory Factor Analysis (CFA) of this study are presented. The estimated values (Estimate), standard errors (S.E.), critical ratios (C.R.), P-values, factor loadings (Factor Loading), composite reliability (CR), and average variance extracted (AVE) for each dimension derived from Confirmatory Factor Analysis (CFA) are outlined. The data indicate that the critical ratios (C.R.) for all path relationships exceed 1.96, with all P-values being significant (***), suggesting that each path relationship has passed the statistical significance test and possesses high credibility.

Table 4.7 AVE and CR of Confirmatory Factor Analysis

Path Relationship			**Estimate**	**S.E.**	**C.R.**	**P**	**Factor Loading**	**CR**	**AVE**
TP	<---	DLWP	1.000				0.752	0.815	0.595
CP	<---	DLWP	0.961	0.092	10.418	***	0.792		
AP	<---	DLWP	0.942	0.087	10.842	***	0.769		
JC1	<---	JC	1.000				0.805	0.943	0.625
JC2	<---	JC	0.904	0.045	20.111	***	0.807		
JC3	<---	JC	0.755	0.042	17.880	***	0.739		
JC4	<---	JC	0.881	0.046	19.323	***	0.784		
JC5	<---	JC	0.978	0.049	20.018	***	0.805		
JC6	<---	JC	0.928	0.047	19.888	***	0.801		
JC7	<---	JC	1.010	0.052	19.580	***	0.791		
JC8	<---	JC	0.918	0.046	19.998	***	0.802		
JC9	<---	JC	0.871	0.049	17.914	***	0.741		
JC10	<---	JC	0.932	0.045	20.743	***	0.826		
Com1	<---	Com	1.000				0.783	0.929	0.568
Com2	<---	Com	1.241	0.065	19.214	***	0.811		
Com3	<---	Com	0.804	0.045	17.814	***	0.759		
Com4	<---	Com	1.107	0.063	17.522	***	0.753		
Com5	<---	Com	0.891	0.053	16.836	***	0.728		
Com6	<---	Com	1.110	0.063	17.603	***	0.756		
Com7	<---	Com	1.059	0.060	17.592	***	0.755		
Com8	<---	Com	1.021	0.061	16.765	***	0.725		
Com9	<---	Com	1.014	0.063	16.197	***	0.706		
Com10	<---	Com	1.058	0.060	17.614	***	0.752		
OS1	<---	OS	1.000				0.725	0.922	0.543
OS2	<---	OS	0.881	0.056	15.701	***	0.738		
OS3	<---	OS	0.890	0.057	15.671	***	0.739		
OS4	<---	OS	1.070	0.066	16.143	***	0.761		
OS5	<---	OS	1.066	0.067	15.881	***	0.749		
OS6	<---	OS	0.961	0.065	14.803	***	0.697		

Path Relationship			Estimate	S.E.	C.R.	P	Factor Loading	CR	AVE
OS7	<---	OS	0.897	0.059	15.333	***	0.722		
OS8	<---	OS	1.035	0.060	17.238	***	0.812		
OS9	<---	OS	0.778	0.054	14.317	***	0.674		
OS10	<---	OS	0.906	0.057	15.824	***	0.746		
SE1	<---	SE	1.000				0.694	0.885	0.562
SE2	<---	SE	1.067	0.070	15.193	***	0.771		
SE3	<---	SE	1.001	0.070	14.258	***	0.717		
SE4	<---	SE	1.393	0.087	15.988	***	0.824		
SE5	<---	SE	1.123	0.080	14.100	***	0.703		
SE6	<---	SE	1.364	0.090	15.205	***	0.779		
TC1	<---	TC	1.000				0.736	0.901	0.533
TC2	<---	TC	0.950	0.063	15.006	***	0.708		
TC3	<---	TC	1.078	0.070	15.303	***	0.719		
TC4	<---	TC	1.160	0.076	15.268	***	0.717		
TC5	<---	TC	1.065	0.071	14.997	***	0.708		
TC6	<---	TC	1.217	0.077	15.745	***	0.747		
TC7	<---	TC	1.180	0.073	16.254	***	0.762		
TC8	<---	TC	1.022	0.065	15.779	***	0.742		
DLWP11	<---	TP	1.000				0.752	0.886	0.609
DLWP12	<---	TP	0.675	0.042	16.224	***	0.743		
DLWP13	<---	TP	0.877	0.053	16.443	***	0.759		
DLWP14	<---	TP	0.842	0.052	16.291	***	0.751		
DLWP15	<---	TP	1.152	0.059	19.375	***	0.888		
DLWP21	<---	CP	1.000				0.725	0.834	0.557
DLWP22	<---	CP	1.104	0.073	15.150	***	0.777		
DLWP23	<---	CP	0.984	0.067	14.709	***	0.740		
DLWP24	<---	CP	0.908	0.062	14.677	***	0.743		
DLWP31	<---	AP	1.000				0.800	0.811	0.589
DLWP32	<---	AP	0.913	0.056	16.200	***	0.782		
DLWP33	<---	AP	0.935	0.062	15.011	***	0.719		

NOTE: JC is Job Characteristics. Com is Competency. OS is Organizational Support. SE is Self-Efficacy. TC is Team Cohesiveness. DLWP is Discipline Leaders' Work Performance. TP is Task Performance. CP is Contextual Performance. AP is Adaptive Performance.

Table 4.7 presents the confirmatory factor analysis (CFA) results for factor loadings, composite reliability (CR), and average variance extracted (AVE) across all measurement dimensions.

First, regarding factor loadings, the vast majority of observed items load strongly on their respective constructs, with coefficients generally exceeding 0.70. For example, items measuring Job Characteristics (JC1–JC10) range from 0.739 to 0.826, items under Competency (Com1–Com10) from 0.706 to 0.811, and Organizational Support (OS1–OS10) from 0.674 to 0.812. Similarly, items for Self-Efficacy (SE1–SE6) range from 0.694 to 0.824, Team Cohesiveness (TC1–TC8) from 0.708 to 0.762, and Discipline Leaders' Work Performance (DLWP11–DLWP33) from 0.719 to 0.888. These high loadings confirm that the observed items reliably represent their latent constructs.

Second, the composite reliability (CR) values for all constructs are above the recommended threshold of 0.70, indicating excellent internal consistency. Specifically, Job Characteristics (CR = 0.943), Competency (CR = 0.929), Organizational Support (CR = 0.922), Self-Efficacy (CR = 0.885), Team Cohesiveness (CR = 0.901), and Discipline Leaders' Work Performance (CR = 0.886 for TP, 0.834 for CP, 0.811 for AP) all demonstrate strong construct reliability.

Third, the average variance extracted (AVE) values are consistently above the 0.50 threshold, supporting convergent validity. Job Characteristics (AVE = 0.625), Competency (AVE = 0.568), Organizational Support (AVE = 0.543), Self-Efficacy (AVE = 0.562), Team Cohesiveness (AVE = 0.533), and the three dimensions of Discipline Leaders' Work Performance (TP = 0.609, CP = 0.557, AP = 0.589) all exceeded the criterion, suggesting that each construct explains a substantial portion of variance in its indicators. These results confirm that the measurement model demonstrates strong reliability, convergent validity, and construct consistency.

4.6 Correlation Analysis

The data analysis presents the results of Pearson correlation analysis among various dimensions. The study examined means, standard deviations (SD), Average Variance Extracted (AVE), and correlation coefficients between dimensions. The analysis reveals significant positive correlations among the dimensions. self-efficacy, team cohesiveness, and the work performance of discipline leaders exhibit strong correlations. All correlation coefficients reached statistical significance ($p<0.001$).

Table 4.8 reports the results of Pearson's correlation analysis among the six dimensions: job characteristics, competency, organizational support, self-efficacy, team cohesiveness, and discipline leaders' work performance. The mean values ranged from 3.579 to 3.808, with standard deviations (SD) between 0.768 and 0.915, indicating relatively high agreement among respondents. The square roots of the AVE values (shown on the diagonal) were all above 0.70, exceeding the corresponding inter-construct correlations, thereby confirming discriminant validity according to the Fornell–Larcker criterion (Fornell & Larcker, 1981). The AVE values for each

construct also surpassed the recommended threshold of 0.50, further supporting convergent validity.

The correlation results demonstrate that all dimensions are positively and significantly correlated at the $p < 0.001$ level. Among them, the highest correlations were observed between self-efficacy and discipline leaders' work performance ($r = 0.535$) and team cohesiveness and work performance ($r = 0.547$), underscoring the central mediating role of psychological and team factors in shaping performance outcomes. Job characteristics were significantly correlated with all other variables, including competency ($r = 0.360$), organizational support ($r = 0.204$), self-efficacy ($r = 0.432$), team cohesiveness ($r = 0.437$), and work performance ($r = 0.477$). Similarly, competency showed strong positive correlations with self-efficacy ($r = 0.446$), team cohesiveness ($r = 0.445$), and work performance ($r = 0.481$). Organizational support was also strongly related to self-efficacy ($r = 0.416$), team cohesiveness ($r = 0.414$), and work performance ($r = 0.462$).

Table 4.8 Results of Pearson's Correlation Analysis for Each Variable

	Mean	**SD**	**√AVE**	**Job Characteristics**	**Competency**	**Organizational Support**	**Self-Efficacy**	**Team Cohesiveness**	**Discipline Leaders' Work Performance**
Job Characteristics	3.579	0.915	0.791						
Competency	3.604	0.903	0.754	0.360***					
Organizational Support	3.624	0.866	0.737	0.204***	0.322***				
Self-Efficacy	3.808	0.768	0.750	0.432***	0.446***	0.416***			
Team Cohesiveness	3.730	0.818	0.730	0.437***	0.445***	0.414***	0.368***		
Discipline Leaders' Work Performance	3.645	0.777	0.771	0.477***	0.481***	0.462***	0.535***	0.547***	
AVE				0.625	0.568	0.543	0.562	0.533	0.595

NOTE: * p<0.05 ** p<0.01 *** p<0.001Diagonal values represent the square root of the Average Variance Extracted (AVE) for each construct.

4.7 Structural Equation Models and Hypothesis Testing

This study employed AMOS 27 to conduct model fit analysis on statistical data from SPSS 27, aiming to assess the degree of model fit. It is acknowledged that a chi-square degree-of-freedom ratio (CMIN/DF) less than 3 indicates a high degree of fit

between the model and the data; a Root Mean Square Error of Approximation (RMSEA) value less than 0.08 suggests a good fit, with values less than 0.05 being even more favorable. Fit indices can be judged through the Comparative Fit Index (CFI). The data values of these fit indices range from 0 to 1, and it is considered that values greater than 0.8 indicate a good fit, with values greater than 0.9 being preferable, and values closer to 1 being ideal. The specific criteria for evaluating fit indices are presented in Table 4.9.

Table 4.9 Fit Indicator Test Criteria

Indicator Name	Range of Values	Judgment Criteria
CMIN/DF	>0	Best: ≤ 2.00 Good: ≤ 3.00 Acceptable: ≤ 5.00
Root Mean Square Error of Approximation (RMSEA)	>0	Maximum:0.00 Good: ≤ 0.05 Acceptable: ≤ 0.08
The Bentler-Bonett's Normed Fit Index (NFI)	0-1	Maximum: =1.00 Best: > 0.98 Good: > 0.90 Acceptable: > 0.80
Incremental Fit Index (IFI)	0-1	> Maximum: =1.00 Best: > 0.97 Better: > 0.95 Good: ≥ 0.90 Acceptable: > 0.80
Tucker-Lewis Index (TLI)	0-1	Maximum: =1.00 Best: > 0.97 Better: > 0.95 Good: ≥ 0.90 Acceptable: > 0.80
Comparative Fit Index of Bentler (CFI)	0-1	Maximum: =1.00 Best: > 0.97 Better: > 0.95 Good: ≥ 0.90 Acceptable: > 0.80

After establishing the structural equation model, the software's model path significance test was conducted, yielding the standardized path coefficients, critical ratio (C.R.), and significance P-values of the influencing factors. The C.R. exceeds 1.96, and the P-value is less than 0.05. This path coefficient passes the significance test within a 95% confidence interval, indicating that the corresponding path hypothesis of the model is valid in Table 4.10.

The model demonstrates a good fit, with fit indices meeting the standard requirements. The CMIN/DF is 1.306, significantly lower than 5, indicating an exceptionally ideal model fit. The GFI is 0.879, approaching the ideal value of 0.9, and the AGFI is 0.868, within an acceptable range. The RMSEA value is 0.026, far below 0.08, suggesting a small model fit error. The IFI and CFI are 0.971 and 0.971, respectively, both higher than 0.9, reflecting a good model fit. The NFI and TLI (NNFI)

are 0.888 and 0.970, respectively, within acceptable ranges. The model's fit is excellent, effectively explaining the data structure.

Table 4.10 Model Fit Indices (N=470)

Model Fit Indicator	Threshold Range	Observed Value
CMIN		1915.944
DF		1467
CMIN/DF	Below 5, best below 3	1.306
GFI	Above 0.9，0.8-0.9Acceptable	0.879
AGFI	Above 0.9，0.8-0.9Acceptable	0.868
RMSEA	Below 0.08	0.026
IFI	Above 0.9，0.8-0.9Acceptable	0.971
NFI	Above 0.9，0.8-0.9Acceptable	0.888
TLI(NNFI)	Above 0.9，0.8-0.9Acceptable	0.970
CFI	Above 0.9，0.8-0.9Acceptable	0.971

4.7.1 Verification of Direct Effects

The standardized path coefficient value for "job characteristics" is 0.296 (t = 6.144, p = 0.000 < 0.01), indicating that job characteristics exert a significant positive influence on self-efficacy. The standardized path coefficient value for "competency" is 0.280 (t = 5.610, p = 0.000 < 0.01), suggesting that competency has a significant positive impact on Self-Efficacy. The standardized path coefficient value for "organizational support" is 0.294 (t = 6.062, p = 0.000 < 0.01), implying that organizational support significantly and positively affects Self-Efficacy. In summary, job characteristics, competency, and organizational support all have significant positive influences on Self-Efficacy. The model's R^2 value is 0.410, meaning that job characteristics, competency, and organizational support can account for 41.0% of the variance in Self-Efficacy.

Table 4.10 Results of Structural Equation Modeling

Path Relationship			Estimate	S.E.	C.R.	P	Standardized Estimate	R^2
SE	<---	JC	0.191	0.031	6.144	***	0.296	0.410
SE	<---	Com	0.207	0.037	5.610	***	0.280	
SE	<---	OS	0.209	0.034	6.062	***	0.294	
TC	<---	JC	0.226	0.035	6.432	***	0.305	0.406
TC	<---	Com	0.226	0.042	5.444	***	0.266	
TC	<---	OS	0.240	0.039	6.186	***	0.294	
DLWP	<---	JC	0.149	0.038	3.872	***	0.198	0.678
DLWP	<---	Com	0.126	0.045	2.825	0.005	0.146	
DLWP	<---	OS	0.164	0.043	3.799	***	0.197	
DLWP	<---	SE	0.320	0.069	4.661	***	0.275	
DLWP	<---	TC	0.301	0.059	5.088	***	0.296	

NOTE: * p<0.05 ** p<0.01 *** p<0.001

The standardized path coefficient value for "job characteristics" is 0.305 (t = 6.432, p = 0.000 < 0.01), indicating that job characteristics have a significant positive impact on team cohesiveness. The standardized path coefficient value for "competency" is 0.266 (t = 5.444, p = 0.000 < 0.01), suggesting that competency significantly and positively affects team cohesiveness. The standardized path coefficient value for "organizational support" is 0.294 (t = 6.186, p = 0.000 < 0.01), implying that organizational support has a significant positive influence on team cohesiveness. In summary, job characteristics, competency, and organizational support all significantly and positively affect team cohesiveness. The model's R^2 value is 0.406, indicating that job characteristics, competency, and organizational support can explain 40.6% of the variance in team cohesiveness.

The standardized path coefficient value for "job characteristics" is 0.198 (t = 3.872, p = 0.000 < 0.01), suggesting that job characteristics have a significant positive impact on discipline leaders' work performance.

The standardized path coefficient value for "competency" is 0.146 (t = 2.825, p = 0.000 < 0.01), implying that competency significantly and positively affects discipline leaders' work performance. The standardized path coefficient value for "organizational support" is 0.197 (t = 3.799, p = 0.000 < 0.01), indicating that organizational support has a significant positive influence on discipline leaders' work performance. The standardized path coefficient value for "self-efficacy" is 0.275 (t = 4.661, p = 0.000 < 0.01), suggesting that Self-Efficacy significantly and positively affects discipline leaders' work performance. The standardized path coefficient value for "team cohesiveness" is 0.296 (t = 5.088, p = 0.000 < 0.01), implying that team cohesiveness has a significant positive impact on discipline leaders' work performance.

In summary, job characteristics, competency, organizational support, Self-Efficacy, and team cohesiveness all have significant positive influences on discipline leaders' work performance. The model's R^2 value is 0.678, indicating that these factors can account for 67.8% of the variance in discipline leaders' work performance.

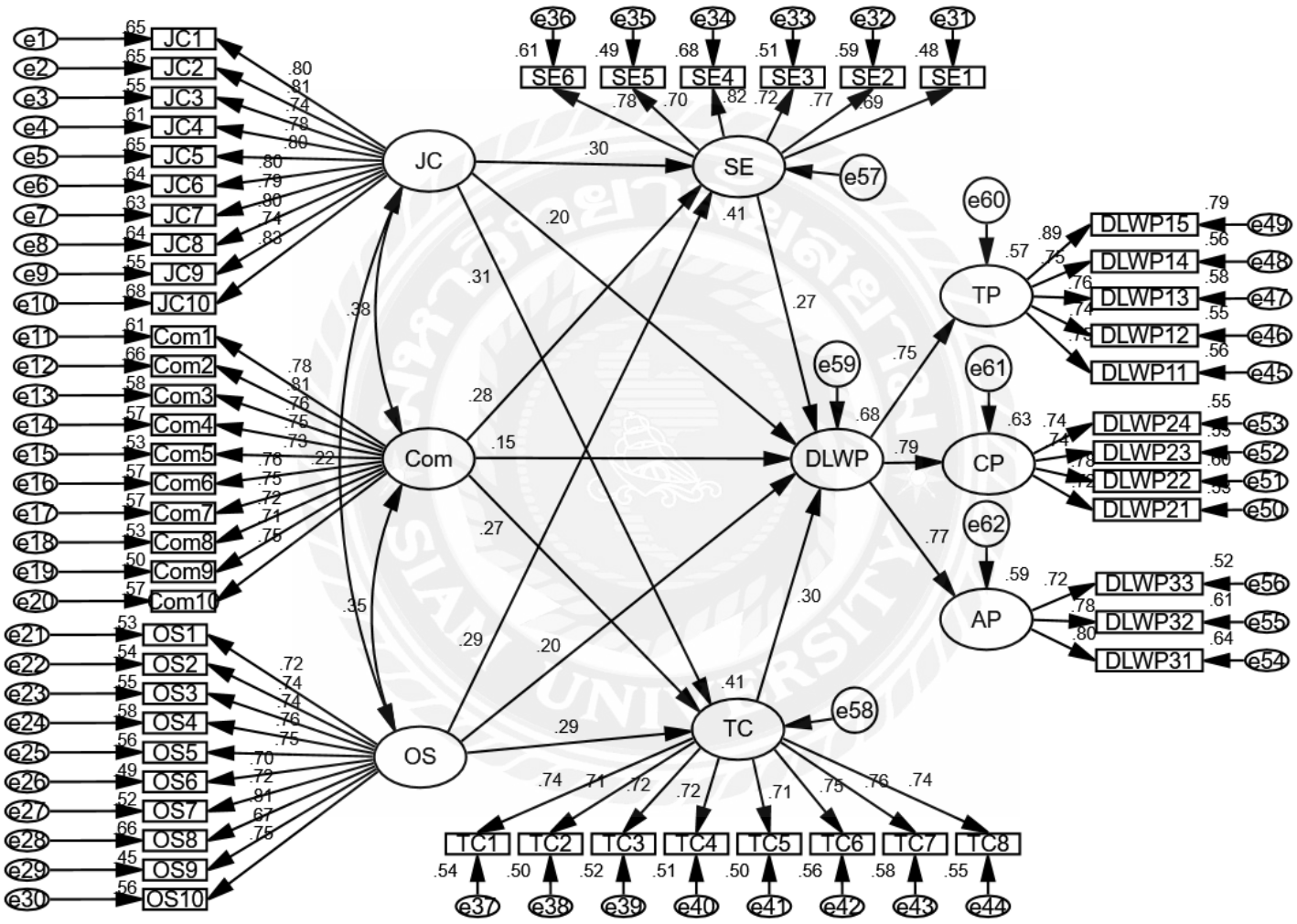


Figure 4.2 Modified Structural Equation Model

4.7.2 Verification of Mediation Effect

To verify the mediation effects within the model, the Bootstrap mediation effect test was employed to examine the significance of these effects, following the Bootstrap method proposed by Hayes (2013) for testing moderated mediation effects. With a sample size of 470 and under a 95% confidence interval, the process involved 5000 resampling iterations to assess the mediation effect results.

As observed in Table 4.11, the Bootstrap mediation effect test indicates that the direct effect of JC on DLWP is 0.198, with a 95% confidence interval of [0.098, 0.304], which does not encompass 0, thereby confirming the significance of the direct effect. The indirect impact of JC-SE on DLWP is 0.081, with a 95% confidence interval of [0.046, 0.129], not containing 0, indicating a significant indirect effect accounting for 21.9% of the total effect. Similarly, the indirect impact of JC-TC on DLWP is 0.091, with a 95% confidence interval of [0.052, 0.140], not including 0, suggesting a significant indirect impact contributing 24.6% to the total effect.

From Table 4.12, the Bootstrap mediation effect test reveals that the direct effect of Com on DLWP is 0.146, with a 95% confidence interval of [0.042, 0.247], not containing 0, thus confirming the significance of the direct effect. The indirect impact of Com-SE on DLWP is 0.077, with a 95% confidence interval of [0.041, 0.126], not including 0, indicating a significant indirect impact accounting for 25.5% of the total effect. The indirect impact of Com-TC on DLWP is 0.079, with a 95% confidence interval of [0.043, 0.125], not containing 0, suggesting a significant indirect impact contributing 26.2% to the total effect.

As shown in Table 4.13, the Bootstrap mediation effect test indicates that the direct effect of OS on DLWP is 0.197, with a 95% confidence interval of [0.094, 0.296], not encompassing 0, thereby confirming the significance of the direct effect. The indirect impact of OS-SE on DLWP is 0.081, with a 95% confidence interval of [0.048, 0.128], not containing 0, indicating a significant indirect impact accounting for 22.2% of the total effect. The indirect impact of OS-TC on DLWP is 0.087, with a 95% confidence interval of [0.050, 0.132], not including 0, suggesting a significant indirect impact contributing 23.8% to the total effect.

Table 4.11 Results of JC-SE and TC-DLWP Bootstrap Indirect Effects Tests

Path Relationship	Effect	SE	Bias Corrected (95%)			Percent
			LLCI	ULCI	P	%
JC -DLWP Direct Effect	0.198	0.052	0.098	0.304	0.001	53.5%
JC -SE-DLWP Indirect Effect	0.081	0.021	0.046	0.129	0.000	21.9%
JC -TC-DLWP Indirect Effect	0.091	0.022	0.052	0.140	0.000	24.6%
JC -DLWP Indirect Total Effect	0.172	0.031	0.117	0.237	0.000	46.5%
JC -DLWP Total Effect	0.370	0.049	0.274	0.465	0.000	

Table 4.12 Results of Com-SE and TC-DLWP Bootstrap Indirect Effects Tests

Path Relationship	Effect	SE	Bias Corrected (95%)			Percent %
			LLCI	ULCI	P	
Com -DLWP Direct Effect	0.146	0.052	0.042	0.247	0.004	48.3%
Com -SE-DLWP Indirect Effect	0.077	0.021	0.041	0.126	0.000	25.5%
Com -TC-DLWP Indirect Effect	0.079	0.021	0.043	0.125	0.000	26.2%
Com -DLWP Indirect Total Effect	0.156	0.029	0.104	0.220	0.000	51.7%
Com -DLWP Total Effect	0.302	0.052	0.197	0.403	0.000	

Table 4.13 Results of OS-SE and TC-DLWP Bootstrap Indirect Effects Tests

Path Relationship	Effect	SE	Bias Corrected (95%)			Percent %
			LLCI	ULCI	P	
OS -DLWP Direct Effect	0.197	0.051	0.094	0.296	0.000	54.0%
OS -SE-DLWP Indirect Effect	0.081	0.020	0.048	0.128	0.000	22.2%
OS -TC-DLWP Indirect Effect	0.087	0.021	0.050	0.132	0.000	23.8%
OS -DLWP Indirect Total Effect	0.168	0.030	0.116	0.232	0.000	46.0%
OS -DLWP Total Effect	0.365	0.045	0.281	0.453	0.000	

4.7.3 Verification of Moderation Effect

(1) The Influence of Frequency-Moderated Self-Efficacy on Discipline Leaders' Work Performance

The moderation effect is analyzed through three models in Table 4.14. Model 1 includes the independent variable (self-efficacy) and five control variables: gender, age, education, position, and years of experience. Model 2 builds upon Model 1 by incorporating the moderator (frequency). Model 3 extends Model 2 by including the interaction term (the product of the independent variable and the moderator). The purpose of Model 1 is to examine the impact of the independent variable (self-efficacy) on the dependent variable (discipline leaders' work performance) without considering the interference of the moderator (frequency). The data reveals that the independent variable (self-efficacy) exhibits significance ($\beta=0.546$, $p=0.000<0.01$), indicating a substantial influence of self-efficacy on discipline leaders' work performance. The moderation effect can be assessed in two ways: first, by examining the significance of the change in the F-value from Model 2 to Model 3; second, by evaluating the significance of the interaction term in Model 3. For this analysis, the second method is employed. The interaction term between self-efficacy and frequency demonstrates

significance (β=0.411, p=0.000<0.01), suggesting that the impact of self-efficacy on discipline leaders' work performance varies significantly across different levels of the moderator (frequency).

Table 4.14 Effect of Frequency Moderated Self-Efficacy on Discipline Leaders' Work Performance

	Model1	**Model 2**	**Model 3**
Constant	3.587*** (32.347)	3.573*** (32.696)	3.612*** (33.966)
Gender	0.027 (0.435)	0.032 (0.528)	0.012 (0.209)
Age	0.029 (0.675)	0.038 (0.895)	0.021 (0.494)
Edu	0.059 (1.489)	0.062 (1.601)	0.061 (1.626)
Position	-0.027 (-1.036)	-0.030 (-1.135)	-0.030 (-1.173)
Year	-0.027 (-0.643)	-0.031 (-0.754)	-0.022 (-0.556)
Self-Efficacy	0.546*** (13.698)	0.556*** (14.121)	0.550*** (14.389)
Frequency		0.235*** (3.904)	0.232*** (3.979)
Self-Efficacy*Frequency			0.411*** (5.389)
Sample size	470	470	470
R^2	0.292	0.314	0.355
Adjust R^2	0.283	0.304	0.344
F value	31.798***	30.271***	31.725***
$\triangle R^2$		0.023	0.041
△F value		15.242***	29.041***

Note: Dependent Variable = Discipline Leaders' Work Performance, * p<0.05 ** p<0.01 *** p<0.001

Table 4.15 presents the moderating effect of team feedback frequency on the relationship between self-efficacy and discipline leaders' work performance. When team feedback was frequent, the regression coefficient was 0.747 (SE = 0.053, t = 14.174, p < 0.001, 95% CI [0.644, 0.851]), indicating a strong and statistically significant positive effect. In contrast, under seldom feedback conditions, the coefficient dropped to 0.341 (SE = 0.054, t = 6.318, p < 0.001, 95% CI [0.235, 0.447]), though still significant. These results demonstrate that frequent feedback substantially amplifies the positive influence of self-efficacy on work performance, compared with contexts where feedback is seldom provided.

Table 4.15 Levels of Moderator Variables on Self-Efficacy

Level of Moderator Variable	Regression Coefficient	Standard Error	t	p	95% CI	
Frequent	0.747	0.053	14.174	0.000	0.644	0.851
Seldom	0.341	0.054	6.318	0.000	0.235	0.447

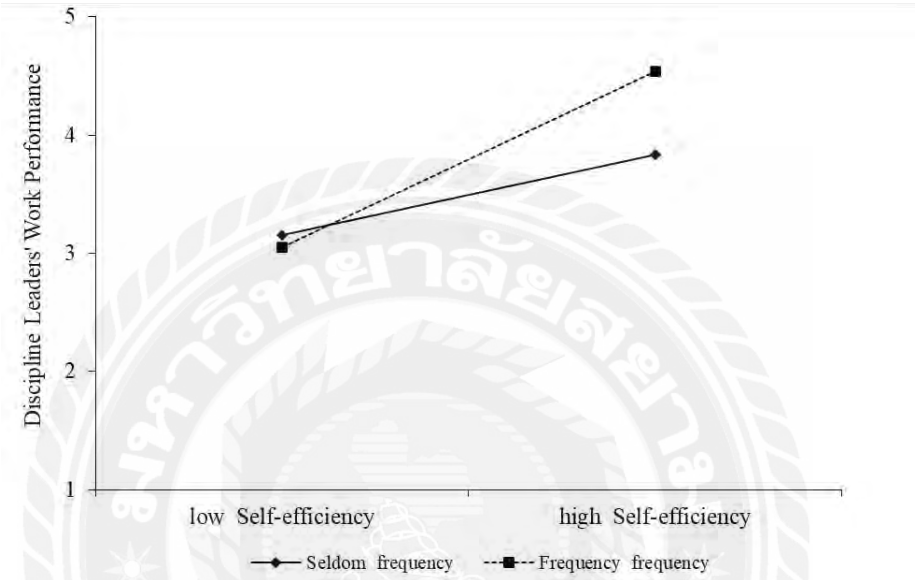


Figure 4.3 Levels of Moderator Variables (Self-Efficacy)

Figure 4.3 illustrates the moderating effect of team feedback on the relationship between self-efficacy and discipline leaders' work performance. As shown in the figure, both "seldom feedback" and "frequent feedback" conditions demonstrate a positive slope, indicating that higher levels of self-efficacy are consistently associated with improved work performance. However, the slope for the frequent feedback condition is noticeably steeper. This suggests that when team feedback is frequent, the positive impact of self-efficacy on work performance is significantly amplified compared to conditions where feedback is seldom provided.

(2) The Effect of Adjusting Frequency on Team Cohesiveness on Discipline Leaders' Work Performance

The examination of the moderation effect is conducted through three models. Model 1 encompasses the independent variable (team cohesiveness) and five control variables: gender, age, education, position, and year. Model 2 builds upon Model 1 by integrating the moderator (frequency). Model 3 further extends Model 2 by incorporating the interaction term (the product of the independent variable and the moderator). The objective of Model 1 is to investigate the impact of the independent variable (team cohesiveness) on the dependent variable (discipline leaders' work performance) without considering the interference of the moderator (frequency). The independent variable (team cohesiveness) exhibits significance (β=0.525, p=0.000<0.05), indicating a substantial influence of team cohesiveness on discipline

leaders' work performance. The moderation effect can be evaluated in two ways: first, by examining the significance of the change in the F-value from Model 2 to Model 3; second, by assessing the significance of the interaction term in Model 3. For this analysis, the second method is employed. The interaction term between team cohesiveness and frequency demonstrates significance (β=0.447, p=0.000<0.05), suggesting that the impact of team cohesiveness on discipline leaders' work performance varies significantly across different levels of the moderator (frequency).

Table 4.16 Effect of Frequency Moderated Team Cohesiveness on Discipline Leaders' Work Performance

	Model1	**Model 2**	**Model 3**
Constant	3.489*** (31.734)	3.475*** (32.001)	3.518*** (33.684)
Gender	-0.001 (-0.019)	0.003 (0.054)	0.003 (0.052)
Age	0.013 (0.302)	0.021 (0.502)	0.015 (0.379)
Edu	-0.001 (-0.032)	0.001 (0.028)	-0.009 (-0.233)
Position	0.027 (1.019)	0.025 (0.983)	0.024 (0.957)
Year	0.033 (0.792)	0.030 (0.724)	0.029 (0.740)
Self-Efficacy	0.525*** (14.113)	0.530*** (14.434)	0.516*** (14.599)
Frequency		0.217*** (3.640)	0.215*** (3.756)
Self-Efficacy*Frequency			0.447*** (6.370)
Sample size	470	470	470
R^2	0.304	0.324	0.378
Adjust R^2	0.295	0.313	0.367
F value	33.730***	31.569***	35.062***
$\triangle R^2$		0.019	0.055
△F value		13.250***	40.577***

Note: Dependent Variable = Discipline Leaders' Work Performance, * p<0.05 ** p<0.01 *** p<0.001

Table 4.17 Levels of Moderator Variables on Team Cohesiveness

Levels of Moderator Variables	**Regression Coefficient**	**Standard Error**	**t**	**p**	**95% CI**	
Frequency	0.779	0.051	15.334	0.000	0.679	0.878
Seldom	0.308	0.054	5.716	0.000	0.202	0.414

Table 4.17 reports the moderating effect of team feedback on the relationship between team cohesiveness and discipline leaders' work performance. Under conditions of frequent feedback, the regression coefficient reached 0.779 (SE = 0.051, t = 15.334, p < 0.001, 95% CI [0.679, 0.878]), indicating a strong and significant positive effect. By contrast, when feedback was seldom, the coefficient dropped to 0.308 (SE = 0.054, t = 5.716, p < 0.001, 95% CI [0.202, 0.414]), though still statistically significant. These results demonstrate that team cohesiveness positively contributes to work performance in both conditions, but the effect is considerably stronger when feedback is frequent. This finding highlights the critical role of regular, constructive feedback in strengthening the translation of team cohesiveness into higher levels of discipline leaders' performance.

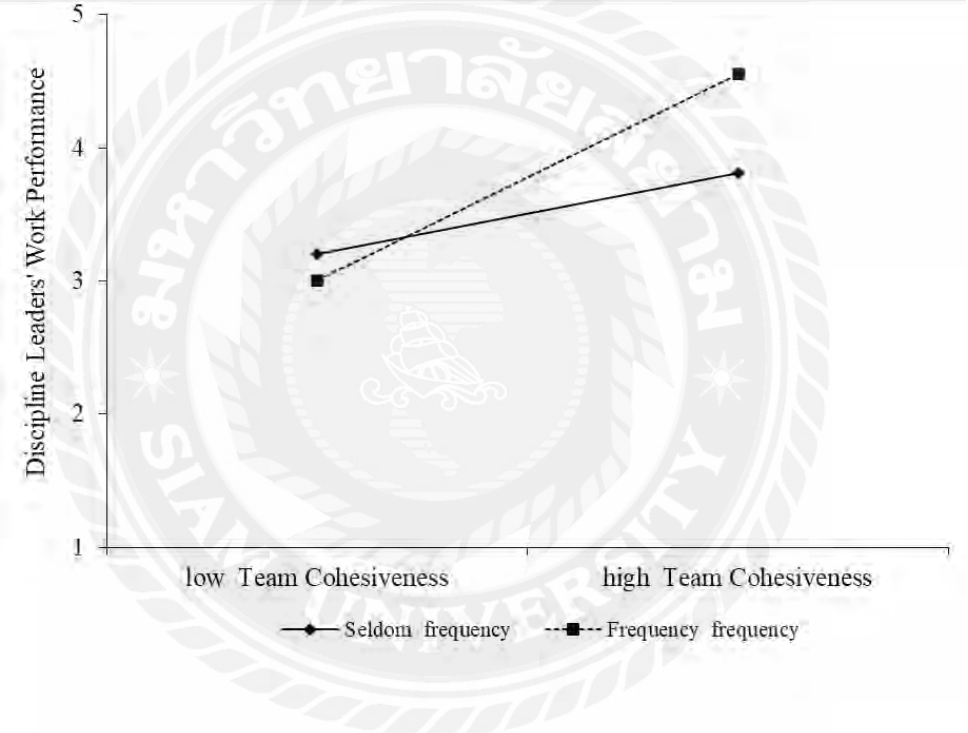


Figure 4.4 Levels of Moderator Variables (Team Cohesiveness)

Figure 4.4 illustrates the moderating role of team feedback on the relationship between team cohesiveness and discipline leaders' work performance. The figure shows that in both conditions—seldom feedback and frequent feedback—higher levels of team cohesiveness are associated with higher work performance. However, the slope under frequent feedback is considerably steeper than that under seldom feedback. This indicates that frequent feedback not only enhances the baseline effect of team cohesiveness but also amplifies its positive influence on work performance.

Table 4.18 Hypotheses Test Results

Hypothesis	Result
Hypothesis 1: Job characteristics has a positive impact on self-efficacy.	Supported
Hypothesis 2: Job characteristics has a positive impact on discipline leaders' work performance.	Supported
Hypothesis 3: Job characteristics has a positive impact on team cohesiveness.	Supported
Hypothesis 4: Competency has a positive impact on self-efficacy.	Supported
Hypothesis 5: Competency has a positive impact on discipline leaders' work performance.	Supported
Hypothesis 6: Competency has a positive impact on team cohesiveness.	Supported
Hypothesis 7: Organizational support has a positive impact on self-efficacy.	Supported
Hypothesis 8: Organizational support has a positive impact on discipline leaders' work performance.	Supported
Hypothesis 9: Organizational support has a positive impact on team cohesiveness.	Supported
Hypothesis 10: Self-Efficacy has a positive impact on discipline leaders' work performance.	Supported
Hypothesis 11: Team cohesiveness has a positive impact on discipline leaders' work performance.	Supported
Hypothesis 12: Self-efficacy mediates the relationship between job characteristics and discipline leaders' work performance.	Supported
Hypothesis 13: Self-efficacy mediates the relationship between competency and discipline leaders' work performance.	Supported
Hypothesis 14: Self-efficacy mediates the relationship between organizational support and discipline leaders' work performance.	Supported
Hypothesis 15: Team cohesiveness mediates the relationship between job characteristics and discipline leaders' work performance.	Supported
Hypothesis 16: Team cohesiveness mediates the relationship between competency and discipline leaders' work performance.	Supported
Hypothesis 17: Team cohesiveness mediates the relationship between organizational support and discipline leaders' work performance.	Supported
Hypothesis 18a: Team feedback moderates the relationship between self-efficacy and discipline leaders' work performance.	Supported
Hypothesis 18b: Team feedback moderates the relationship between team cohesiveness and discipline leaders' work performance.	Supported

Table 4.18 presents the results of hypothesis testing. All hypotheses were supported, indicating that the hypotheses proposed in the study align with the actual data. Job characteristics, competency, and organizational support exerted positive influences on self-efficacy, team cohesiveness, and the work performance of discipline leaders. This suggests that these factors are crucial for enhancing the performance of discipline leaders. Self-efficacy and team cohesiveness were found to mediate the relationships between these factors and the work performance of discipline leaders. Not only do self-efficacy and team cohesiveness impact the performance of discipline leaders, but they also play a significant mediating role between factors such as job characteristics, competency, organizational support, and performance. Team feedback moderated the relationships between self-efficacy, team cohesiveness, and the work performance of discipline leaders. This indicates that team feedback can strengthen the impact of self-efficacy and team cohesiveness on the work performance of discipline leaders. The support for all hypotheses suggests that factors such as job characteristics, competency, organizational support, self-efficacy, team cohesiveness, and team feedback interact and collectively drive the overall performance of discipline leaders in enhancing their work performance.

4.8 Qualitative Analysis

4.8.1 Content Analysis

Based on the coding analysis of the content from 9 interviewees using NVivo14, the results are organized and summarized across five dimensions: Select Coding, Axial Coding, Open Coding, Reference Code Point, and Description, resulting in a systematic interview analysis table and an overview of the findings. The results are presented in Table 4.20.

Table 4.20 Interview Text Analysis Category System

Select Coding	Axial Coding	Open Coding	Reference Code Point	Description
Self-efficacy	Self-knowledge and work confidence	Teaching Confidence Boost, Task Completion Beliefs, Challenge Response Styles	Teacher training, competition experience, failure and amendment examples	Most respondents identified high self-efficacy as an intrinsic motivator for continued progress in course development, platform building and management.
team cohesiveness	Team Interaction and Collaboration Mechanisms	Mutual trust among members, collaborative work mechanisms, team goal congruence	Team Building Measures, Sharing Mechanisms, Conflict Management Strategies	team cohesiveness was generally recognized as the key to accomplishing teaching tasks and curriculum collaboration, and good mutual trust and co-construction mechanisms were particularly important.
Job Characteristics	Task Challenge and Work Motivation	Distribution of teaching tasks, research and teaching conflicts, source of fulfillment	Time Management Strategies, Feedback on Challenging Tasks, Teaching Satisfaction	Challenging work and diversified roles are the main manifestations of job characteristics, and time and task management ability directly affects satisfaction and fulfillment.
Competencies	Competence development and role adaptation	Professional ability, management ability, growth path and experience accumulation.	Suggestions for new teachers, learning mechanism, typical growth cases	Competence is reflected in the combination of professional and managerial abilities, and most respondents improve key competencies through training, competitions or practical projects.
Organizational Support	Institutional Security and Resource Allocation	Policy support, training resources, institutional incentives and hardware facilities.	Institutional policies, financial and platform support, suggestions and expectations	Regarding organizational support, respondents generally want more policy pilot opportunities, funding and training resources, and institutional incentives are also key elements.
Job Performance	Performance results and key	Academic Achievements, Student Performance, Program	Successful Cases, Key Achievement Indicators, Output Transformation Mechanisms	The performance dimensions cover a wide range of achievements in research, teaching and management, with typical cases mainly coming

Select Coding	Axial Coding	Open Coding	Reference Code Point	Description
	influencing factors	Construction and Logo Achievements		from curriculum construction, competition guidance or project results transformation.
Team Feedback	Feedback Frequency and Quality	Feedback frequency, timeliness of feedback, feedback formats (formal/informal), team evaluations, improvement suggestions	Case-based feedback, classroom observation feedback, teaching-research discussions, curriculum diagnosis, student data feedback, peer reviews	Most interviewees indicated that high-frequency, diverse, multi-channel, and timely team feedback enables discipline leaders to adjust teaching directions, optimize task-completion strategies, and make more informed decisions in curriculum development, teaching-research organization, and team management. Feedback not only influences teaching improvement and decision-making quality, but also contributes to enhanced self-efficacy and the development of team cohesiveness.

4.8.2 Analysis of Qualitative Research Results

This study, based on focus group discussions with 9 discipline leader from the 5 higher vocational colleges in Shandong Province, employed NVivo14 for systematic coding analysis of discussion data, aiming to unveil the experiences and insights of discipline leaders in higher vocational colleges regarding self-efficacy, team cohesiveness, job characteristics, competency, organizational support, and job performance.

- **Self-Efficacy**

Self-efficacy is one of the core themes in this research, reflecting the confidence and belief discipline leaders hold in their work performance. The participants believed that self-efficacy directly influences their work motivation and performance. The participants content indicated that high self-efficacy empowers leaders to maintain a positive attitude when confronting challenges in teaching and research, playing a pivotal role in platform development, discipline construction, and team leadership.

Factors Enhancing Self-Efficacy: During discussions, many discipline leaders mentioned that competition experience, the sense of accomplishment from research projects, peer support and exchange, and effective coping in challenging situations significantly boosted their self-efficacy. Especially when leading team projects or interdisciplinary collaborations, a leader's self-efficacy aids in enhancing the team's overall execution capacity.

Challenges Faced: Some participants mentioned instances of insufficient self-efficacy due to the complexity and multitasking nature of their work, particularly when facing interdisciplinary teaching and research challenges. To overcome these difficulties, discipline leaders often resort to self-reflection and timely adjustment of work strategies to regain confidence.

- **Team cohesiveness**

Team cohesiveness is a crucial factor driving discipline construction and the enhancement of teaching quality. In discussions, all participants emphasized the substantial impact of mutual trust and collaborative mechanisms among team members on work effectiveness. discipline leaders generally believe that strong team cohesiveness promotes cooperation among team members, reduces conflicts, and elevates collective execution capacity.

Measures to Enhance team cohesiveness: Multiple participants pointed out that regular team-building activities, sharing resources and outcomes, and establishing common teaching objectives can significantly enhance team cohesiveness. In interdisciplinary collaborations and joint research projects, trust and cooperation among members are particularly vital.

Impact of team cohesiveness on Discipline Construction: Some discipline leaders mentioned that robust team cohesiveness not only aids in resolving internal team conflicts but also propels the smooth implementation of discipline projects. For instance, some teams excel in discipline construction through regular academic exchanges and collaborative teaching endeavors.

- **Job Characteristics**

Job characteristics encompass the challenging tasks and sources of accomplishment for discipline leaders in their daily work. Participants revealed that most participants undertake complex roles, serving as educators and research leaders, while being responsible for team management and project coordination. The demands

of multitasking roles make time management and prioritizing tasks keys to discipline leaders' success.

Role Conflicts and Challenges: Some participants mentioned difficulties, especially in balancing research tasks with teaching responsibilities. When faced with heavy teaching loads, they should manage time effectively and coordinate team resources to ensure teaching quality without compromising research progress.

Sources of Accomplishment: Many participants expressed that dual accomplishments in teaching efficacy and research outcomes, such as outstanding student performance, course innovation, and successful project experiences, often serve as primary motivators for their work.

- **Competency**

Competency constitutes a vital component of the role of a discipline leaders, encompassing their ability to effectively fulfill their multifaceted roles and responsibilities. Participants data reveal that the competency of discipline leaders manifests in two primary dimensions: professional proficiency and managerial acumen.

Professional Proficiency: Within teaching and research, discipline leaders are expected to continually refresh their expertise and disseminate this knowledge effectively among their team members. Numerous participants highlighted that engaging in ongoing academic research, participating in training programs, and leading projects have facilitated the enhancement of their professional skills.

Managerial Acumen: Discipline leaders must also possess adept team management capabilities, adept at organizing and coordinating diverse projects, particularly demonstrating strong leadership in team collaboration and task allocation. participants noted that through team mentorship, project management, and organizational coordination, their managerial skills have rapidly developed.

Development Path for New Leaders: Regarding new discipline leaders, some seasoned leaders advise that they should prioritize enhancing their teaching management capabilities and teamwork skills, while also focusing on long-term career planning.

- **Organizational Support**

The presence or absence of organizational support significantly impacts the work performance of discipline leaders. Participants universally acknowledged that institutional backing plays a pivotal role in discipline leaders, particularly in terms of systemic incentives and resource allocation.

Desired Support: Participants expressed increased institutional support in financial backing, talent development mechanisms, and research resources. Many emphasized the need for improved research platforms and project funding, as well as enhanced training investments for leaders.

Impact of Organizational Support: Effective organizational support elevates the job satisfaction of discipline leaders and fortifies their leadership role within the team. For instance, some institutions have bolstered the work performance and disciplinary competitiveness of leaders by providing more training opportunities and research funding.

- **Work Performance**

Work performance serves as a crucial evaluation metric for the role of a discipline leader, encompassing achievements in teaching, research, and management.

Interviewees agreed that discipline leaders must continually innovate and drive projects to enhance their work performance.

Key Factors for Performance Enhancement: Participants identified interdisciplinary collaboration, project management experience, and the translation of teaching outcomes as pivotal factors in improving work performance. Furthermore, the strategic vision of discipline leaders and the collaborative efforts of their teams significantly influence the long-term development of the discipline.

Success Stories: Several participants shared their successful experiences in propelling disciplinary advancement, such as guiding teams in completing significant research projects, promoting curriculum reforms, and engaging in university-industry collaborations, which have effectively elevated their work performance.

Through an analysis of interviews with 9 discipline leaders, the following conclusions can be drawn:

- Self-efficacy is intricately linked to team cohesiveness, with efficient teamwork and leadership significantly bolstering a leader's confidence and self-efficacy.
- The enhancement of competency hinges not only on academic prowess but also on proficient team management and resource allocation abilities, particularly in multitasking roles where discipline leaders require robust comprehensive coordination skills.
- The adequacy of organizational support directly influences the work performance of discipline leaders, necessitating institutions to strengthen resource allocation and incentive mechanisms for discipline leaders, particularly in research funding and career development.
- The assessment of work performance should comprehensively consider multiple dimensions, including teaching outcomes, research progress, and team management while embodying a high degree of strategic vision and practicality.

4.9 Validation Research Model

Table 4.21 summarizes experts' evaluation of the proposed model for discipline leaders' performance improvement. The assessment covered three broad criteria—propriety, feasibility, and utility—each with multiple indicators. Under propriety, experts rated the framework highly in terms of relevance to discipline leaders' performance, clarity of construct definitions, and suitability for the vocational education context. For feasibility, the framework was judged positively regarding its applicability in daily teaching and research, adaptability across different vocational colleges, compatibility with institutional policies and regulations, and the sustainability of resource requirements. Finally, under utility, experts emphasized the framework's strong value for institutional decision-making, its contribution to the professional development of discipline leaders, and its practical role in enhancing leadership, policy implementation, and teaching quality. Overall, the ratings indicated broad expert consensus on the conceptual framework's clarity, practicality, and potential impact, thereby reinforcing its theoretical soundness and applied relevance to vocational education. To ensure the relevance and diversity of the expert evaluation, nine domain experts with experience in vocational education, higher education management, discipline development, and related fields were invited to participate in the validation process. Following the semi-structured interviews, a refreshing report summarizing the key discussion points and reflections was provided to each expert. Based on this

summary, the experts were invited to complete a structured evaluation questionnaire using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

The evaluation items were categorized into three primary dimensions—Propriety, Feasibility, and Utility, each comprising five specific indicators. Experts independently rated each indicator, and the collected data were subsequently analyzed by calculating mean scores and standard deviations. This approach is consistent with established practices in content validity studies (Lynn, 1986; Hyrkäs et al., 2003).

The mean and standard deviation of each item were calculated to supplement the qualitative findings. A high mean combined with a low standard deviation indicates strong consensus among experts, supporting the conceptual model's content validity and structural consistency (Creswell & Plano Clark, 2018).

This two-phase methodology, which combines qualitative data with quantitative scoring, provides a robust validation mechanism. It ensured that the expert feedback was contextually grounded and empirically measurable, enhancing the trustworthiness and rigor of the study's qualitative validation process.

Table 4.21 Expert Evaluation Items

Criteria	Item	5	4	3	2	1	Expert Rating
Propriety	1.Relevance to Discipline Leaders' Performance Concept 1.与专业带头人绩效概念的相关性						
	2. Alignment with the theoretical framework 2. 与理论框架的契合度						
	3. Clarity of construct definition 3. 概念定义的清晰度						
	4. Suitability for vocational education context 4. 适用于职业教育环境						
	5.Clarity of Key Performance Dimensions 5.关键绩效维度界定的清晰度						
Feasibility	1.Implementability in Daily Teaching and Research 1.在日常教学与科研中的易实施性						

Criteria	Item	5	4	3	2	1	Expert Rating
	2. Adaptability across Different Vocational Colleges 2.在不同类型高职院校中的适用性						
	3. Compatibility with Institutional Policies and Regulations 3. 与院校政策和规章制度的兼容性						
	4. Practical Feasibility in Performance Development 4.在促进绩效发展中的实用性						
	5. Sustainability of Resource Requirements 5. 对人力与物力资源需求的可持续性						
Utility	1. Value for Institutional Decision-Making 1. 对院校决策的参考价值						
	2. Contribution to Professional Development of Discipline Leaders 2. 对专业带头人职业发展的促进作用						
	3. Actionability for Improving Leadership and Management 3. 在提升领导与管理中的可操作性						
	4. Ability to Support Policy Implementation in Vocational Education 4. 对职业教育政策落实的支持能力						
	5. Practical Utility in Enhancing Teaching Quality 5. 在提升教学质量中的实际作用						

Table 4.22 presents the aggregated results of the expert evaluation across the three dimensions of propriety, feasibility, and utility. The mean scores of the 15 evaluation items ranged from 4.22 to 4.78, while the standard deviations ranged from 0.42 to 0.50. The overall mean scores for propriety, feasibility, and utility were 4.56, 4.60, and 4.49, respectively. These results indicate that the proposed model was evaluated favorably by the nine experts in terms of its theoretical appropriateness, practical feasibility, and potential utility. The relatively small standard deviations further suggest a consistent pattern of expert judgment across the three evaluation dimensions.

Table 4.22 Experts Evaluation Results

Criteria Category	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Expert 9	Mean Score	SD
Propriety	4	5	4	4	4	4	4	4	5	4.2	0.42
	5	5	5	5	5	4	4	4	4	4.6	0.50
	4	5	4	5	5	5	5	5	5	4.8	0.42
	5	5	5	5	5	5	4	4	4	4.7	0.47
	5	5	5	4	4	4	4	5	5	4.6	0.50
Feasibility	5	4	4	5	5	5	5	5	5	4.8	0.42
	5	5	5	4	4	4	4	5	5	4.6	0.50
	5	5	5	5	5	4	4	5	5	4.8	0.42
	4	4	4	4	4	4	5	5	5	4.4	0.47
	4	4	4	4	5	5	5	5	5	4.6	0.50
Utility	4	5	5	5	5	5	5	4	4	4.7	0.47
	4	4	5	4	5	4	4	4	4	4.2	0.42
	5	5	5	5	5	4	4	4	4	4.6	0.50
	5	4	4	4	5	5	5	4	4	4.4	0.50
	4	4	5	5	5	5	4	4	5	4.6	0.50

At the dimension level, feasibility received the highest overall mean score (M = 4.64), followed by propriety (M = 4.58) and utility (M = 4.50). The overall mean score across the three dimensions was 4.57. Within the propriety dimension, item mean scores ranged from 4.20 to 4.80, indicating favorable expert judgments regarding the model's theoretical relevance and contextual appropriateness. Feasibility item mean scores ranged from 4.40 to 4.80, suggesting that the model was generally regarded as applicable within higher vocational education settings. Utility item mean scores ranged from 4.20 to 4.70, showing that experts recognized the model's practical value for institutional decision-making, professional development, leadership improvement, and teaching quality.

To assess expert consensus regarding the content validity of the evaluation indicators, the interquartile range (IQR) was calculated for each item following the

Delphi technique, which recommends using IQR as a robust non-parametric measure of agreement among expert ratings (Diamond et al., 2014). The IQR, defined as the range between the 75th percentile (Q3) and the 25th percentile (Q1), reflects the dispersion of expert opinions.

$$IQR = Q3 - Q1$$

These results support the content validity of the evaluation model and suggest that the indicators were interpreted consistently across experts. A histogram with a superimposed standard curve was generated using the mean scores from 15 evaluation items rated by 9 domain experts to assess the distributional characteristics of the expert evaluation data. These items span three conceptual dimensions: Propriety, Feasibility, and Utility. The histogram visually represents the standardized residuals associated with these mean scores.

Table 4.23 Expert Consensus Analysis (IQR)

Item	After sorting	Q1	Q3	IQR	Consensus Level
Propriety 1	4, 5, 4, 4, 4, 4, 4, 4, 5	4	5	1	Moderate Consensus
Propriety 2	5, 5, 5, 5, 5, 4, 4, 4, 4.	4	5	1	Moderate Consensus
Propriety 3	4, 5, 4, 5, 5, 5, 5, 5, 5.	4.75	5	0.25	High Consensus
Propriety 4	5, 5, 5, 5, 5, 5, 4, 4, 4.	4	5	1	Moderate Consensus
Propriety 5	5, 5, 5, 4, 4, 4, 4, 5, 5.	4	5	1	Moderate Consensus
Feasibility 1	5, 4, 4, 5, 5, 5, 5, 5, 5.	4.75	5	0.25	High Consensus
Feasibility 2	5, 5, 5, 4, 4, 4, 4, 5, 5.	4	5	1	Moderate Consensus
Feasibility 3	4, 4, 4, 4, 4, 4, 5, 5, 5.	4.75	5	0.25	High Consensus
Feasibility 4	4, 4, 4, 4, 4, 4, 5, 5, 5.	4	5	1	Moderate Consensus
Feasibility 5	4, 4, 4, 4, 5, 5, 5, 5, 5.	4	5	1	Moderate Consensus
Utility 1	4, 5, 5, 5, 5, 5, 5, 4, 4.	4	5	1	Moderate Consensus
Utility 2	4, 4, 5, 4, 5, 4, 4, 4, 4.	4	5	1	Moderate Consensus
Utility 3	5, 5, 5, 5, 5, 4, 4, 4, 4.	4	5	1	Moderate Consensus
Utility 4	5, 4, 4, 4, 5, 5, 5, 4, 4.	4	5	1	Moderate Consensus
Utility 5	4, 4, 5, 5, 5, 5, 4, 4, 5.	4	5	1	Moderate Consensus

Note: IQR (Interquartile Range) = Q3 − Q1, where Q1 and Q3 represent the 25th and 75th percentiles of expert ratings, respectively. Items with IQR ≤ 1 indicate acceptable consensus; IQR < 0.5 indicates high consensus (von der Gracht, 2012)

Table 4.23 presents the results of the expert consensus analysis using the Delphi technique, in which the interquartile range (IQR) was employed as a non-parametric measure of agreement (Diamond et al., 2014; von der Gracht, 2012). As shown, the majority of items exhibited an IQR of 1.0, indicating a moderate level of consensus among the panel of experts. Notably, *Propriety 3* achieved an IQR of 0.25, which falls below the threshold of 0.5 and thus reflects a high level of consensus. According to Delphi guidelines, IQR values ≤ 1.0 suggest acceptable agreement, while values < 0.5 indicate strong consensus. These findings demonstrate that the experts generally agreed on the evaluation criteria, with certain items reaching particularly strong alignment.

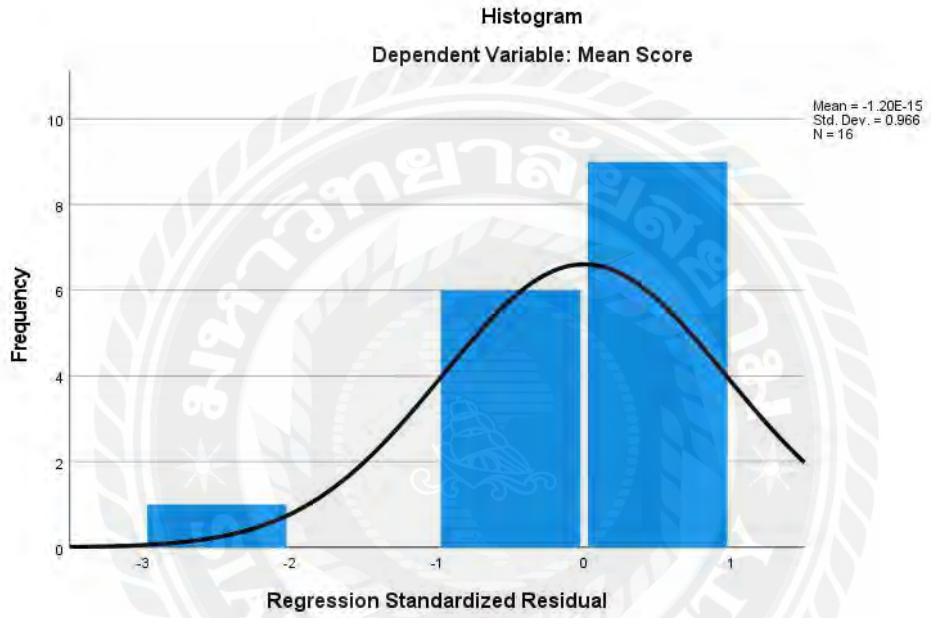


Figure 4.5 Normality Assessment of Expert Mean Scores

The histogram of standardized residuals was examined to assess the normality assumption of the regression model. As shown in Figure X, the distribution of residuals approximates a bell-shaped curve, with most values clustering between –1 and +1. The mean of the standardized residuals was close to zero (–1.20E–15), and the standard deviation was approximately 0.97, which is consistent with the theoretical expectations of a standardized normal distribution. Only one residual fell below –3, indicating the absence of substantial outliers.

The overlaid normal curve corresponded closely with the observed frequencies, suggesting that the residuals can be regarded as approximately normally distributed. These results provide support for the validity of the regression model under the assumption of normality (Field, 2018; Hair et al., 2019)

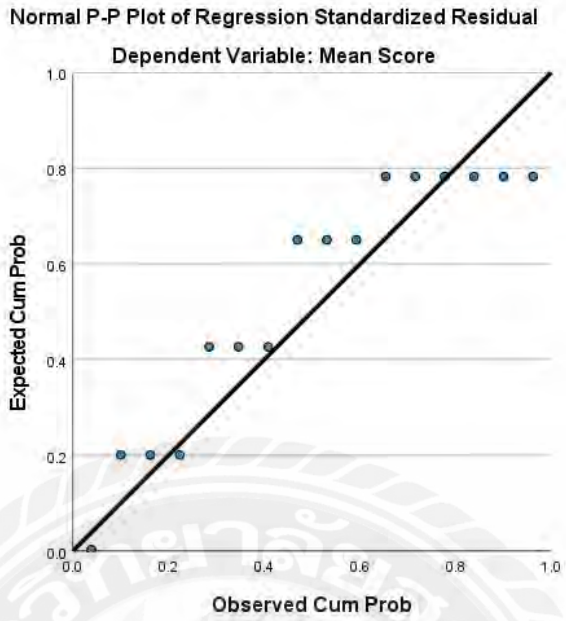


Figure 4.6 Normal P–P Plot of Expert Evaluation Mean Scores

The normal P–P plot of standardized residuals was employed to further examine the assumption of normality in the regression model. As shown in Figure X, the data points generally fall along the diagonal reference line, indicating a close alignment between the observed cumulative probabilities of the residuals and the expected values under a normal distribution. Minor deviations can be observed at higher cumulative probability levels, but these discrepancies are relatively small and do not suggest systematic departures from normality. Overall, the pattern supports the conclusion that the residuals are approximately normally distributed, thereby satisfying one of the key assumptions underlying linear regression analysis (Field, 2018; Hair et al., 2019).

Validation Results

The expert validation results indicated that the proposed model was favorably evaluated across the three dimensions of propriety, feasibility, and utility. Feasibility received the highest mean score (M = 4.64), followed by propriety (M = 4.58) and utility (M = 4.50). These results indicate that the model was considered theoretically appropriate, feasible for application, and practically useful in higher vocational education settings.

CHAPTER 5

RESEARCH DISCUSSION, CONCLUSION, AND RECOMMENDATION

5.1 Discussion

This study had the following objectives: (1) To examine the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province; (2) To examine the mediating roles of self-efficacy and team cohesiveness and the moderating role of team feedback in the performance improvement process of discipline leaders; and (3) To develop and validate a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings.

5.1.1 Research Questions

(1) What are the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province?

The findings of this study indicate that job characteristics, competency, and organizational support all have significant positive effects on self-efficacy, team cohesiveness, and discipline leaders' work performance. Among these antecedent variables, job characteristics reflect the structural conditions of discipline leaders' work. Skill variety, task identity, task significance, autonomy, and feedback provide discipline leaders with clearer task meaning, stronger responsibility, and more direct information about work outcomes. This finding is consistent with the Job Characteristics Model, which explains how enriched work design can enhance motivation and performance through meaningfulness, responsibility, and knowledge of results (Hackman & Oldham, 1976). It is also supported by later work design research showing that job characteristics are closely related to motivation, satisfaction, and performance outcomes (Humphrey et al., 2007; Oldham & Fried, 2016).

Competency was also found to be an important factor influencing discipline leaders' performance and psychological outcomes. Discipline leaders with stronger professional knowledge, teaching ability, research capacity, and coordination skills are better able to complete complex academic and administrative tasks. Their competency also helps them guide team members, coordinate curriculum reform, and respond to the changing requirements of professional cluster construction. From the perspective of competency theory, individual knowledge, skills, motives, and behavioral capabilities provide an important basis for superior performance (McClelland, 1973; Boyatzis, 1982; Spencer & Spencer, 1993).

Organizational support also showed a significant positive influence on self-efficacy, team cohesiveness, and work performance. When higher vocational colleges provide sufficient resources, recognition, professional development opportunities, fair evaluation, and administrative coordination, discipline leaders are more likely to

identify with institutional goals and invest greater effort in their work. This result is consistent with perceived organizational support theory, which argues that employees who perceive organizational care and recognition are more likely to reciprocate through stronger commitment and better performance (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002).

Taken together, the findings suggest that discipline leaders' work performance is shaped by the combined effects of work design, individual competency, and institutional support. These factors not only influence performance directly, but also operate through self-efficacy and team cohesiveness. In other words, discipline leaders perform better when their work is meaningfully designed, when they possess the necessary professional and managerial competencies, and when their institutions provide adequate support for their development and team collaboration.

(2) What roles do self-efficacy, team cohesiveness, and team feedback play in the performance improvement model of discipline leaders in higher vocational colleges in Shandong Province?

Findings from this study highlight that self-efficacy functions as a critical psychological mechanism linking competency, job characteristics, and organizational support to discipline leaders' work performance. In line with Bandura's (1986) Social Cognitive Theory, discipline leaders with higher competency and stronger institutional support displayed enhanced confidence in their ability to accomplish challenging tasks. This increased self-belief not only improved their efficiency in daily responsibilities but also strengthened their resilience when facing institutional challenges. Consistent with earlier research, the study confirms that higher self-efficacy fosters stronger commitment, facilitates problem-solving, and directly contributes to improved performance outcomes.

At the collective level, team cohesiveness emerged as a decisive mediator in the performance improvement process. When discipline leaders collaborated in cohesive teams characterized by mutual trust, shared goals, and balanced or complementary competencies, performance improved significantly. Cohesiveness enabled smoother communication, reduced intra-group conflict, and fostered shared responsibility for outcomes, which ultimately translated into higher performance levels. These findings resonate with prior research, which emphasized the importance of both balanced and complementary competencies in enhancing team unity and effectiveness. In vocational colleges, cohesive leadership teams were able to mobilize collective expertise, align departmental strategies, and build a stronger sense of organizational identity, thereby advancing institutional goals.

Finally, team feedback played a vital moderating role in shaping the relationship between self-efficacy, team cohesiveness, and work performance. Constructive feedback provided within teams amplified the positive effects of both self-efficacy and cohesiveness by reinforcing clarity of expectations, promoting reflective learning, and sustaining motivation. When discipline leaders received regular and constructive feedback, their confidence in handling tasks was strengthened, and the collaborative spirit within teams was maintained. Conversely, limited or negative feedback weakened these positive dynamics, reducing both individual commitment and team synergy. This aligns with the broader organizational behavior literature, which recognizes feedback

as a key contextual factor that shapes how psychological and collective variables translate into performance improvements.

In summary, the evidence suggests that self-efficacy and team cohesiveness act as core mediating variables through which job characteristics, competency, and organizational support exert their influence on performance. Meanwhile, team feedback functions as a catalyst, amplifying or constraining the effects of these mediators. Together, these findings provide a comprehensive understanding of the mechanisms underlying the performance improvement model for discipline leaders in higher vocational colleges.

(3) What performance improvement model can be developed and validated for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings?

Based on the quantitative and qualitative findings, the performance improvement model for discipline leaders in higher vocational colleges in Shandong Province emphasizes the combined effects of job characteristics, competency, and organizational support on work performance. The findings suggest that these factors not only contribute directly to work performance but also influence performance through self-efficacy and team cohesiveness. The qualitative findings further highlight the importance of organizational resources, emotional and psychological support, career development, training, and team collaboration in supporting performance improvement. Therefore, the proposed model provides an integrated framework linking work-related, individual, and organizational factors to the improvement of discipline leaders' work performance.

In summary, the practical guidance for managers is threefold: (1) provide sufficient material and technical resources to enable efficient task performance, (2) offer emotional and psychological support to sustain confidence and engagement, and (3) create structured career development pathways and cohesive team environments that reinforce self-efficacy and collaboration. By embedding organizational support into daily management practices, higher vocational colleges can significantly improve the work performance of discipline leaders, ensuring sustainable leadership capacity for institutional development.

5.1.2 Discussion on Variable: Job Characteristics

Although Job Characteristics did not exhibit the strongest direct path coefficient in the SEM model ($\beta = 0.198$), it remains theoretically and empirically significant, grounded in Hackman and Oldham's Job Characteristics Model (1976). The findings support Hypotheses H1, H2, and H3, confirming that job characteristics have positive effects on self-efficacy, discipline leaders' work performance, and team cohesiveness.

From the descriptive statistics (Table 4.2), the overall mean score for Job Characteristics was 3.579 (SD = 0.915), indicating that discipline leaders generally perceived their work as moderately enriched but with room for improvement. Among the items, JC1 ("The job requires the use of diverse skills and abilities") and JC5 ("The outcomes of my work impact others' well-being") recorded higher mean values, reflecting that skill variety and task significance were well recognized by participants. By contrast, JC2 ("The job is relatively simple and repetitive") scored relatively lower

after reverse coding, suggesting that some leaders perceived elements of repetitiveness in their work.

This variability highlights the dual nature of job characteristics in higher vocational colleges. On the one hand, enriched tasks and autonomy foster self-efficacy by enhancing confidence in handling complex responsibilities, consistent with previous research. On the other hand, lack of feedback mechanisms or role clarity may reduce leaders' perception of meaningfulness and diminish the motivational impact of their roles. The mediating analysis (Table 4.10) further showed that self-efficacy and team cohesiveness accounted for 21.9% and 24.6% of the indirect effects, respectively, indicating that job characteristics influence performance both directly and through these psychological and social pathways.

5.1.3 Discussion on Variable: Competency

Although Competency showed a relatively smaller direct path coefficient toward discipline leaders' work performance in the SEM model ($\beta = 0.146$), it remains theoretically meaningful, rooted in the Competency Iceberg Model (Spencer & Spencer, 1993). The findings support Hypotheses H4, H5, and H6, confirming that competency exerts both direct and indirect effects on self-efficacy, team cohesiveness, and performance

From the descriptive statistics (Table 4.2), the overall mean score for Competency was 3.604 (SD = 0.903), suggesting that discipline leaders in higher vocational colleges generally rated themselves as moderately competent. Among the items, Com3 ("I am interested in my discipline and seizing development opportunities") and Com10 ("I am a lifelong learner and allocate my time and energy effectively") recorded relatively higher means, reflecting leaders' recognition of continuous learning and professional engagement. Conversely, Com6 ("I can manage classroom dynamics and understand the characteristics of students") and Com9 ("I am skilled at reflecting on problems and improving my work") received comparatively lower scores, implying challenges in classroom management and reflective practice

The mediating analysis (Table 4.11) showed that competency influenced work performance not only directly ($\beta = 0.146$) but also indirectly through self-efficacy (25.5%) and team cohesiveness (26.2%), underscoring the psychological and social mechanisms through which competency translates into outcomes. These results align with Bandura's (1986) Social Cognitive Theory, where higher levels of skill and knowledge strengthen self-efficacy, which in turn boosts persistence and task performance.

In addition to the competencies measured in the present study, the findings should also be interpreted in relation to the changing competency requirements of vocational education. Digital competency has become increasingly important because discipline leaders are expected to integrate digital technologies, intelligent teaching platforms, data-informed decision-making, and artificial intelligence into curriculum development and teaching management. Industrial competency is equally important, as discipline leaders are required to understand industry standards, technological processes, occupational changes, and enterprise needs in order to promote industry–education integration and school–enterprise cooperation. Although digital competency and industrial competency were not independently tested as latent variables in the present

model, they represent important practical extensions of the competency construct and should be emphasized in future professional development programs.

5.1.4 Discussion on Variable: Organizational Support

Although Organizational Support's direct path coefficient toward discipline leaders' work performance (β = 0.197) was not the strongest among the predictors, it remains theoretically and practically significant, grounded in Perceived Organizational Support (POS) theory (Eisenberger et al., 1986). The findings support Hypotheses H7, H8, and H9, confirming that organizational support positively influences self-efficacy, team cohesiveness, and discipline leaders' work performance

From the descriptive statistics (Table 4.2), the overall mean score for Organizational Support was 3.624 (SD = 0.866), showing that discipline leaders perceived a moderate-to-high level of institutional backing. Items such as OS1 ("The organization values my contributions to teaching") and OS10 ("The organization supports me with a platform for teaching development") recorded higher mean values, reflecting recognition and developmental opportunities as key strengths. In contrast, OS6 ("The organization provides me with the funding necessary for teaching") and OS9 ("The organization provides me with a good teaching environment") were rated comparatively lower, suggesting gaps in financial and infrastructural support.

The mediation results in Table 4.12 further show that organizational support not only had a direct positive effect on work performance (β = 0.197), but also influenced performance indirectly through self-efficacy (22.2%) and team cohesiveness (23.8%). This finding suggests that institutional support does not work only as an external condition. More importantly, it helps discipline leaders build confidence in their professional roles and creates a more stable basis for team cooperation. When colleges provide recognition, development platforms, necessary resources, and fair coordination mechanisms, discipline leaders are more likely to feel supported in carrying out teaching reform, curriculum development, research coordination, and team management. This interpretation is consistent with perceived organizational support theory, which emphasizes that employees who perceive organizational care and recognition are more likely to develop stronger commitment and reciprocate through improved work attitudes and performance (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002).

5.1.5 Discussion on Variable: Self-Efficacy

Self-efficacy emerged as a crucial mediating variable in the SEM model, showing a significant positive path toward discipline leaders' work performance (β = 0.275). The findings support Hypotheses H10, H12, H13, and H14, confirming that self-efficacy mediates the relationships between job characteristics, competency, organizational support, and work performance.

From the descriptive statistics (Table 4.2), self-efficacy had the highest mean value among all variables (M = 3.808, SD = 0.768), suggesting that discipline leaders generally hold strong confidence in their ability to influence students, complete tasks, and contribute to institutional goals. Items such as SE4 ("Teachers play a significant role in influencing students' academic achievement") and SE6 ("Teachers impart

professional knowledge to cultivate students' character and spirit") were particularly highly rated, indicating a strong belief in their educational and social roles.

Bootstrap mediation tests (Tables 4.10–4.12) showed that self-efficacy explained 21.9% of the indirect effect of job characteristics, 25.5% of the indirect effect of competency, and 22.2% of the indirect effect of organizational support on work performance. These results suggest that self-efficacy is not only a psychological outcome of favorable work conditions, professional competency, and institutional support, but also a pathway through which these factors are translated into performance.

This finding is consistent with social cognitive theory, which emphasizes that individuals' beliefs in their own capabilities influence their effort, persistence, and responses to difficult tasks (Bandura, 1986, 1997). For discipline leaders, stronger self-efficacy means greater confidence in dealing with curriculum reform, team coordination, research tasks, and professional cluster development. It helps explain why discipline leaders who perceive better job design, stronger competency, and stronger organizational support are more likely to show higher work performance.

5.1.6 Discussion on Variable: Team Cohesiveness

Team cohesiveness demonstrated a strong direct path to discipline leaders' work performance ($\beta = 0.296$), supporting Hypotheses H11, H15, H16, and H17. The SEM analysis confirmed that cohesiveness is not only a direct predictor of performance but also a mediator that links job characteristics, competency, and organizational support to performance outcomes.

From the descriptive statistics (Table 4.2), team cohesiveness had a relatively high mean ($M = 3.730$, $SD = 0.818$), suggesting that most discipline leaders experienced their teams as collaborative and united. Items such as TC1 ("Our team can unite and accomplish our work goals") and TC3 ("When a member of the team encounters difficulties, others will go to help him") scored higher, reflecting strong mutual trust and collective goal orientation.

Bootstrap mediation results showed that team cohesiveness accounted for 24.6% of the indirect effect of job characteristics, 26.2% of the indirect effect of competency, and 23.8% of the indirect effect of organizational support on work performance. These results indicate that team cohesiveness is an important social mechanism in the performance improvement process. It helps connect individual and organizational conditions with actual performance outcomes.

This finding is consistent with team cohesion research, which suggests that cohesive teams are more likely to develop shared goals, mutual trust, cooperation, and sustained collective effort (Carron et al., 1985; Mullen & Copper, 1994). In the context of higher vocational colleges, discipline leaders often need to coordinate teaching teams, curriculum reform, research projects, and school–enterprise cooperation. When team members trust one another and work toward common goals, discipline leaders are better able to mobilize collective resources and improve task, contextual, and adaptive performance.

5.1.7 Discussion on Variable: Team Feedback

Team feedback acted as a significant moderator in the SEM model, amplifying the positive effects of both self-efficacy and team cohesiveness on work performance. The

findings support Hypothesis 18a and Hypothesis 18b, confirming that feedback moderates the relationships between mediating variables and discipline leaders' performance.

The moderation analysis showed that team feedback frequency strengthened the effects of both self-efficacy and team cohesiveness on work performance. Under frequent-feedback conditions, the effect of self-efficacy on work performance was 0.747, compared with 0.341 under seldom-feedback conditions. Similarly, the effect of team cohesiveness on work performance reached 0.779 when feedback was frequent, whereas it was 0.308 when feedback was seldom provided. These results confirm that frequent feedback amplifies the extent to which psychological confidence and team cohesion are translated into work performance.

5.1.8 Discussion on Variable: Discipline Leaders' Work Performance (DV)

Discipline leaders' work performance was the ultimate dependent variable in this study, shaped by all independent and mediating variables. The SEM model demonstrated that job characteristics ($\beta = 0.198$), competency ($\beta = 0.146$), organizational support ($\beta = 0.197$), self-efficacy ($\beta = 0.275$), and team cohesiveness ($\beta = 0.296$) all had significant positive effects on performance, with an overall explanatory power of 67.8% ($R^2 = 0.678$). The findings support Hypotheses H2, H5, H8, H10, and H11, confirming that job characteristics, competency, organizational support, self-efficacy, and team cohesiveness positively predict discipline leaders' work performance.

From the descriptive statistics (Table 4.2), discipline leaders' overall performance mean was 3.645 (SD = 0.777), with task performance, contextual performance, and adaptive performance all rated above 3.5, reflecting a generally positive evaluation of their roles. Task-related items such as DLWP4 ("I can complete the teaching tasks as required") and DLWP5 ("I remain responsible in my work when unsupervised") were rated highly, showing strong reliability in core responsibilities. Meanwhile, adaptive performance items such as DLWP12 ("I am open to accepting different values and cultures") reflected the flexibility needed in today's educational environment.

These findings confirm that discipline leaders' performance is multidimensional, encompassing task performance, contextual performance, and adaptive performance. They resonate with Borman and Motowidlo's (1993) performance framework, which distinguishes between core task execution, contextual contributions to teamwork, and adaptability to change.

5.1.9 Alignment with Theory and Practice

The findings of this study demonstrate a strong alignment with both theoretical frameworks and practical applications in vocational education research. From a theoretical perspective, the results empirically validate several established models. First, the Job Characteristics Model (Hackman & Oldham, 1976) was supported, as task identity (JC3), task significance (JC5), autonomy (JC7, JC8), and feedback (JC9, JC10) significantly contributed to self-efficacy, team cohesiveness, and work performance. The SEM results showed that job characteristics had significant positive effects on self-efficacy ($\beta = 0.296$), team cohesiveness ($\beta = 0.305$), and work performance ($\beta = 0.198$), thereby supporting Hypotheses H1, H2, and H3. These findings extend prior studies

(e.g., Tisu et al., 2020; Peiró et al., 2020) by confirming that enriched task design remains a powerful driver of motivation and performance among discipline leaders in higher vocational colleges.

Second, the results reinforce Social Cognitive Theory (Bandura, 1986). Competency (Com2, Com3, Com10) exhibited significant direct effects on self-efficacy ($\beta = 0.280$), team cohesiveness ($\beta = 0.266$), and work performance ($\beta = 0.146$), supporting Hypotheses H4, H5, and H6. Moreover, self-efficacy served as a significant mediator of the relationships between job characteristics, competency, and organizational support on performance, as indicated by the bootstrap mediation tests (H12, H13, H14). This demonstrates that leaders' confidence in their abilities is a critical psychological mechanism through which knowledge, skills, and organizational conditions translate into improved performance outcomes.

Third, the study validates Perceived Organizational Support Theory (Eisenberger et al., 1986). Organizational support (OS1, OS4, OS10) positively predicted self-efficacy ($\beta = 0.294$), team cohesiveness ($\beta = 0.294$), and work performance ($\beta = 0.197$), supporting Hypotheses H7, H8, and H9. Importantly, lower scores on OS6 ("The organization provides me with the funding necessary for teaching") highlighted a gap in material and financial support, pointing to a practical area for managerial improvement.

Fourth, the moderating role of Team Feedback is consistent with organizational learning theory (Argyris & Schön, 1996). The moderation analysis revealed that when team feedback was frequent, the relationship between self-efficacy and work performance ($\beta = 0.747$) and between team cohesiveness and work performance ($\beta = 0.779$) were significantly stronger than under conditions of low feedback ($\beta = 0.341$ and $\beta = 0.308$, respectively). These findings support Hypotheses H18a and H18b, confirming that team feedback amplifies the performance-enhancing effects of both psychological and social mechanisms.

Finally, the results align with Borman and Motowidlo's (1993) performance framework, which emphasizes task, contextual, and adaptive performance. Discipline leaders in this study rated themselves relatively high on core teaching tasks (DLWP4, DLWP5), contextual contributions (DLWP7, DLWP9), and adaptive behaviors (DLWP12). The SEM analysis confirmed that self-efficacy ($\beta = 0.275$) and team cohesiveness ($\beta = 0.296$) were the strongest predictors of performance, supporting Hypotheses H10 and H11.

From a practical perspective, these findings provide actionable implications for managers and policymakers in higher vocational education. Enriching job design (emphasizing task identity, task significance, and feedback), strengthening competencies (particularly reflective and interpersonal skills), ensuring consistent organizational support (especially material and financial), and embedding systematic feedback mechanisms are essential strategies to improve discipline leaders' work performance.

5.2 Conclusion

This study examined the factors and mechanisms influencing the work performance of discipline leaders in higher vocational colleges in Shandong Province

and developed a performance improvement model based on the integration of quantitative and qualitative findings. The conclusions are presented in accordance with the three research objectives.

5.2.1 Conclusion on Research Objective 1

Research Objective 1 aimed to examine the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province.

The results confirmed that job characteristics, competency, and organizational support significantly and positively influenced both self-efficacy and team cohesiveness. Job characteristics had significant positive effects on self-efficacy ($\beta = 0.296$) and team cohesiveness ($\beta = 0.305$). Competency also positively affected self-efficacy ($\beta = 0.280$) and team cohesiveness ($\beta = 0.266$), while organizational support exerted significant positive effects on self-efficacy ($\beta = 0.294$) and team cohesiveness ($\beta = 0.294$). These findings indicate that enriched work design, stronger professional competency, and adequate institutional support can enhance discipline leaders' confidence in performing their duties and strengthen collaboration within professional teams.

The results further demonstrated that job characteristics, competency, and organizational support directly contributed to discipline leaders' work performance. The standardized direct effects of job characteristics, competency, and organizational support on work performance were 0.198, 0.146, and 0.197, respectively. Self-efficacy ($\beta = 0.275$) and team cohesiveness ($\beta = 0.296$) also had significant positive effects on work performance. Among the examined variables, team cohesiveness produced the strongest direct effect on work performance, followed by self-efficacy.

Collectively, job characteristics, competency, organizational support, self-efficacy, and team cohesiveness explained 67.8% of the variance in discipline leaders' work performance. This relatively high explanatory power demonstrates that performance improvement is not determined by a single individual or organizational factor. Instead, it results from the combined influence of job design, professional capability, institutional support, psychological confidence, and team collaboration.

Therefore, Research Objective 1 was achieved. The findings establish that job characteristics, competency, and organizational support function as important antecedents of self-efficacy, team cohesiveness, and work performance, while self-efficacy and team cohesiveness represent immediate mechanisms through which discipline leaders achieve higher performance.

5.2.2 Conclusion on Research Objective 2

Research Objective 2 aimed to examine the roles of self-efficacy, team cohesiveness, and team feedback in the performance improvement model of discipline leaders.

The bootstrapping results confirmed that self-efficacy and team cohesiveness significantly mediated the relationships between job characteristics, competency, organizational support, and discipline leaders' work performance. Job characteristics generated significant indirect effects on work performance through self-efficacy ($\beta =$

0.081) and team cohesiveness (β = 0.091). Competency also affected work performance indirectly through self-efficacy (β = 0.077) and team cohesiveness (β = 0.079). Similarly, organizational support produced significant indirect effects through self-efficacy (β = 0.081) and team cohesiveness (β = 0.087). The confidence intervals of all indirect effects excluded zero, confirming their statistical significance.

Because the direct effects of job characteristics, competency, and organizational support remained significant after the mediating variables were introduced, self-efficacy and team cohesiveness performed partial mediating roles. This means that favorable job characteristics, stronger competency, and organizational support improve performance not only directly but also indirectly by strengthening discipline leaders' confidence and enhancing cooperation, trust, and coordination within their teams.

The moderation analysis further confirmed that team feedback frequency significantly strengthened the effects of self-efficacy and team cohesiveness on work performance. The interaction between self-efficacy and team feedback frequency was significant (β = 0.411), indicating that the positive effect of self-efficacy on work performance became stronger when team feedback was frequent. Under frequent feedback conditions, the effect of self-efficacy on work performance was 0.747, compared with 0.341 under seldom-feedback conditions.

Similarly, the interaction between team cohesiveness and team feedback frequency was significant (β = 0.447). When feedback was frequent, the effect of team cohesiveness on work performance reached 0.779, whereas the effect was 0.308 when feedback was seldom provided. These results demonstrate that team feedback operates as an amplifying mechanism. Frequent, timely, and constructive feedback helps discipline leaders convert psychological confidence and team unity into more effective teaching, research, coordination, and management performance.

Therefore, Research Objective 2 was achieved. Self-efficacy and team cohesiveness serve as key mediating mechanisms connecting individual and organizational conditions with work performance, while team feedback strengthens the extent to which these psychological and team mechanisms are transformed into actual performance outcomes.

5.2.3 Conclusion on Research Objective 3

Research Objective 3 aimed to develop and validate a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings.

The final model was developed through the integration of structural equation modeling, bootstrapping analysis, moderation analysis, qualitative interviews, and expert evaluation. The model consists of four interconnected components. First, job characteristics, competency, and organizational support constitute the foundational antecedents of performance improvement. These factors create the structural, professional, and institutional conditions required for discipline leaders to perform their responsibilities effectively.

Second, self-efficacy and team cohesiveness constitute the core psychological and team mechanisms of the model. Self-efficacy reflects discipline leaders' confidence in completing complex teaching, research, management, and professional development

tasks. Team cohesiveness reflects the degree of cooperation, trust, shared commitment, and coordination within professional teams. These two mechanisms explain how job-related and organizational resources are translated into improved performance.

Third, team feedback functions as an amplifying mechanism within the model. Frequent and constructive feedback strengthens the relationships between self-efficacy and work performance and between team cohesiveness and work performance. Team feedback therefore does not operate independently from the other variables; rather, it enhances the effectiveness of psychological confidence and team collaboration in producing higher levels of performance.

Fourth, discipline leaders' work performance represents the principal outcome of the model and comprises task performance, contextual performance, and adaptive performance. Task performance reflects the fulfillment of core teaching, research, curriculum development, and professional management responsibilities. Contextual performance reflects contributions to teamwork, organizational cooperation, and institutional development. Adaptive performance reflects the capacity to respond to policy changes, technological development, emerging educational requirements, and changing industry needs.

The qualitative findings supported the relationships identified through the quantitative analysis. Interview participants emphasized the importance of professional competency, institutional resource support, team cooperation, leadership confidence, and regular feedback in improving discipline leaders' performance. These findings enriched the statistical results by demonstrating how the proposed mechanisms operate in actual vocational education contexts.

The model was subsequently evaluated by experts according to the dimensions of propriety, feasibility, and utility. The experts confirmed that the model was consistent with the theoretical framework, appropriate for the vocational education context, feasible for implementation in higher vocational colleges, and useful for institutional decision-making and the professional development of discipline leaders. The expert evaluation therefore provided additional support for the clarity, applicability, and practical value of the model.

Consequently, Research Objective 3 was achieved. The developed model presents a systematic performance improvement pathway in which job characteristics, competency, and organizational support provide the foundational conditions; self-efficacy and team cohesiveness operate as mediating mechanisms; team feedback amplifies the effects of these mechanisms; and task, contextual, and adaptive performance constitute the principal outcomes. The model provides an empirically grounded framework for improving the selection, development, evaluation, support, and management of discipline leaders in higher vocational colleges.

5.3 Recommendation

5.3.1 Theoretical Implications

This study makes several important theoretical contributions by integrating and extending three foundational theories—the Job Characteristics Model (JCM), Perceived Organizational Support Theory (POS), and Social Cognitive Theory (SCT)—to explain discipline leaders' work performance in Chinese higher vocational colleges.

First, this research extends the Job Characteristics Model (Hackman & Oldham, 1976; Humphrey et al., 2007) by demonstrating that not only job characteristics, but also competency and organizational support, jointly predict work performance. By embedding competency and organizational support within the JCM framework, this study provides a more contextually rich understanding of how job design functions in educational organizations—particularly in the complex, multi-role context of discipline leaders in vocational colleges. The SEM findings confirmed that job characteristics significantly influence self-efficacy, team cohesiveness, and performance, thereby broadening the theoretical scope of JCM beyond traditional workplace settings.

Second, the study deepens Perceived Organizational Support Theory (Eisenberger et al., 1986; Kurtessis et al., 2017) by empirically demonstrating that organizational support not only directly improves work performance but also indirectly enhances performance through the mechanisms of self-efficacy and team cohesiveness. This supports the central POS proposition that employees who perceive greater institutional support develop stronger psychological motivation and team-oriented behaviors, ultimately leading to improved effectiveness. The results also highlight the importance of support systems in academic environments, an area insufficiently addressed in prior POS research.

Third, the study extends Social Cognitive Theory (Bandura, 1986, 1997) by validating the mediating role of self-efficacy and team cohesiveness and showing how these psychological and team-level processes link contextual factors (job characteristics, competency, organizational support) to performance outcomes. Moreover, the moderating effect of team feedback provides empirical support for SCT's emphasis on reciprocal determinism, confirming that feedback-rich environments strengthen the translation of psychological states into effective performance.

Finally, by combining individual-level (competency, self-efficacy), team-level (cohesiveness, feedback), and organizational-level (job characteristics, support) constructs into a single validated model, this study proposes a holistic performance improvement framework. This integrative model contributes to broader fields such as organizational behavior, educational leadership, and human resource development by demonstrating how multi-level factors collectively shape leadership performance in complex educational systems.

Together, these findings not only enrich theoretical discourse on vocational education leadership but also position the proposed model as a scalable framework applicable to diverse organizational contexts.

5.3.2 Performance Improvement Model of Discipline Leaders

The proposed model illustrates a comprehensive performance improvement framework for discipline leaders in higher vocational colleges (Figure 5.1). It integrates individual, team-based, and organizational factors, offering a multi-layered explanation of how work performance is shaped and enhanced. The structure of the model aligns closely with three theoretical pillars—Job Characteristics Model (JCM), Perceived Organizational Support Theory (POS), and Social Cognitive Theory (SCT)—and reflects the complex, multi-role responsibilities of discipline leaders in China's vocational education context.

At the core of the model, Job Characteristics, Competency, and Organizational Support serve as the independent variables. These constructs capture the essential conditions that influence discipline leaders' professional functioning. Job Characteristics represent the design and structure of their work, encompassing task identity, significance, autonomy, and feedback. Competency reflects the multi-dimensional abilities required for curriculum development, teaching innovation, industry collaboration, research engagement, and team leadership. Organizational Support highlights institutional provisions such as resources, recognition, developmental opportunities, and supportive culture. Together, these variables describe the foundational environment that enables or constrains discipline leaders' performance.

The model identifies Self-Efficacy and Team Cohesiveness as critical mediating variables, grounded in Social Cognitive Theory and team dynamics literature. Self-efficacy reflects discipline leaders' confidence in managing complex educational tasks, leading professional clusters, and responding to challenges in teaching and management. Team cohesiveness captures the unity, collaboration, and shared responsibility within teaching and professional teams. The mediating role of these variables indicates that structural and organizational factors influence performance not only directly but also indirectly through psychological and relational mechanisms.

The dependent variable, Work Performance, is conceptualized through three dimensions:

Task Performance, reflecting achievements in teaching, curriculum development, research outputs, and project implementation;

Contextual Performance, representing cooperation, organizational citizenship, and contributions to institutional development;

Adaptive Performance, indicating flexibility, responsiveness to policy and technological changes, and effectiveness in leading educational innovation.

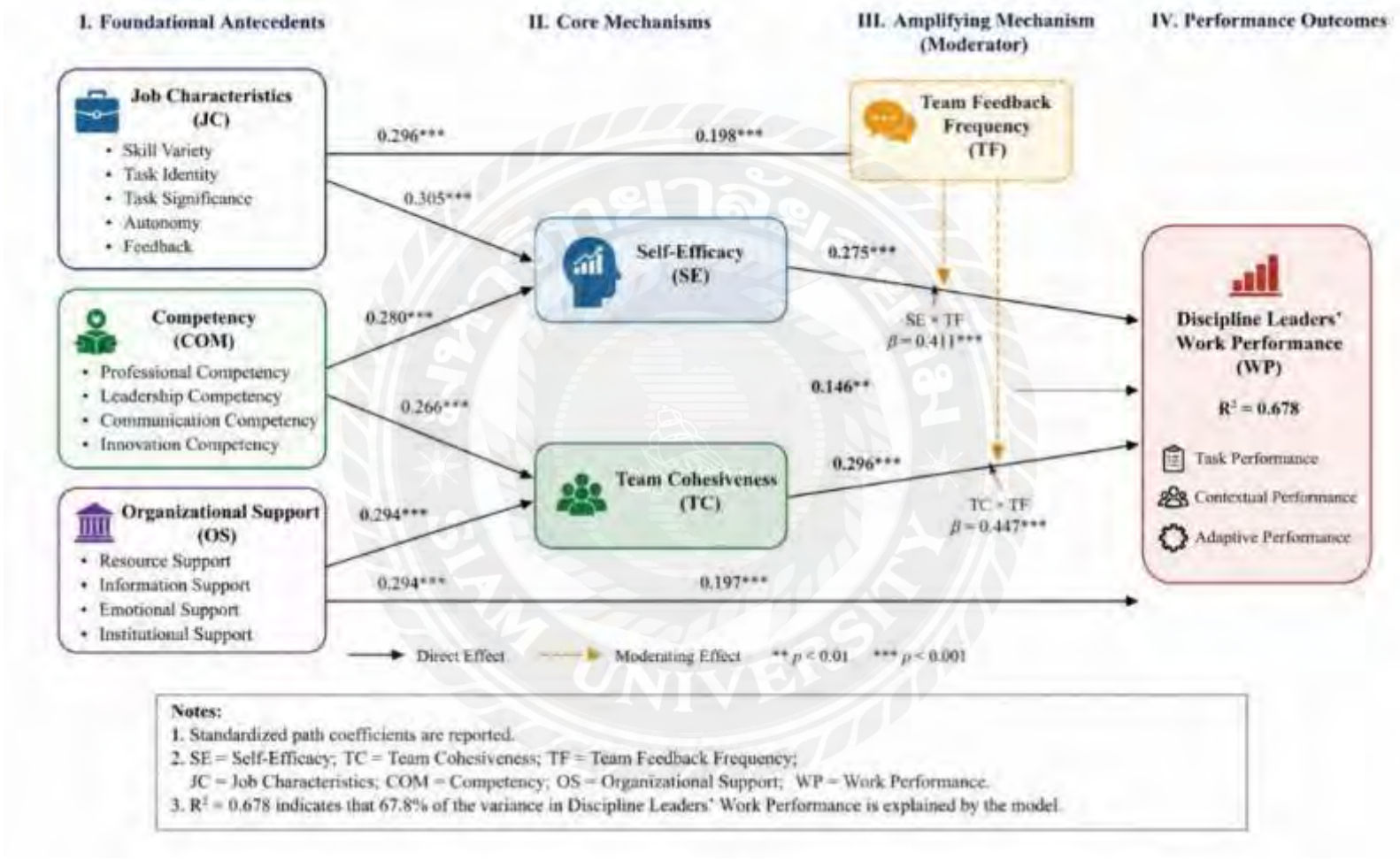


Figure 5.1 Empirically Validated Performance Improvement Model of Discipline Leaders

Figure 5.1 presents the empirically validated performance improvement model developed from the quantitative and qualitative findings. Job characteristics, competency, and organizational support constitute the foundational antecedents of performance improvement. These factors influence work performance directly and indirectly through self-efficacy and team cohesiveness. Team feedback operates as an amplifying mechanism by strengthening the effects of self-efficacy and team cohesiveness on work performance. Discipline leaders' work performance is reflected in task, contextual, and adaptive performance.

Overall, the model demonstrates a coherent mechanism linking institutional conditions, individual capacities, team processes, and performance outcomes. It provides both an explanatory framework and a practical guide for improving discipline leaders' performance in vocational colleges.

5.3.3 Multi-Pathway Model of Team Feedback Driving Discipline Leaders' Performance

Building upon the proposed Performance Improvement Model of Discipline Leaders, the following framework further illustrates how team feedback functions as a multi-dimensional intervention mechanism (Figure 5.2). Instead of serving merely as an auxiliary communication tool, team feedback operates as a systematic driver that links individual, team, and organizational improvement processes. Figure X presents five interconnected dimensions through which team feedback enhances discipline leaders' work performance.



Figure 5.2 Multi-Pathway Model of Team Feedback Driving Discipline Leaders' Performance

First, **High-Frequency Feedback** ensures that discipline leaders receive timely and continuous input through weekly, monthly, and semester-based feedback loops, enabling rapid adjustment and ongoing optimization of teaching and leadership practices.

Second, **Professional Reflection and Learning Mechanisms** transform feedback into a continuous learning process, allowing discipline leaders to engage in sustained reflection through tools such as reflective journals, post-teaching analyses, peer observations, and review meetings, thereby fostering long-term professional growth.

Third, **Data-Informed Feedback** leverages student engagement metrics, assignment quality indicators, and classroom interaction data to provide objective and evidence-based insights that improve instructional decision-making.

Fourth, **Effective Self-Efficacy** Training highlights the role of feedback in shaping leaders' psychological readiness, particularly through feedback interpretation, mastery experiences, and vicarious learning—key pathways emphasized in Social Cognitive Theory.

Finally, **Team Cohesiveness Building Mechanisms** strengthen collaborative culture through peer evaluations, joint tasks, and two-way feedback processes that reinforce trust and collective efficacy within academic teams.

In sum, these five dimensions collectively demonstrate that team feedback is not merely a moderating factor but a comprehensive developmental intervention. It drives continuous improvement, enhances psychological and team-based competencies, and ultimately contributes to the sustained enhancement of discipline leaders' work performance.

5.3.4 Practical Implications for Vocational Institutions

The empirical findings of this study provide executable guidance for managers and administrators in higher vocational colleges. Each recommendation below is aligned with the key quantitative indicators (e.g., JC3, OS6, OS10) and offers institution-level strategies that can be directly implemented.

- **Enrich Job Design — Improve Task Structure and Feedback Mechanisms**

Institutions should systematically optimize the job design of discipline leaders to strengthen their motivation and sense of responsibility.

Specific strategies include:

Enhancing task identity (JC3): Integrate curriculum design, instructional implementation, teaching research, and quality evaluation into a complete workflow to avoid fragmented tasks and role conflict.

Strengthening task significance (JC5): Link discipline leaders' outputs to professional cluster development and Double High Plan indicators so that they clearly understand the strategic value of their work.

Expanding autonomy (JC7–JC8): Grant greater decision-making authority in curriculum innovation, team formation, and project management to enhance their perceived control over work.

Improving feedback mechanisms (JC9–JC10): Establish classroom observation systems, monthly performance review meetings, and data-informed teaching dashboards to ensure timely performance reflection and continuous improvement.

- **Develop Competencies — Dual Pathway for Explicit and Implicit Skills**

Vocational colleges should construct systematic pathways for enhancing both technical and soft competencies. Specific measures include:

Explicit competencies (professional knowledge, pedagogical skills): Organize workshops on disciplinary frontiers, industry expert training, and enterprise-based professional practice to update leaders' knowledge and teaching capability.

Implicit competencies (reflection, interpersonal communication, classroom management): Implement teaching reflection logs, peer observation mechanisms, and communication training for high-stress or conflict-prone contexts.

Mentoring systems: Pair senior discipline leaders with junior ones to form developmental communities with regular guidance and progress tracking.

Cross-disciplinary collaboration: Facilitate interdisciplinary teaching teams within professional clusters to support shared resources, co-developed curricula, and collaborative innovation.

- **Enhance Organizational Support — Strengthen Resources, Systems, and Culture**

Given the strong predictive power of organizational support, institutions should provide support that is both tangible and perceivable. Specific strategies include:

Resource provision (e.g., OS6): Allocate dedicated funding to support curriculum reform, teaching platform upgrades, and research tools so that leaders can work without resource constraints.

Platforms and facilities (OS10): Build digital teaching environments, virtual simulation systems, and smart classrooms to improve teaching and research efficiency.

Fair recognition and evaluation (OS1, OS5): Establish transparent multi-dimensional evaluation systems tied to actual contributions, ensuring justice and professional respect.

Psychological and cultural support: Foster a "supportive organizational climate" through communication meetings, recognition ceremonies, and well-being initiatives to reduce stress.

- **Institutionalize Feedback Systems — Create Transparent, Traceable Feedback Loops**

Effective feedback is essential for performance improvement; thus, institutions should formalize and standardize feedback mechanisms. Specific practices include:

Formal feedback: Conduct data-driven instructional evaluations each semester and provide written feedback with specific improvement suggestions.

Peer feedback: Implement a structured peer observation system to encourage professional dialogue and the sharing of effective teaching strategies.

Student evaluation: Integrate student engagement data, assignment quality, and learning behavior analytics into teaching feedback.

Real-time feedback: Utilize digital monitoring tools that generate real-time classroom interaction data to increase immediacy and relevance of feedback.

- **Foster Team Cohesiveness — Build a High-Trust, High-Collaboration Team Environment**

Team cohesiveness is essential for strengthening contextual and adaptive performance.

Specific strategies include:

Clarifying roles and responsibilities: Use job descriptions and team charters to define role boundaries, minimizing conflict and duplication of work.

Promoting collaboration: Implement project-based interdisciplinary teaching, joint lesson planning, and collaborative research to enhance team synergy.

Team-building activities: Organize professional salons, teaching competitions, and informal social activities to strengthen interpersonal trust and emotional bonds.

Reinforcing shared goals: Align professional cluster goals with team performance indicators to cultivate collective responsibility and unified direction.

5.3.5 Recommendations Based on Stakeholder Roles

- **Recommendations for Institutions**

At the institutional level, long-term structural decisions shape the environment in which discipline leaders operate. Therefore, schools should adopt the following strategic actions:

Establish a comprehensive job design framework

Create a standardized job description system that clearly outlines duties, expected outputs, and autonomy levels for discipline leaders.

Integrate curriculum development, teaching supervision, and research responsibilities into a coherent workflow supported by digital management tools.

Set institution-wide guidelines for feedback frequency, ensuring every discipline leader receives structured feedback at least once per semester.

Build an institution-wide competency development ecosystem

Allocate annual budgets specifically for teacher leadership development programs.

Form long-term partnerships with industries, research institutions, and teacher training centers to support competency upgrading.

Encourage interdisciplinary teamwork by reorganizing departments into professional clusters with shared resources and joint performance targets.

Strengthen institutional organizational support structures

Provide dedicated funding for teaching platform upgrades, VR/AR simulation labs, learning analytics tools, and smart classrooms.

Integrate organizational support indicators into institutional accreditation systems, ensuring support becomes part of institutional accountability.

Develop a campus-wide "supportive climate policy," including recognition programs, well-being initiatives, and stress-relief resources for discipline leaders.

Institutionalize multi-source feedback mechanisms

Develop a digital feedback platform integrating student evaluations, peer observations, and administrative assessments.

Incorporate feedback data into teaching quality monitoring dashboards accessible to discipline leaders.

Mandate annual teaching audits to reinforce a culture of continuous improvement.

Promote team cohesiveness across departments

Support regular cross-department meetings, professional salons, and collaborative lesson-planning activities.

Provide funding and institutional recognition for high-performance academic teams.

- **Recommendations for Administrators**

Administrators (e.g., deans, department heads) are responsible for operational decisions and daily management. Their actions directly influence self-efficacy, team cohesiveness, and job satisfaction among discipline leaders.

Provide direct and high-quality feedback

Conduct monthly one-on-one performance discussions to offer constructive feedback and identify professional development needs.

Use classroom observation rubrics and data to produce actionable guidance instead of general comments.

Facilitate competency development and reflective practice

Create personalized growth plans for each discipline leader based on evaluation results and competency assessments.

Organize regular peer observation cycles within departments to encourage shared learning.

Offer coaching sessions focusing on soft skills such as communication, conflict resolution, and reflective teaching.

Strengthen team coordination and clarify expectations

Use team charters to specify collaborative goals, role boundaries, and working procedures.

Organize interdisciplinary project groups to enhance team synergy and break down departmental silos.

Create meaningful recognition and reward systems

Recommend discipline leaders for institutional and provincial awards based on evidence of team performance and innovation.

Provide workload reduction or incentive payments for discipline leaders who take on high-impact academic responsibilities.

Ensure emotional and psychological support

Maintain open communication channels and schedule periodic check-ins to identify stressors or difficulties.

Encourage a supportive culture by modeling constructive feedback and respectful communication.

➢ **Recommendations for Discipline Leaders**

Discipline leaders themselves also play a pivotal role in shaping their performance and team culture. Their recommendations focus on personal growth, leadership behaviors, and team contribution.

Strengthen personal competencies

Engage in continuous professional development through online courses, industry training, and international seminars.

Maintain reflective teaching journals and regularly review teaching videos to identify improvement areas.

Enhance leadership and team collaboration skills

Lead by example through active participation in team meetings, lesson-planning sessions, and collaborative research.

Encourage open communication within the team and mediate conflicts through constructive dialogue.

Actively seek feedback and utilize evaluation data

Request targeted feedback from administrators, colleagues, and students to better understand performance gaps.

Use classroom analytics, learning behavior reports, and student performance data to refine teaching strategies.

Cultivate a shared vision within the academic team

Communicate program goals clearly to team members and align course design with industry standards.

Organize internal workshops to ensure everyone understands the overall direction of the professional cluster.

Maintain psychological resilience and professional identity

Practice stress-management strategies such as mindfulness, peer support groups, or counseling when needed.

Reinforce personal commitment to educational leadership by setting long-term professional goals.

5.3.6 Policy Implications

Based on the empirical findings, several policy-level recommendations can be formulated to strengthen the development and performance of discipline leaders in higher vocational colleges. Each recommendation is accompanied by the rationale underlying its necessity.

- **Strengthen national "Double-Qualified Teacher" policies by embedding job design, competency development, organizational support, and feedback mechanisms as core standards in teacher leadership programs.**

Although the national Double-Qualified Teacher initiative emphasizes the integration of professional skills and pedagogical competence, current implementation often focuses primarily on technical qualifications rather than leadership capability, psychological readiness, or organizational adaptability. The findings of this study demonstrate that discipline leaders' performance is significantly shaped by well-structured job design, competency enhancement systems, supportive organizational environments, and constructive feedback practices. Therefore, embedding these dimensions into national-level teacher leadership certification and training frameworks would ensure that discipline leaders are fully equipped to meet the demands of professional clusters, Double High initiatives, and rapid educational reforms.

- **Increase sustainable and earmarked funding to vocational institutions to improve material, technological, and infrastructural capacity.**

The study highlights that organizational support—including access to resources, teaching platforms, and project funding—is a major determinant of discipline leaders' self-efficacy and performance. However, many vocational institutions, particularly non-urban and private colleges, face chronic shortages of resources and outdated teaching technologies. Sustainable government funding would enable schools to upgrade digital infrastructure, build virtual simulation platforms, and support innovative teaching and research projects. These improvements directly enhance discipline leaders' ability to implement high-quality teaching, develop research outputs, and lead professional clusters effectively.

- **Integrate leadership development frameworks into institutional evaluation and accreditation systems, emphasizing the cultivation of self-efficacy, team cohesiveness, and constructive feedback cultures.**

Current institutional evaluation indicators focus heavily on enrollment numbers, employment outcomes, and program construction, while neglecting the internal leadership development mechanisms that support sustained quality improvement. The results of this study reveal that self-efficacy, team cohesiveness, and feedback systems substantially influence discipline leaders' performance across task, contextual, and adaptive dimensions. Incorporating these psychological and organizational processes

into evaluation criteria would encourage schools to institutionalize leadership training, strengthen team-based professional development, and normalize structured feedback mechanisms—thereby creating long-term, systemic improvements rather than short-term outcome chasing.

- **Promote inter-college collaboration through government-supported regional platforms that facilitate the sharing of best practices, competency development pathways, and innovative strategies among discipline leaders.**

Discipline leaders often work within isolated institutional contexts and lack opportunities for horizontal exchange, which limits the diffusion of innovation and reinforces performance disparities across institutions. The study shows that team cohesiveness and feedback significantly influence performance; extending these collaborative and reflective practices beyond individual institutions can accelerate professional learning at a regional scale. Government-led or regionally coordinated platforms—such as teaching alliances, professional cluster forums, and digital communities of practice—can enable the exchange of high-quality resources, peer coaching, and innovative teaching models, thereby promoting equal development opportunities for discipline leaders across provinces.

5.3.7 Research Limitations

Despite its contributions, this study has several limitations. First, the scope was limited to Shandong Province, which may restrict the generalizability of the findings to other regions of China. Second, the reliance on self-reported data raises the possibility of common method bias and social desirability effects. Third, the cross-sectional research design does not allow for causal inferences or dynamic observations of changes in performance over time.

5.3.8 Future Research Directions

Building upon the conceptual framework and empirical findings of this study, future research can be advanced along two major directions: (1) developing a KPI-based multidimensional performance assessment system, and (2) designing training interventions grounded in the five mechanisms of “Team Feedback” and evaluating their effects using t-tests. These extensions will strengthen the methodological rigor, enhance explanatory power, and increase the practical relevance and generalizability of the proposed model.

(1) Developing a KPI-Based Multidimensional Performance Measurement System

The present study primarily relied on self-reported questionnaires to measure job characteristics, competency, organizational support, self-efficacy, team cohesiveness, and three dimensions of performance. While these measures offer strong theoretical alignment and construct validity, future research may incorporate Key Performance Indicators (KPIs) to build a more objective, comprehensive, and actionable performance assessment system.

Specifically, KPIs can be developed to correspond with the core constructs of the current model:

- Performance outcomes may be assessed using quantifiable indicators such as curriculum development output, student pass and excellence rates, participation in teaching competitions, teaching achievement awards, research project outputs, and publication records.
- Organizational support and job characteristics can be evaluated through institutional investment in platforms, funding for teaching innovation, opportunities for training, and the availability of digital resources—thereby capturing the objective basis underlying perceived organizational support.
- Team-level variables, such as team cohesiveness and collaboration, may be indexed by the number of joint projects, cross-disciplinary courses, collective lesson-planning sessions, and collaborative research activities.

Future studies could integrate subjective perception measures with KPI-based objective indicators to examine the alignment or discrepancy between perceived and actual performance. Statistical models such as Structural Equation Modeling (SEM) or Multilevel Modeling (MLM) can be used to analyze how subjective and objective factors interact to influence work performance.

Additionally, incorporating KPI indicators into longitudinal designs would allow researchers to track dynamic changes in job characteristics, competency development, organizational support, and performance over time—thereby addressing the limitations of cross-sectional designs in the present study.

(2) Intervention Studies Based on "Team Feedback" and Evaluation via T-Tests

In the proposed performance improvement model, Team Feedback is identified as the key improvement mechanism and is further operationalized into five actionable pathways (as shown in Figure 2): high-frequency feedback, effective self-efficacy training, professional reflection and learning mechanisms, data-informed feedback, and team cohesiveness-building mechanisms. Future research may develop structured training programs based on these five mechanisms and employ experimental or quasi-experimental methods to evaluate their effectiveness.

A potential intervention program may include modules such as:

- High-Frequency Feedback Module: Training discipline leaders to establish weekly, monthly, and semester-based feedback loops and effectively utilize feedback from supervisors, peers, and students.
- Self-Efficacy Training Module: Incorporating mastery experiences, vicarious learning, and verbal persuasion to enhance self-efficacy through case reviews, peer modeling, and constructive feedback exercises.
- Professional Reflection and Learning Module: Implementing teaching observations, action research, and reflective seminars to transform team feedback into a sustained professional learning mechanism.
- Data-Informed Feedback Module: Training participants to interpret learning analytics—such as student engagement, assignment quality, and classroom interaction data—generated by digital teaching platforms.

- team cohesiveness-Building Module: Facilitating collaborative teaching projects, co-planning sessions, teaching salons, and team-building activities to strengthen shared goals and interpersonal trust.

Future research can adopt a pretest–posttest design by measuring discipline leaders' perceptions and performance (e.g., job characteristics, competency, organizational support, self-efficacy, team cohesiveness, and three-dimensional performance) both before and after the intervention.

Paired-sample t-tests can be conducted to examine within-group changes, while independent-sample t-tests can be used to compare differences between the intervention group and the control group.

These analyses will provide empirical evidence on the effectiveness of team feedback–based training programs in improving performance outcomes.

Moreover, multi-source data—including supervisor assessments, student evaluations, and institutional performance metrics—can be incorporated to enhance the validity of research results. Longitudinal follow-up assessments can further examine the sustainability of intervention effects over multiple time points.

The intervention framework may also be applied to other provinces, different types of vocational institutions, or broader educational sectors to evaluate external validity and contextual adaptability. Ultimately, such research will contribute to establishing a scalable "team feedback–driven performance improvement model" for discipline leaders.

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APPENDIX

APPENDIX A

Focus Group Interview Outline

Introduction

Distinguished faculty members, greetings! We extend our profound gratitude for sparing time from your demanding schedules to participate in this interview. Your invaluable expertise and profound insights constitute pivotal support for our research endeavors.

This interview is a cornerstone of our study, aimed at exploring the lived experiences, challenges, and recommendations of discipline leaders through a thematic analysis of self-efficacy, Team Cohesiveness, job characteristics, competencies, organizational support, and job performance. Through your perspectives, we aim to synthesize critical factors influencing disciplinary leadership effectiveness, refine theoretical frameworks, and furnish actionable insights for academic development and talent cultivation in vocational institutions.

Adopting a semi-structured format, this dialogue lasted approximately 90 minutes. I shall guide the discussion through a curated framework while affording ample latitude for authentic narratives and profound reflections. Candid articulating viewpoints are warmly encouraged, as each perspective holds irreplaceable value to our scholarly pursuit.

To ensure data integrity and comprehensiveness, the interview will be audio-recorded, with subsequent transcription and analysis conducted by our research team. All data shall be utilized solely for academic purposes under strict confidentiality protocols, safeguarding your identities and intellectual contributions from unauthorized disclosure. This exchange operates on equity, openness, and mutual respect, inviting unreserved expressions of professional wisdom. Feel free to interject with divergent viewpoints, supplementary insights, or clarifications at any juncture. Should there be no further queries regarding procedural or ethical aspects, let us commence. Thank you for your collaboration.

1. Self-Efficacy

1) In the realms of disciplinary development and team stewardship, how does personal self-efficacy interact with your professional performance?

2) What catalysts in your professional ecosystem serve to amplify your self-efficacy? Might you share illustrative anecdotes?

3) Have you encountered challenges attributable to diminished self-efficacy? What strategies have you employed to transcend such impediments?

2. Team Cohesiveness

4) How would you characterize and assess the cohesion dynamics within your academic team? What elements foster its enhancement?

5) What innovative strategies have you implemented to fortify collaborative synergy and mutual trust among team members?

6) In what tangible ways do you perceive Team Cohesiveness as impacting disciplinary advancement and pedagogical excellence?

3. Job Characteristics

7) Among your current professional responsibilities, which aspects present the most formidable challenges and the profound sense of accomplishment?

8) Do role conflicts or ambiguous expectations feature in your workflow? What mitigating strategies have you devised?

9) In navigating the equilibrium between pedagogical and research imperatives, what time-management or resource-integration paradigms have proven effective?

4. Competency

10) What specialized expertise and leadership competencies are, in your estimation, most indispensable for disciplinary leadership?

11) Throughout your career trajectory, how have you cultivated core competencies to align with evolving educational paradigms?

12) For nascent disciplinary leaders, what experiential wisdom or developmental advice would you proffer to accelerate competency maturation?

5. Organizational Support

13) What institutional resources or frameworks are provided to bolster disciplinary development and team leadership? Do these align with operational needs?

14) In what domains would you advocate for enhanced institutional support or incentive mechanisms for disciplinary leadership?

15) How might effective organizational sponsorship catalyze individual productivity and collective growth?

6. Team Feedback

15)How frequently do team members provide feedback on your teaching, research, or coordination activities?

16)What forms of feedback are most useful in helping you adjust decisions or improve performance?

17)In your experience, does frequent team feedback strengthen the effects of self-efficacy or team cohesiveness on work performance? Please provide an example.

7. Job Performance of Discipline Leaders

18) How would you appraise your professional contributions across disciplinary development, talent cultivation, and scholarly output?

19) What pivotal elements have demonstrably elevated the performance metrics of disciplinary leadership?

20) Could you recount a paradigm-shifting success narrative illustrating how visionary leadership propels academic innovation?

8. Supplementary and Conclusion

21) Beyond the foregoing inquiry, are there additional insights or recommendations about self-efficacy, team dynamics, job design, competency frameworks, institutional support, or performance optimization?

22) Are there supplementary observations or refinements you wish to propose regarding this interview or the broader research initiative?

Closing

appreciation for your intellectual generosity and collaborative spirit. All shared insights will be kept confidential for academic purposes. A synopsis of analytical findings and research progression shall be disseminated in due course, with opportunities for further engagement should synergies arise.

The following pages will present selected interview excerpts from the 9 expert evaluators.

Interviewee 1 (College A – Engineering)

Variables covered: Job Characteristics, Self-Efficacy, Team Feedback, Work Performance

R: Could you describe the job characteristics of your current leadership position?
P: Discipline leaders work simultaneously on curriculum design, faculty coordination, and project management. The autonomy to design programs and decide how to engage the industry motivates me strongly. Clear task identity, especially managing provincial-level projects, creates a strong sense of achievement.

R: How does self-efficacy influence your work?
P: I believe self-efficacy directly affects how I solve problems and manage uncertainty. When I am confident, I tend to experiment with new pedagogical models and handle conflicts more efficiently. Low self-efficacy usually comes when administrative tasks increase without feedback or recognition.

R: How often does team feedback occur?
P: Weekly. My faculty team often gives feedback during research meetings and curriculum discussions. They comment on lecture design, student performance, and policy implementation. Constructive feedback reduces blind spots and strengthens collaborative decision-making.

R: How do these factors influence your performance?
P: Work performance improves when autonomy, self-efficacy, and frequent feedback are balanced. Task performance is demonstrated through research outputs and curriculum reform; relational performance improves when the team openly communicates. Overall, performance depends on continuous coaching and shared accountability.

APPENDIX B

Index of Item-Objective Congruence (IOC) Form for Individual Research

Research Title:

A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province

Instruction:

This IOC form seeks the expert's feedback on the degree of congruence between the research instrument questions, the study's research objectives, and the definitions of terms. The criteria used for IOC are as follows.

+1= Congruent
0= Questionable
-1= Incongruent

NOTE: For each item of the questionnaire, the study will adopt a Five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = slightly Disagree, 4 = agree, 5 = strongly Agree).

说明：此 IOC 表格旨在征求专家对本问卷中所有问题的意见，这些项目是否符合研究 目标和术语定义。IOC 使用的标准解释如下。

+1 = 一致　0 = 可疑　-1 = 不一致

Research Questions:

(1) What are the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province?

(2) What roles do self-efficacy, team cohesiveness, and team feedback play in the performance improvement process of discipline leaders in higher vocational colleges in Shandong Province?

(3) What performance improvement model can be developed and validated for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings?

Research Objectives:

To achieve this aim, the study seeks to focus on specific objectives:

(1) To examine the effects of job characteristics, competency, and organizational support on self-efficacy, team cohesiveness, and discipline leaders' work performance in higher vocational colleges in Shandong Province.

(2) To examine the mediating roles of self-efficacy and team cohesiveness and the moderating role of team feedback in the performance improvement process of discipline leaders.

(3) To develop and validate a performance improvement model for discipline leaders in higher vocational colleges in Shandong Province based on the quantitative and qualitative findings.

To Questionnaire Respondent

This questionnaire is divided into two parts. The first part deals with the characteristics of the dual system and organizational structures. The second part focuses on demographic and relational factors. The information you shared with the researcher today will only be used for this study and academic purposes. Personal data will be kept confidential.

Thank you for your response. If you need further information or if there is anything I can do to assist you in completing or improving this questionnaire, please do not hesitate to contact me.

Ms. Sun Xiaotong, Ph.D. Student

Siam University

Part 1 Demographic information

Remark: Please choose using ✓ in □ or fill in the information in the blank.

1. Gender ☐ Male ☐ Female

2. Age ☐ 18-30 ☐31-40 ☐41-50 ☐ Above50

3. Education ☐ 1. Bachelor's degree ☐ 2. Master degree ☐ 3. Ph.D. ☐ 4. Others

4. Position ☐ 1. Assistant Lecturer ☐ 2. Lecturer ☐ 3. Senior Lecturer ☐ 4. Others

5. Tenure in current position (year)

☐ 1. Less than/or equal to 3 ☐ 2. Between 3-5 ☐ 3. Between 6–10 ☐ 4. 11 and over

6.What is the frequency of Team Feedback?

□□□□☐ 1. Seldom ☐ 2. Frequency

Table Quantitative Item-Objective Congruence (IOC)

Job Characteristics Job characteristics refer to skill variety, task identity, task significance, autonomy, and feedback. These characteristics influence employees' work experiences and intrinsic motivation, affecting their performance.	**Expert Opinion**			**Remark**
	1	**0**	**-1**	
1. The job requires the use of diverse skills and abilities. 这份工作需要运用多种技能和能力				
2. The job is relatively simple and repetitive. 这份工作相对简单且重复性强。				

3. The job is a whole work with a clear beginning and end. 这份工作是一个完整的任务，具有清晰的开始和结束				
4. I initiate tasks and complete them on my own. 我能主动开展任务并独立完成				
5. The outcomes of my work impact others' well-being. 我的工作成果会影响到他人的福祉。				
6. The job is important. 这份工作很重要。				
7. The job allows me to decide how to complete it. 这份工作允许我决定如何完成任务。				
8. The job allows me to accomplish it independently. 这份工作允许我独立完成。				
9. The job provides clues about the effectiveness of my work. 这份工作能提供有关我工作效果的线索。				
10.I have many opportunities to understand my performance. 我有很多机会了解自己的工作表现。				
Competency Competency refers to the knowledge, skills, self-concept, traits, and motivations required for an individual to excel in their professional role. These competence characteristics are crucial for discipline leaders.	**1**	**0**	**-1**	**Remark**
1. I can control my emotions and show tolerance towards others. 我能控制情绪，并对他人表现出宽容。				
2. I excel at listening and influencing others. 我善于倾听并能影响他人。				
3. I am interested in my discipline and seizing development opportunities. 我对本学科有兴趣，并善于把握发展机会。				
4. I can tailor my teaching to individual students, igniting their passion for learning. 我能因材施教，激发学生的学习热情。				

5. I use clear language and technology to aid students' understanding. 我能使用清晰的语言和技术帮助学生理解				
6. I can manage classroom dynamics and understand the characteristics of students. 我能管理课堂氛围，了解学生特点。				
7. I possess research methodologies and am willing to pursue scientific research in the long term. 我掌握科研方法，并愿意长期从事科研工作。				
8. I can identify cutting-edge issues and improve research methods. 我能发现前沿问题，并改进研究方法。				
9. I am skilled at reflecting on problems and improving my work. 我善于反思问题并改进工作。				
10.I am a lifelong learner and allocate my time and energy effectively. 我是终身学习者，能有效安排时间和精力。				
Organizational Support Organizational support refers to employees' perceptions of the care and support provided by the organization, including incentives, organizational culture, and training opportunities. Support from higher vocational colleges for discipline leaders contributes to their job satisfaction and enhanced performance.	**1**	**0**	**-1**	**Remark**
1.The organization values my contributions to teaching. 学校重视我在教学中的贡献。				
2.The organization respects my teaching goals. 学校尊重我的教学目标。				
3.The organization cares about my well-being. 学校关心我的身心健康。				
4.The organization is concerned about my teaching performance. 学校关注我的教学表现。				
5.The organization acknowledges my achievements in teaching. 学校认可我在教学中的成绩。				

6.The organization provides me with the funding necessary for teaching. 学校为我提供必要的教学经费。				
7.The organization offers me opportunities for teaching evaluation. 学校为我提供教学评价的机会。				
8.The organization provides me with abundant opportunities for teaching exchanges. 学校为我提供丰富的教学交流机会。				
9.The organization provides me with a good teaching environment 学校为我营造良好的教学环境。				
10.The organization supports me with a platform for teaching development. 学校为我提供教学发展的平台。				
Self-Efficacy Self-efficacy is an individual's belief in their ability to accomplish specific tasks. Discipline leaders with strong self-efficacy are likely to take proactive actions, overcome workplace challenges, and achieve success.	**1**	**0**	**-1**	**Remark**
1.Higher vocational education plays a role in student development. 高职教育有助于学生发展。				
2.Higher vocational education can bring changes to students' learning abilities. 高职教育能提升学生的学习能力。				
3.Teachers can help students. 教师能够帮助学生。				
4.Teachers play a significant role in influencing students' academic achievement. 教师对学生学业成绩有重要影响。				
5.Teachers can help students with learning abilities achieve progress. 教师能帮助不同学习能力的学生取得进步。				
6.Teachers impart professional knowledge to cultivate students' character and spirit. 教师在传授专业知识的同时培养学生品格与精神。				
Team Cohesiveness Team cohesiveness refers to the cooperation and unity among team members, encompassing task and social cohesion. High levels of team cohesiveness facilitate team members in completing tasks more effectively.	**1**	**0**	**-1**	**Remark**

1.Our team can unite and accomplish our work goals. 我们团队能够团结一致完成工作目标。				
2.Members are capable of taking responsibility together for mistakes made at work. 团队成员能共同承担工作中的错误责任。				
3.When a member of the team encounters difficulties, others will go to help him. 当团队成员遇到困难时，其他人会主动帮助。				
4.Members of our team can freely discuss their respective responsibilities at work. 团队成员能自由讨论各自的工作职责。				
5.Our team always presents itself as a cohesive unit when outside. 我们团队在外始终表现为一个有凝聚力的整体。				
6.Members of our team frequently engage in social activities together. 团队成员经常一起参加社交活动。				
7.Beyond working hours, team members also enjoy spending time together. 工作之余，团队成员也喜欢一起相处。				
8.In addition to team projects, team members remain united as a group. 除了团队项目，成员之间依然保持团结。				
Discipline Leaders' Work Performance Work performance refers to the performance of discipline leaders in their roles, encompassing three dimensions: task performance, adaptive performance, and contextual performance. Task performance relates to work performance in teaching, and research. Contextual performance pertains to contributions to teamwork and organizational support. Adaptive performance is the behavior of an individual whose learning on one task can be effectively transferred to another when job requirements and conditions change.	**1**	**0**	**-1**	**Remark**
Task Performance				
1.I can complete the research tasks assigned by the school. 我能够完成学校布置的科研任务。				

2.I care for students in my teaching work. 我在教学工作中关心学生。				
3.I provide constructive suggestions for the teaching work. 我会为教学工作提出建设性意见。				
4.I can complete the teaching tasks as required. 我能够按要求完成教学任务。				
5.I remain responsible in my work when unsupervised. 即使无人监督，我也会保持工作责任感。				
Contextual Performance				
6.I discuss matters that are beneficial to my colleagues. 我会讨论有利于同事的事情。				
7.I feel proud of the achievements of my colleagues. 我为同事的成就感到自豪。				
8.I won't shift work responsibilities onto my colleagues. 我不会把工作责任推给同事。				
9.I am willing to share knowledge with my colleagues. 我愿意与同事分享知识。				
Adaptive Performance				
10.I can adapt to work that I have not encountered before. 我能够适应以前未遇到过的工作。				
11.I can maintain good relationships with people of different cultural backgrounds. 我能与不同文化背景的人保持良好关系。				
12.I am open to accepting different values and cultures. 我乐于接受不同的价值观和文化。				

Interview Questions for Experts

Introduction

Distinguished faculty members, greetings! We extend our profound gratitude for sparing time from your demanding schedules to participate in this interview. Your invaluable expertise and profound insights constitute pivotal support for our research endeavors.

This interview is a cornerstone of our study, aimed at exploring the lived experiences, challenges, and recommendations of discipline leaders through a thematic analysis of self-efficacy, team cohesiveness, job characteristics, competencies, organizational support, and job performance. Through your perspectives, we aim to synthesize critical factors influencing disciplinary leadership effectiveness, refine theoretical frameworks, and furnish actionable insights for academic development and talent cultivation in vocational institutions.

Adopting a semi-structured format, this dialogue lasted approximately 90 minutes. I shall guide the discussion through a curated framework while affording ample latitude for authentic narratives and profound reflections. Candid articulating viewpoints are warmly encouraged, as each perspective holds irreplaceable value to our scholarly pursuit.

To ensure data integrity and comprehensiveness, the interview will be audio-recorded, with subsequent transcription and analysis conducted by our research team. All data shall be utilized solely for academic purposes under strict confidentiality protocols, safeguarding your identities and intellectual contributions from unauthorized disclosure. This exchange operates on equity, openness, and mutual respect, inviting unreserved expressions of professional wisdom. Feel free to interject with divergent viewpoints, supplementary insights, or clarifications at any juncture. Should there be no further queries regarding procedural or ethical aspects, let us commence. Thank you for your collaboration.

Table Interview Questions for Double-Qualified Teachers

Qualitative Questions	**IOC Score**			**Remark 得分**
	1	**0**	**-1**	**Remark**
1. Self-Efficacy				
1) In the realms of disciplinary development and team stewardship, how does personal self-efficacy interact with your professional performance? 在学科发展与团队管理中，个人的自我效能感如何与您的专业绩效相互作用？				
2) What catalysts in your professional ecosystem serve to amplify your self-efficacy? Might you share illustrative anecdotes? 在您的职业生态系统中，哪些因素能够增强您的自我效能感？您能否分享一些具体案例？				

3) Have you encountered challenges attributable to diminished self-efficacy? What strategies have you employed to transcend such impediments? 您是否遇到过因自我效能感不足而带来的挑战？您采取了哪些策略来克服这些障碍？				
2. Team Cohesiveness				
4) How would you characterize and assess the cohesion dynamics within your academic team? What elements foster its enhancement? 您如何描述并评估所在学术团队的凝聚力动态？哪些因素有助于提升团队凝聚力？				
5) What innovative strategies have you implemented to fortify collaborative synergy and mutual trust among team members? 您曾采用过哪些创新策略来加强团队成员之间的协作与互信？				
6) In what tangible ways do you perceive team cohesiveness as impacting disciplinary advancement and pedagogical excellence? 您认为团队凝聚力在学科建设和教学卓越方面具体产生了哪些影响？				
3. Job Characteristics				
7) Among your current professional responsibilities, which aspects present the most formidable challenges and the profound sense of accomplishment? 在您目前的职业职责中，哪些方面既带来最艰巨的挑战，又让您获得最强烈的成就感？				
8) Do role conflicts or ambiguous expectations feature in your workflow? What mitigating strategies have you devised? 您在工作流程中是否遇到角色冲突或期望不明的情况？您采取了哪些应对策略？				
9) In navigating the equilibrium between pedagogical and research imperatives, what time-management or resource-integration paradigms have proven effective? 在平衡教学与科研任务时，您有哪些有效的时间管理或资源整合方法？				
4. Competency				
10) What specialized expertise and leadership competencies are, in your estimation, most indispensable for disciplinary leadership? 在您看来，学科带头人最不可或缺的专业知识与领导胜任力有哪些？				
11) Throughout your career trajectory, how have you cultivated core competencies to align with evolving educational paradigms? 在您的职业发展过程中，您是如何培养核心胜任力以适应不断演变的教育范式的？				

12) For nascent disciplinary leaders, what experiential wisdom or developmental advice would you proffer to accelerate competency maturation? 针对初任学科带头人，您会提供哪些经验智慧或发展建议，以加速其胜任力的成长？				
5. Organizational Support				
13) What institutional resources or frameworks are provided to bolster disciplinary development and team leadership? Do these align with operational needs? 学校或机构为学科建设和团队领导提供了哪些资源或支持框架？这些是否符合实际需要？				
14) In what domains would you advocate for enhanced institutional support or incentive mechanisms for disciplinary leadership? 您认为在哪些方面应当加强组织支持或激励机制，以更好推动学科带头人的工作？				
15) How might effective organizational sponsorship catalyze individual productivity and collective growth? 有效的组织支持如何能够催化个人生产力和团队整体成长？				
6. Job Performance of Discipline Leaders				
16) How would you appraise your professional contributions across disciplinary development, talent cultivation, and scholarly output? 您如何评价自己在学科建设、人才培养和学术成果等方面的工作贡献？				
17) What pivotal elements have demonstrably elevated the performance metrics of disciplinary leadership? 哪些关键因素显著提升了学科带头人的绩效指标？				
18) Could you recount a paradigm-shifting success narrative illustrating how visionary leadership propels academic innovation? 您能否分享一个具有转折意义的成功案例，说明愿景型领导如何推动学术创新？				
7. Supplementary and Conclusion				
19) Beyond the foregoing inquiry, are there additional insights or recommendations about self-efficacy, team dynamics, job design, competency frameworks, institutional support, or performance optimization? 除了以上问题，您是否还有关于自我效能感、团队动态、工作设计、胜任力框架、组织支持或绩效优化的其他见解或建议？				
20) Are there supplementary observations or refinements you wish to propose regarding this interview or the broader research initiative? 您对本次访谈或整个研究项目是否有额外的意见或改进建议？				

Participate's name: _____
Review date: _____

Thank you very much for your valuable comments.
Sun Xiaotong
ID 6319002019

APPENDIX C

Questionnaire

A PERFORMANCE IMPROVEMENT MODEL OF DISCIPLINE LEADERS IN HIGHER VOCATIONAL COLLEGES IN SHANDONG PROVINCE

To Questionnaire Respondent

This questionnaire is divided into two parts. The first part deals with the characteristics of the dual system and organizational structures. The second part focuses on demographic and relational factors. The information you shared with the researcher today will only be used for this study and academic purposes. Personal data will be kept confidential.

Thank you for your response. If you need further information or if there is anything I can do to assist you in completing or improving this questionnaire, please do not hesitate to contact me.

Ms. Sun Xiaotong, Ph.D. Student
Siam University

<u>Part 1</u> Demographic information

Remark: Please choose using ✓ in □ or fill in the information in the blank.

1. Gender ☐ Male ☐ Female

2. Age ☐ 18-30 ☐31-40 ☐41-50 ☐ Above50

3. Education ☐ 1. Bachelor's degree ☐ 2. Master degree ☐ 3. Ph.D. ☐ 4. Others

4. Position ☐ 1. Assistant Lecturer ☐ 2. Lecturer ☐ 3. Senior Lecturer ☐ 4. Others

5. Tenure in current position (year)

☐ 1. Less than/or equal to 3 ☐ 2. Between 3-5
☐ 3. Between 6–10 ☐ 4. 11 and over

6.What is the frequency of Team Feedback?

☐ 1. Seldom ☐ 2. Frequency

<u>Part 2</u> Relational factors

The questionnaire used a Likert scale, ranging from 1 to 5, in which 1 = strongly disagree, 3 = neutral, and 5 = strongly agree.

For Example:1. My supervisor does not seek personal gain and is honest. Choose 5 points when you strongly agree, 4 points when you agree, 3 points when you are neutral, 2 points when you disagree, and 1 point when you strongly disagree.

Item		Alternative Answer				
		1	2	3	4	5
Job Characteristics						
1	The job requires the use of diverse skills and abilities.					
2	The job is relatively simple and repetitive.					
3	The job is a whole work with a clear beginning and end.					
4	I initiate tasks and complete them on my own.					
5	The outcomes of my work impact others' well-being.					
6	The job is important.					
7	The job allows me to decide how to complete it.					
8	The job allows me to accomplish it independently.					
9	The job provides clues about the effectiveness of my work.					
10	I have many opportunities to understand my performance.					
Competency						
1	I can control my emotions and show tolerance towards others.					
2	I excel at listening and influencing others.					
3	I am interested in my discipline and seizing development opportunities.					
4	I can tailor my teaching to individual students, igniting their passion for learning.					
5	I use clear language and technology to aid students' understanding.					
6	I can manage classroom dynamics and understand the characteristics of students.					
7	I possess research methodologies and am willing to pursue scientific research in the long term.					
8	I can identify cutting-edge issues and improve research methods.					
9	I am skilled at reflecting on problems and improving my work.					
10	I am a lifelong learner and allocate my time and energy effectively.					
Organizational Support						
1	The organization values my contributions to teaching.					
2	The organization respects my teaching goals.					
3	The organization cares about my well-being.					
4	The organization is concerned about my teaching performance.					

Item		Alternative Answer				
		1	2	3	4	5
5	The organization acknowledges my achievements in teaching.					
6	The organization provides me with the funding necessary for teaching.					
7	The organization offers me opportunities for teaching evaluation.					
8	The organization provides me with abundant opportunities for teaching exchanges.					
9	The organization provides me with a good teaching environment					
10	The organization supports me with a platform for teaching development.					
Self-Efficacy						
1	Higher vocational education plays a role in student development.					
2	Higher vocational education can bring changes to students' learning abilities.					
3	Teachers can help students.					
4	Teachers play a significant role in influencing students' academic achievement.					
5	Teachers can help students with learning abilities achieve progress.					
6	Teachers impart professional knowledge to cultivate students' character and spirit.					
Team Cohesiveness						
1	Our team can unite and accomplish our work goals.					
2	Members are capable of taking responsibility together for mistakes made at work.					
3	When a member of the team encounters difficulties, others will go to help him.					
4	Members of our team can freely discuss their respective responsibilities at work.					
5	Our team always presents itself as a cohesive unit when outside.					
6	Members of our team frequently engage in social activities together.					
7	Beyond working hours, team members also enjoy spending time together.					
8	In addition to team projects, team members remain united as a group.					
Discipline Leaders' Work Performance						
	Task Performance					

Item		Alternative Answer				
		1	2	3	4	5
1	I can complete the research tasks assigned by the school.					
2	I care for students in my teaching work.					
3	I provide constructive suggestions for the teaching work.					
4	I can complete the teaching tasks as required.					
5	I remain responsible in my work when unsupervised.					
	Contextual Performance					
6	I discuss matters that are beneficial to my colleagues.					
7	I feel proud of the achievements of my colleagues.					
8	I won't shift work responsibilities onto my colleagues.					
9	I am willing to share knowledge with my colleagues.					
	Adaptive Performance					
10	I can adapt to work that I have not encountered before.					
11	I can maintain good relationships with people of different cultural backgrounds.					
12	I am open to accepting different values and cultures.					

I appreciate your cooperation in this study.

Chinese - English Translator:Liu Chunxiang and Ou Jingwen

The translation personnel qualification, which has made them the People's Republic of China "Certificate Translator and Interpreter" issued by the Ministry of Human Resources and Social Security. The translation qualifications of the two translators are attached below.

Certificate Translator and Interpreter of Liu Chunxiang



翻译专业资格

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本证书由中华人民共和国人力资源和社会保障部批准颁发，表明持证人通过国家统一组织的考试，取得相应语种、级别的翻译专业资格。

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Certified Translator and Interpreter

本证书由中华人民共和国人力资源和社会保障部批准颁发，表明持证人通过国家统一组织的考试，取得相应语种、级别的翻译专业资格。

中华人民共和国人力资源和社会保障部

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性　　别：女

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级　　别：二级笔译

批准日期：2018年05月20日

管 理 号：20180500942000406

APPENDIX D

English-Chinese Questionnaire

A PERFORMANCE IMPROVEMENT MODEL OF DISCIPLINE LEADERS IN HIGHER VOCATIONAL COLLEGES IN SHANDONG PROVINCE

本问卷共分为两个部分。第一部分涉及双元制及组织结构的特征；第二部分则聚焦于人口统计学和关系因素。您今天与研究者分享的信息仅用于本研究及学术目的，个人数据将严格保密。

感谢您的回答！如果您需要进一步的信息，或希望我在填写或完善本问卷方面提供帮助，请随时与我联系。

第一部分 **基本信息**

第二部分 说明：请在 □ 内打 "✓" 或填写相关信息。

1. 性别

□ 男　　□ 女

2. 年龄

□ 18–30　　□ 31–40　　□ 41–50　　□ 50岁以上

3. 学历

□ 1. 学士学位　　□ 2. 硕士学位

□ 3. 博士学位　　□ 4. 其他

4. 职称/职位

□ 1. 助教　　□ 2. 讲师

□ 3. 副教授　□ 4. 其他

5. 现任职位年限（年）

□ 1. 小于或等于3年　　□ 2. 3–5年

□ 3. 6–10年　　□ 4. 11年以上

6. 团队反馈的频率是？

□ 1. 很少　　□ 2. 频繁

第二部分 关系因素

本问卷采用 **李克特量表（Likert scale）**，评分范围为 1 到 5，其中：

1 = 非常不同意，3 = 一般/中立，5 = 非常同意。

示例：1.我的上级不谋取私利，并且诚实守信。

如果您 **非常同意**，请选择 **5分**；

如果您 **同意**，请选择 **4分**；

如果您 **一般/中立**，请选择 **3分**；

如果您 **不同意**，请选择 **2分**；

如果您 **非常不同意**，请选择 **1分**。

Item		Alternative Answer				
		1	2	3	4	5
工作特征						
1	这份工作需要运用多样的技能和能力。					
2	这份工作相对简单且重复。					
3	这份工作是一个有明确起点和终点的完整任务。					
4	我能自主开始并完成任务。					
5	我的工作成果会影响他人的福祉。					
6	这份工作很重要。					
7	这份工作允许我决定如何完成。					
8	这份工作允许我独立完成。					
9	这份工作能让我获得关于工作效果的反馈。					
10	我有很多机会了解自己的工作表现。					
胜任力						
1	我能控制情绪，并对他人保持包容。					
2	我善于倾听并影响他人。					
3	我对本学科感兴趣，并善于把握发展机会。					
4	我能因材施教，激发学生的学习热情。					
5	我运用清晰的语言和技术帮助学生理解。					
6	我能管理课堂秩序，了解学生特点。					
7	我具备科研方法，并愿长期从事科研。					
8	我能识别前沿问题并改进研究方法。					
9	我善于反思问题并改进工作。					
10	我是终身学习者，能合理分配时间和精力。					
组织支持						
1	学校重视我在教学中的贡献。					
2	学校尊重我的教学目标。					
3	学校关心我的身心健康。					
4	学校关注我的教学表现					
5	学校认可我在教学中的成绩。					
6	学校为我提供必要的教学经费。					
7	学校为我提供教学评价的机会。					
8	学校为我提供丰富的教学交流机会。					
9	学校为我营造良好的教学环境。					
10	学校为我提供教学发展的平台。					
自我效能						
1	高职教育对学生发展有促进作用。					

Item		Alternative Answer				
		1	2	3	4	5
2	高职教育能改变学生的学习能力。					
3	教师能够帮助学生。					
4	教师对学生学业成绩有重要影响。					
5	教师能帮助学生在学习能力上取得进步。					
6	教师在传授专业知识的同时培养学生的品格与精神。					
团队凝聚力						
1	我们的团队能够团结一致完成工作目标。					
2	团队成员能够共同承担工作中的错误。					
3	当有成员遇到困难时，其他人会主动帮助。					
4	团队成员能自由讨论各自的工作职责。					
5	团队在外总是展现出一个团结的整体。					
6	团队成员经常一起参加社交活动。					
7	在工作时间之外，团队成员也喜欢在一起。					
8	除了团队项目，成员们依然保持团结。					
专业带头人工作绩效						
	任务绩效					
1	我能够完成学校分配的科研任务。					
2	我在教学工作中关心学生。					
3	我能够为教学工作提出建设性的建议。					
4	我能够按要求完成教学任务。					
5	即使在无人监督的情况下，我依然对工作保持负责。					
	情境绩效					
6	我会讨论一些对同事有益的事项。					
7	我为同事的成就感到自豪。					
8	我不会将工作责任推卸给同事。					
9	我愿意与同事分享知识。					
	适应性绩效					
10	我能够适应以前未曾遇到过的工作。					
11	我能够与不同文化背景的人保持良好关系。					
12	我乐于接受不同的价值观和文化。					

I appreciate your cooperation in this study.

APPENDIX E

Item-Objective Congruence Examination
Result of the Index of Item-Objective Congruence Examination

Construct No.	Item No.	Rating from experts					$\sum R$	$\frac{\sum R}{N}$	Result
		Dr. Ji Biao	Dr. Zhu Jinlong	Dr. Tan Minda	Dr. Wang Fei	Dr. Hu Xiaoyu			
I Job Characteristics (JC)	1	1	1	1	1	1	5	1	Pass
	2	1	1	1	0	1	4	0.8	Pass
	3	1	1	1	1	1	5	1	Pass
	4	1	1	0	1	1	4	0.8	Pass
	5	1	1	1	1	1	5	1	Pass
	6	1	1	1	1	1	5	1	Pass
	7	0	1	1	1	1	4	0.8	Pass
	8	1	1	1	1	0	4	0.8	Pass
	9	1	1	1	1	1	5	1	Pass
	10	1	1	1	1	1	5	1	Pass
II Competency	1	1	1	1	1	1	5	1	Pass
	2	1	1	1	0	1	4	0.8	Pass
	3	1	1	1	1	1	5	1	Pass
	4	0	1	1	1	1	4	0.8	Pass
	5	1	1	0	1	1	4	0.8	Pass
	6	1	1	1	1	1	5	1	Pass
	7	1	1	1	1	1	5	1	Pass
	8	1	1	0	1	1	4	0.8	Pass
	9	1	1	1	1	1	5	1	Pass
	10	1	1	1	1	1	5	1	Pass
III Organizational Support(OS)	1	1	1	1	1	1	5	1	Pass
	2	1	0	1	1	1	4	0.8	Pass
	3	1	1	1	1	1	5	1	Pass
	4	0	1	1	1	1	4	0.8	Pass
	5	1	1	0	1	1	4	0.8	Pass
	6	1	1	1	1	1	5	1	Pass
	7	1	1	1	1	1	5	1	Pass
	8	1	1	0	1	1	4	0.8	Pass
	9	1	1	1	1	1	5	1	Pass
	10	1	0	1	1	1	4	0.8	Pass
IV Self-Efficacy	1	1	1	1	1	1	5	1	Pass
	2	1	1	1	1	1	5	1	Pass
	3	1	1	1	1	1	5	1	Pass
	4	1	0	1	1	1	4	0.8	Pass
	5	1	1	1	1	1	5	1	Pass

	6	1	1	1	1	1	5	1	Pass
V Team Cohesiveness	1	1	0	1	1	1	4	0.8	Pass
	2	1	1	1	1	1	5	1	Pass
	3	1	1	1	1	1	5	1	Pass
	4	1	1	1	1	1	5	1	Pass
	5	1	0	1	1	1	4	0.8	Pass
	6	1	1	1	1	0	4	0.8	Pass
	7	1	1	1	1	1	5	1	Pass
	8	0	1	1	1	1	4	0.8	Pass
VI Discipline Leaders' Work Performance	1	1	1	1	1	1	5	1	Pass
	2	1	1	1	1	1	5	1	Pass
	3	1	0	1	1	1	4	0.8	Pass
	4	1	1	1	1	0	4	0.8	Pass
	5	1	1	1	1	1	5	1	Pass
	6	1	1	1	1	1	5	1	Pass
	7	1	1	0	1	1	4	0.8	Pass
	8	1	1	1	1	1	5	1	Pass
	9	1	0	1	1	1	4	0.8	Pass
	10	1	1	1	1	1	5	1	Pass
	11	0	1	1	1	1	4	0.8	Pass
	12	1	1	1	1	1	5	1	Pass

Result of the Index of Item-Objective Congruence (OC) Rating

List of Experts for IOC of Research Instrument

No.	Full Name	Organiza-tion	Position	Graduation Institution	Education Level	Years of Experience
1	Ji Biao	Shandong Normal University	Professor/Executive Vice Dean of Shandong Vocational Education Research Institute	Shandong Normal University	Ph.D. in Education	25
2	Zhu Jinlong	Guangzhou Kangda Vocational and Technical College	Executive President/Associate Professor	Peking University	Ph.D. in Education	25
3	Wang Fei	Shandong Women's University	Dean of the School of Education	Nanjing University	Ph.D. in Education	20
4	Tan Minda	Shandong Normal University	Associate Professor	Pennsylvania State University	Ph.D. in Philosophy	10
5	Hu Xiaoyu	Shandong University of Arts	Associate Professor	Thonburi University	Ph.D. in Education	10

SU. 0210.04/ 31

Graduate School of Education
Siam University
38 Petchkasem Bangwa
Phasicharoan Bangkok 10160

January 2025

Dear Professor Ji Biao,

Professor at Shandong Normal University, Executive Vice Dean of Shandong Vocational Education Research Institute, Ph.D. in Education, graduated from Shandong Normal University.

Subject: Invitation to be an expert to examine research tools

Since Ms. Sun Xiaotong, student ID. 6319002019, a doctoral student in English program, Graduate School of Education works on dissertation: "A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province" with Assoc. Prof. Dr. Boonmee Nenyod (an advisor) and Assistant Professor Dr. Leehsing Lu (a co-advisor), the Graduate School of Education would like to invite you to be an expert to examine the research tools.

Questionnaire regarding current circumstances is a significant tool of the research which is needed to be considered and examined including suggestion for research tools. Ms Sun Xiaotong will contact and coordinate all details by herself.

We really appreciate your help.

Best regards

Professor Emeritus Dr.Chanita Rukspollmuang
Dean of Graduate School of Education

SU. 0210.04/ 029

Graduate School of Education
Siam University
38 Petchkasem Bangwa
Phasicharoan Bangkok 10160

January 2025

Dear Assoc. Prof. Zhu Jinlong;

Executive President of Guangzhou Kangda Vocational and Technical College. Associate Professor, Ph.D. in Education, graduated from Peking University;

Subject: Invitation to be an expert to examine research tools

Since Ms. Sun Xiaotong, student ID. 6319002019, a doctoral student in English program, Graduate School of Education works on dissertation: "A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province" with Assoc. Prof. Dr. Boonmee Nenyod (an advisor) and Assistant Professor Dr. Leehsing Lu (a co-advisor), the Graduate School of Education would like to invite you to be an expert to examine the research tools.

Questionnaire regarding current circumstances is a significant tool of the research which is needed to be considered and examined including suggestion for research tools. Ms Sun Xiaotong will contact and coordinate all details by herself.

We really appreciate your help.

Best regards

Professor Emeritus Dr.Chanta Rukspollmuang
Dean of Graduate School of Education

SU. 0210.04/ 029

Graduate School of Education
Siam University
38 Petchkasem Bangwa
Phasicharoan Bangkok 10160

January 2025

Dear Assoc. Prof. Tan Minda, PhD.

Associate Professor at Shandong Normal University, Ph.D. in Philosophy, graduated from Pennsylvania State University.

Subject: Invitation to be an expert to examine research tools

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Best regards

Professor Emeritus Dr.Chanita Rukspollmuang
Dean of Graduate School of Education

SU. 0210.04/ 029

Graduate School of Education
Siam University
38 Petchkasem Bangwa
Phasicharoan Bangkok 10160

January 2025

Dear Professor Wang Fei,

Dean of the School of Education at Shandong Women's University, Ph.D. in Education, graduated from Nanjing University

Subject: Invitation to be an expert to examine research tools

Since Ms. Sun Xiaotong, student ID 6319002019, a doctoral student in English program, Graduate School of Education works on dissertation; "A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province" with Assoc. Prof. Dr. Boonmee Nenyod (an advisor) and Assistant Professor Dr. Leehsing Lu (a co-advisor), the Graduate School of Education would like to invite you to be an expert to examine the research tools.

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Best regards

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Dean of Graduate School of Education

SU. 0210.04/ 029

Graduate School of Education
Siam University
38 Petchkasem Bangwa
Phasicharoan Bangkok 10160

January 2025

Dear Assoc. Prof. Hu Xiaoyu,

Associate Professor at Shandong University of Arts, Ph.D. in Education, graduated from Thonburi University.

Subject: Invitation to be an expert to examine research tools

Since Ms. Sun Xiaotong, student ID 6319002019, a doctoral student in English program, Graduate School of Education works on dissertation: "A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province" with Assoc. Prof. Dr. Boonmee Nenyod (an advisor) and Assistant Professor Dr. Leehsing Lu (a co-advisor), the Graduate School of Education would like to invite you to be an expert to examine the research tools.

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Dean of Graduate School of Education

APPENDIX F

Refreshing Report Questionnaire Expert Evaluation Result

A structured expert evaluation was conducted to validate the conceptual model proposed in this study. Nine domain experts participated in the review process, each holding national credentials as Double-Qualified Teacher Training Experts and occupying leadership positions in vocational universities across Shandong Province. Their professional authority and direct engagement in vocational training policies and practice ensured the credibility of the evaluation.

The evaluation framework was structured around three primary dimensions:

- ✓ Propriety – Assessing the theoretical soundness and content relevance of each item;
- ✓ Feasibility – Evaluating the practical applicability within real-world enterprise internship environments;
- ✓ Utility – Measuring the item's potential to inform policy, guide teachers' work engagement strategies, and support curriculum enhancement.

Table: Expert Evaluation of the Conceptual Framework

Criteria Category	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Expert 8	Expert 9	Mean Score	SD
Propriety	4	5	4	4	4	4	4	4	5	4.2	0.42
	5	5	5	5	5	4	4	4	4	4.6	0.50
	4	5	4	5	5	5	5	5	5	4.8	0.42
	5	5	5	5	5	5	4	4	4	4.7	0.47
	5	5	5	4	4	4	4	5	5	4.6	0.50
Feasibility	5	4	4	5	5	5	5	5	5	4.8	0.42
	5	5	5	4	4	4	4	5	5	4.6	0.50
	5	5	5	5	5	4	4	5	5	4.8	0.42
	4	4	4	4	4	4	5	5	5	4.4	0.47
	4	4	4	4	5	5	5	5	5	4.6	0.50
Utility	4	5	5	5	5	5	5	4	4	4.7	0.47
	4	4	5	4	5	4	4	4	4	4.2	0.42
	5	5	5	5	5	4	4	4	4	4.6	0.50
	5	4	4	4	5	5	5	4	4	4.4	0.50
	4	4	5	5	5	5	4	4	5	4.6	0.50

Participants Introduction

No.	Name	Title and Position	Research
1	Professor Ji Biao	Professor at Shandong Normal University, Executive Vice Dean of Shandong Vocational Education Research Institute, Ph.D. in Education, graduated from Shandong Normal University.	Vocational Education
2	Professor Wu Mengjun	The President of Shandong University of Engineering and Technology	Higher Education Management
3	Professor Tan Minda	Associate Professor at Shandong Normal University, Ph.D. in Philosophy, graduated from Pennsylvania State University.	Higher Education Management
4	Professor Wang Fei	Dean of the School of Education at Shandong Women's University, Ph.D. in Education, graduated from Nanjing University.	Higher Education Management
5	Dr. Hu Xiaoyu	Associate Professor at Shandong University of Arts, graduated from Bangkok Thonburi University	Higher Education Management
6	Professor Kuang Yizheng	Dean of Qilu Medical College	Higher Education Management
7	Professor Zhang Wei	Dean of Shandong University of Art&Design	Research on Higher Arts Education
8	Professor Zhou Changliang	Professor of Shandong Normal University, and the Shandong Provincial Architectural Design and Research Institute	Research on Higher Arts Education
9	Professor Li Meisong	Vice Dean at Shandong Engineering Vocational and Technical University	Business Administration



SU.0210.14/ 23

Graduate School of Education
Siam University
38 Phet Kasem Rd., Bang Wa,
Phasi Charoen, Bangkok 10160

31 March 2025

Dear Professor Ji Biao,
Executive Vice Dean of Shandong Vocational Education Research Institute

Subject: Invitation to be an expert to examine validation of research outcomes.

Since Ms. Sun Xiaotong, student ID. 6319002019, a doctoral student in English program, Graduate School of Education works on dissertation: "*A Performance Improvement Model of Discipline Leaders in Higher Vocational Colleges in Shandong Province*" with Assoc. Prof. Dr. Boonmee Nenyod (the advisor) and Dr. LeeHsing Lu (the co-advisor), the Graduate School of Education would like to invite you to be an expert Invitation to be an expert to evaluate the research results.

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We really appreciate your help.

Yours sincerely,

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Dean of Graduate School of Education

SU.0210.14/ 23

Graduate School of Education
Siam University
38 Phet Kasem Rd., Bang Wa,
Phasi Charoen, Bangkok 10160

31 March 2025

Dear Associate Professor Wu Mengjun,
President of Shandong Engineering Vocational and Technical University

Subject: Invitation to be an expert to examine validation of research outcomes.

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SU.0210.14/23

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Siam University
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Phasi Charoen, Bangkok 10160

31 March 2025

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Shandong University of Arts

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Dean of Graduate School of Education

SU.0210.14/23

Graduate School of Education
Siam University
38 Phet Kasem Rd., Bang Wa,
Phasi Charoen, Bangkok 10160

31 March 2025

Dear Professor Kuang Yizhen,
Qilu Medical College

Subject: Invitation to be an expert to examine validation of research outcomes.

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31 March 2025

Dear Associate Professor Zhang Wei,
Shandong University of Art & Design

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SU.0210.14/ 23

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Siam University
38 Phet Kasem Rd., Bang Wa,
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31 March 2025

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Shandong Normal University and the Shandong Provincial Architectural Design and Research Institute

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Dean of Graduate School of Education

SU.0210.14/ 23

Graduate School of Education
Siam University
38 Phet Kasem Rd., Bang Wa,
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31 March 2025

Dear Associate Professor Li Meisong,
Shandong Engineering Vocational and Technical University

Subject: Invitation to be an expert to examine validation of research outcomes.

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Dean of Graduate School of Education

APPENDIX G

PIM

ใบรับรองจริยธรรมการวิจัยในมนุษย์
สถาบันการจัดการปัญญาภิวัฒน์

หมายเลขใบรับรอง: PIM-REC 047/2568

ข้อเสนอการวิจัยนี้ และเอกสารประกอบของข้อเสนอการวิจัยตามรายการแสดงด้านล่าง ได้รับการพิจารณาจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์ สถาบันการจัดการปัญญาภิวัฒน์แล้ว คณะกรรมการฯ มีความเห็นว่าข้อเสนอการวิจัยที่จะดำเนินการมีความสอดคล้องกับหลักจริยธรรมสากล ตลอดจนกฎหมาย ข้อบังคับและข้อกำหนดภายในประเทศ จึงเห็นสมควรให้ดำเนินการตามข้อเสนอการวิจัยนี้ได้

ชื่อข้อเสนอโครงการ: A Performance Improvement Model of Discipline Leaders in Higher Vocational College in Shandong Province

รหัสข้อเสนอการวิจัย (ถ้ามี): -

หน่วยงาน: Faculty of Education, Siam University

ผู้วิจัยหลัก: Sun Xiaotong

ลงนาม.....

(อาจารย์ ดร.พิเชษฐ์ มุสิกะโปดก)
ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์
สถาบันการจัดการปัญญาภิวัฒน์

วันที่รับรอง: 22 ธันวาคม 2568 **วันหมดอายุ:** 22 ธันวาคม 2569

เอกสารที่คณะกรรมการรับรอง

1. โครงร่างการวิจัย
2. ข้อมูลสำหรับชี้แจงกลุ่มประชากรหรือผู้มีส่วนในการวิจัย และ ใบแสดงความยินยอมจากกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย
3. เครื่องมือที่ใช้ในการวิจัย/เก็บรวบรวมข้อมูล เช่น แบบสอบถาม แบบสัมภาษณ์ ประเด็นในการสนทนากลุ่ม เป็นต้น

เงื่อนไขการรับรอง

1. นักวิจัยดำเนินการวิจัยตามที่ระบุไว้ในโครงร่างการวิจัยอย่างเคร่งครัด
2. นักวิจัยรายงานสถานะโครงการวิจัยเป็นประจำทุกปี หรือเมื่อมีสิ่งที่เกิดขึ้นหรือเปลี่ยนแปลงกิจกรรมวิจัยใดๆ ต่อคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ภายในกำหนด
3. นักวิจัยส่งรายงานความก้าวหน้าต่อคณะกรรมการพิจารณาจริยธรรมการวิจัยในมนุษย์ตามเวลาที่กำหนดหรือเมื่อได้รับการร้องขอจากคณะกรรมการฯ
4. หากการวิจัยไม่สามารถดำเนินการแล้วเสร็จตามกำหนด ผู้วิจัยต้องยื่นขออนุมัติใหม่ก่อนล่วงเวลาอย่างน้อย 1 เดือน
5. หากการวิจัยแล้วเสร็จสมบูรณ์ ผู้วิจัยต้องแจ้งปิดโครงการตามแบบฟอร์มที่กำหนด

AUTHOR'S BIOGRAPHY

Name and Surname:	Sun Xiaotong
Date of Birth:	04/09/1988
Nationality:	Chinese
Birth of Place:	Jinan City, Shandong Province, China
Address:	No.6196 Jingshi East Road, Jinan City, Shandong Province, China
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Work Position:	Full-time Faculty Member in Art and Design
Workplace:	Shandong Engineering Vocational and Technical University
Bachelor's Degree	
Degree:	Bachelor
Major:	Tourism Management
Institution:	Shanxi University of Finance and Economics
Country:	China
Year:	2011
Master's Degree	
Degree:	Master
Major:	Hospitality and Tourism Management
Institution:	University of Birmingham
Country:	The United Kingdom
Year:	2013

Publishing Research:

I have published two academic papers in core Chinese journals. In August 2025, I published the paper *"Research on the Cultivation of Teaching Competency of University Teachers under the Lifelong Education Perspective"* in **Modern Vocational Education (CNKI)**. In July 2025, I published the paper *"Application Research of Excellent Traditional Chinese Culture in Higher Education Aesthetics"* in **New Legends (CNKI)**.

As the first author of both papers, my research work has contributed to the enhancement of aesthetic education, teacher professional development, and curriculum innovation in higher vocational institutions.