

FORMULATING AN INCENTIVE MECHANISM FOR SUSTAINABLE
PROFESSIONAL DEVELOPMENT OF YOUNG TEACHERS IN HIGHER
VOCATIONAL COLLEGES IN HUNAN PROVINCE

LIU QIAN

A thesis paper submitted in partial fulfillment of the requirements for the Degree of
Doctor of Philosophy Program in Educational Management for Sustainable Development

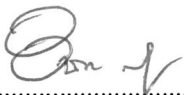
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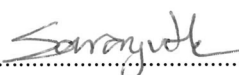
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Thesis Title Formulating an Incentive Mechanism for Sustainable Professional Development
of Young Teachers in Higher Vocational Colleges in Hunan Province

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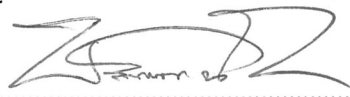

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ABSTRACT

This study examined the current incentive mechanisms for young teachers in higher vocational colleges in Hunan Province, developed a model for their sustainable professional development, and evaluated its suitability and feasibility. The research includes 276 participants from three colleges, using a mixed-method approach with questionnaires, interviews, focus groups, and evaluation forms. Data were analyzed through qualitative and quantitative methods.

The study found that the current incentive mechanisms for young teachers in Hunan's higher vocational colleges are at a moderate level in terms of personal, material, and interpersonal needs, as well as institutional support. The proposed mechanism includes five key components: (1) policy support, (2) resource guarantees, (3) development platforms, (4) evaluation and incentives, and (5) career support and psychological care. Its suitability and feasibility were rated highly, indicating strong implementation potential. Data were collected through questionnaires, interviews, and focus group discussions. IOC tests ensured consistency and applicability. The questionnaire was tested on 248 young teachers and 28 school personnel managers from three higher vocational colleges in Hengyang, Hunan Province. Reliability analysis using Cronbach's Alpha yielded 0.962 and 0.975, indicating high consistency. KMO

values of 0.894 and 0.837 confirmed strong validity. Bartlett's sphericity test verified positive correlations between variables, supporting further analysis.

The study developed an incentive mechanism to support the sustainable professional development of young teachers in higher vocational colleges in Hunan Province and evaluated its suitability and feasibility. The five key components—policy support, resource guarantees, development platforms, evaluation and incentives, and career support with psychological care—scored above 3.5, with standard deviations below 0.80. These results indicate high consistency among expert evaluations, confirming the mechanism's strong applicability and feasibility.

To effectively implement the incentive mechanism, policymakers should enhance institutional support, optimize resource utilization, and establish a monitoring and feedback system. Dynamic adjustments based on real conditions will improve effectiveness. These measures will create a supportive career development environment for young teachers and contribute to the high-quality development of vocational education in Hunan Province.

Keywords: Incentive Mechanism, Sustainable development, Professional Development, Young Teachers, Higher vocational colleges

ชื่อเรื่อง	การกำหนดกลไกหัวใจเพื่อการพัฒนาวิชาชีพครูรุ่นใหม่ ในวิทยาลัยอาชีวศึกษาที่ยั่งยืนในมณฑลหูหนาน
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บทคัดย่อ

การศึกษานี้มุ่งสำรวจกลไกหัวใจสำหรับอาจารย์รุ่นใหม่ในวิทยาลัยอาชีวศึกษาในมณฑลหูหนาน พัฒนาโมเดลเพื่อส่งเสริมการพัฒนาวิชาชีพอย่างยั่งยืน และประเมินความเหมาะสมและความเป็นไปได้ของโมเดลดังกล่าว โดยใช้วิธีวิจัยเชิงผสมผสานกับกลุ่มตัวอย่าง 276 คน จากวิทยาลัย 3 แห่ง โดยเก็บรวบรวมข้อมูลผ่านแบบสอบถาม การสัมภาษณ์ และการสนทนากลุ่ม แล้ววิเคราะห์โดยใช้ทั้งวิธีเชิงคุณภาพและเชิงปริมาณ

การศึกษานี้ใช้วิธีวิเคราะห์ทั้งเชิงคุณภาพและเชิงปริมาณ พบว่ากลไกหัวใจสำหรับอาจารย์รุ่นใหม่ในวิทยาลัยอาชีวศึกษาในมณฑลหูหนานอยู่ในระดับปานกลาง ทั้งในด้านความต้องการส่วนบุคคล วัตถุประสงค์ และความสัมพันธ์ระหว่างบุคคล รวมถึงการสนับสนุนเชิงสถาบัน กลไกที่เสนอประกอบด้วย 5 องค์ประกอบหลัก ได้แก่ การสนับสนุนเชิงนโยบาย การรับประกันทรัพยากร แพลตฟอร์มการพัฒนา การประเมินและแรงจูงใจ และการสนับสนุนอาชีพและดูแลด้านจิตใจ กลไกนี้ได้รับการประเมินว่ามีความเหมาะสมและความเป็นไปได้ในระดับสูง แสดงถึงศักยภาพในการนำไปใช้จริงได้อย่างมีประสิทธิภาพ ข้อมูลถูกเก็บผ่านแบบสอบถาม การสัมภาษณ์ และการสนทนากลุ่มย่อย โดยมีการทดสอบ IOC เพื่อความสอดคล้องและความเหมาะสม แบบสอบถามถูกทดสอบกับอาจารย์รุ่นใหม่ 248 คน และผู้บริหาร 28 คน จากวิทยาลัยอาชีวศึกษา 3 แห่ง ในเมืองเหิงหยาง มณฑลหูหนาน การวิเคราะห์ความเชื่อมั่นโดยใช้ค่าสัมประสิทธิ์ Cronbach's Alpha ได้ค่า 0.962 และ 0.975 แสดงถึงความสอดคล้องสูง ค่าดัชนี KMO อยู่ที่ 0.894 และ 0.837 ยืนยันความเที่ยงตรงของแบบสอบถาม การทดสอบ Bartlett's sphericity ยังแสดงให้เห็นว่าสหสัมพันธ์ระหว่างตัวแปรเป็นไปในทิศทางบวก สนับสนุนการวิเคราะห์ข้อมูลเพิ่มเติม

การศึกษานี้ได้พัฒนากลไกแรงใจเพื่อส่งเสริมการพัฒนาวิชาชีพอย่างยั่งยืนของอาจารย์รุ่นใหม่ ในวิทยาลัยอาชีวศึกษาในมณฑลหูหนาน และประเมินความเหมาะสมและความเป็นไปได้ของกลไกดังกล่าว โดย 5 องค์ประกอบหลัก ได้แก่ การสนับสนุนเชิงนโยบาย การรับประกันทรัพยากร แพลตฟอร์มการพัฒนา การประเมินและแรงจูงใจ และการสนับสนุนอาชีพและจิตใจ ได้คะแนนเฉลี่ยสูงกว่า 3.5 และค่าเบี่ยงเบนมาตรฐานต่ำกว่า 0.80 แสดงถึงความสอดคล้องสูงในการประเมินของผู้เชี่ยวชาญ ยืนยันถึงความเหมาะสมและความเป็นไปได้ในการนำไปใช้จริง

ทั้งนี้ เพื่อให้การดำเนินกลไกแรงใจมีประสิทธิภาพ ผู้กำหนดนโยบายควรเสริมสร้างการสนับสนุนเชิงสถาบัน เพิ่มประสิทธิภาพการใช้ทรัพยากร และจัดตั้งระบบติดตามและข้อเสนอแนะ การปรับปรุงแบบไดนามิกตามสภาพการณ์จริงจะช่วยเพิ่มประสิทธิผล มาตรการเหล่านี้จะสร้างสภาพแวดล้อมที่เอื้อต่อการพัฒนาอาชีพของอาจารย์รุ่นใหม่ และส่งเสริมการพัฒนาการศึกษาอาชีวศึกษาที่มีคุณภาพในมณฑลหูหนาน

คำสำคัญ: กลไกแรงจูงใจ, การพัฒนาที่ยั่งยืน, การพัฒนาวิชาชีพ, อาจารย์รุ่นใหม่, วิทยาลัยอาชีวศึกษาชั้นสูง

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Chapter 1

Introduction

Rationale

As China enters a new stage of development, industrial upgrading and economic restructuring are accelerating, the demand for technical and skilled personnel in all walks of life is becoming more urgent, and the key position and role of vocational education are becoming more and more prominent. In 2014, the State Council issued the Decision on Accelerating the Development of Modern Vocational Education , which proposed a comprehensive plan for accelerating the promotion of modern vocational education.

In January 2019, the State Council issued the National Vocational Education Reform Implementation Plan , emphasizing that vocational education and general education are two different types of education with equal importance, and placed vocational education in a more prominent position in education reform and innovation and economic and social development.

Sustainable Development Goal 4 (SDG4) is an important part of the United Nations 2030 Agenda for Sustainable Development and specifically aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This goal emphasizes the key role of education as the cornerstone of social progress, and teachers are its cornerstone. In fact, teachers are the main resource and key promoter of the formulate of the vocational education system.

Young teachers, as the core force of higher vocational colleges, have contributed to the establishment of high-quality, professional and innovative teaching teams. Their teaching efficiency and professional ability not only determine the upper limit of the educational capacity of these institutions, but also are the fundamental guarantee for providing high-quality education and cultivating technical and skilled talents. However, the incentive mechanism for sustainable professional

development of young teachers in higher vocational colleges has many difficulties, such as single incentive means, lack of personalization and comprehensiveness,

Imperfect policies and regulations, unreasonable professional title review and performance evaluation mechanism, and contradictions between teaching and scientific research, which lead to high pressure and unbalanced development for young teachers.

Zeng (2005) pointed out that my country's incentive mechanism has shortcomings such as institutional lag, short-sighted goals, rigid principles, and simplistic methods. Aikehead (2001) believes that schools should focus on the working environment and working conditions when motivating teachers, and at the same time create an atmosphere of fairness and justice scholars such as Zhang and Shi (2002) believe that teacher motivation requires a combination of multiple forms or measures and is integrated into teachers' daily work. They proposed a diversified and integrated incentive model to maximize the incentive effect He and Liu (2014) found in their study on the motivation of teachers in higher vocational colleges that there is an independent relationship between economic motivation, professional motivation and environmental motivation. Chen (2005) believes that to build effective incentive measures, we must adhere to the people-oriented principle, create a good environment, establish a relatively reasonable assessment and incentive system, and the salary strategy must be comprehensive; and handle various incentive relationships reasonably and scientifically.

Therefore, it is crucial to promote the formulate of an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges, because it can stimulate teachers' work enthusiasm and creativity, promote the optimization of teaching resources, and provide impetus for improving the quality of education in higher vocational colleges. Under the current circumstances, promoting the sustainable professional development of young teachers and establishing effective incentive mechanisms have become key requirements for the development of higher vocational colleges. It is also the key for higher vocational colleges to cope with these challenges and ensure their continued success and vitality.

Research Questions

1. What is the current status of the incentive mechanism for professional development of young teachers in Hunan vocational colleges?
2. What is the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?
3. Is the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province effective?

Objectives

1. To study the current status of incentive mechanism for young teachers in higher vocational colleges in Hunan Province.
2. To Formulate an incentive mechanism to promote the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.
3. To evaluate the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Scope of the Research

The research subjects are from three public higher vocational colleges in Hengyang City, Hunan Province, namely: Hunan University of Environment and Biology, Hunan Financial and Industrial Vocational-technical College and Hunan Technical College of Railway High-speed. As state-funded non-profit institutions, public vocational colleges are funded by state grants and follow a government-established management framework. This structure supports the professional development of teachers and helps stabilize the teaching staff. Incentives for professional development exist at national, regional, and institutional levels, taking into account factors such as teachers' job stability.

Step 1: Research on the current status of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

1.1 Using questionnaires to analyze the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province

Population

The study population included 700 young teachers and 32 school personnel managers from three public vocational colleges in Hengyang City, Hunan Province.

Sample Group

The sample group of this study was randomly selected using the table provided by Krejcie and Morgan (Krejcie and Morgan, 1970), and was determined to be 248 young teachers and 28 school personnel managers.

Table 1.1 Sampling table for young teachers survey

NO	Hunan Vocational Colleges	Population	Sample Group
1	Hunan University of Environment and Biology	241	83
2	Hunan Financial and Industrial Vocational-technical College	236	83
3	Hunan Technical College of Railway High-speed	239	82
Total		700	248

Table 1.2 Sampling table of school personnel management personnel survey

NO	Hunan Vocational Colleges	Population	Sample Group
1	Hunan University of Environment and Biology	11	10
2	Hunan Financial and Industrial Vocational-technical College	10	9
3	Hunan Technical College of Railway High-speed	11	9
Total		32	28

1.2 Through interviews, we understand the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province. The interview members were randomly selected using a purposive sampling method, including 6 young teachers and 6 school personnel management personnel.

Step 2: Formulating an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

2.1 Constructing a draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province through focus group discussions. Six people participating in the focus group discussions were randomly selected using a purposive sampling method, and the selection criteria were as follows:

Table 1.3 Expert qualification criteria for constructing the incentive mechanism draft

Eligibility criteria	Number of experts
Experts and scholars with doctoral degrees who research teacher professional development and incentive mechanisms	3
Experts with professorial title and more than 5 years of experience in personnel management	3

2.2 Review the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province through focus group discussion, and build an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Six experts were randomly selected using a purposive sampling method, and the sampling criteria were as follows:

Table 1.4 Expert qualification criteria for building incentive mechanisms

Eligibility criteria	Number of experts
Young teachers with a master's degree or above and more than 5 years of work experience	3
Educational institution managers with a professional title of associate professor or above and more than 10 years of work experience	3

Step 3: Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

The incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was evaluated from the perspective of suitability and feasibility. According to the selection qualification criteria, five experts with knowledge and ability in constructing incentive mechanisms in higher vocational colleges in Hunan Province were selected. Purposeful sampling was adopted, and the sampling criteria were as follows:

Table 1.5 Expert qualification criteria for evaluating incentive mechanisms

Eligibility criteria	Number of experts
Experts with PhDs, knowledge and experience in mechanism building	1
personnel managers with a master s degree or above and a professional title of associate professor or above	2
Educational institution managers with a master s degree and a professional title of associate professor or above	1
Teachers with a master s degree or above and a title of associate professor or above	1

The Variable

Independent variables:

People-related factors: young teachers, school personnel managers.

Factors related to needs: material needs of life, personal development needs, and interpersonal relationship needs.

Dependent Variable:

Factors related to incentive mechanisms: policy support, resource guarantee, development platform, evaluation and incentives, career support and psychological care.

Advantages

1. In-depth understanding of the current research status. Through in-depth research on the current status, we can accurately identify the problems and challenges faced by the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province, understand the successes and failures in existing practices, and help determine the key factors and influencing factors of the incentive mechanism for the professional development of young teachers.

2. Construct an incentive mechanism to promote the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Based on a deep understanding of the current status, a more personalized and targeted incentive mechanism can be formulated to solve specific problems and promote sustainable development. An effective incentive mechanism should make comprehensive use of internal and external resources of the school, integrate the strength of all parties, and improve the actual effect.

3. Clear evaluation of the effectiveness of the incentive mechanism. Consider establishing an effective evaluation system when creating the incentive mechanism so that the effectiveness of the incentive mechanism can be monitored in real time during implementation. By evaluating the effectiveness of the incentive mechanism, the strategy can be adjusted in a timely manner to ensure that it is consistent with the actual status and improve the effect of sustainable development.

These three aspects will help ensure the in-depth and comprehensiveness of the research, develop more forward-looking and operational incentive mechanisms, and ensure the actual effect of the incentive mechanisms through evaluation. This systematic research method will help improve the success probability of the sustainable development strategy for the professional development of young teachers in higher vocational colleges in Hunan Province.

Definition of Terms

1. Incentive Mechanism: An incentive mechanism is a pivotal component of the education system, serving to boost teachers' enthusiasm, enhance their teaching efficacy, and foster creativity. It plays a crucial role in improving teaching quality, encouraging self-development among educators, and fortifying the long-term prospects of educational institutions. Additionally, an effective incentive mechanism contributes to educational reform, heightening the overall competitiveness of educational institutions.

2. Sustainable Professional Development: Sustainable professional development pertains to the continual enhancement of teachers' learning, skills, and

knowledge within the educational domain. It involves refining teaching methodologies, deepening educational theory, embracing educational technologies, and engaging in ongoing professional growth. Sustainable development necessitates educators proactive reflection on teaching practices, pursuit of educational innovation, and commitment to steering educational systems toward greater equity, inclusivity, and sustainability.

3. Policy support: The policy support mentioned here mainly refers to a series of policy documents and specific measures issued by the government and relevant departments to strengthen the construction of university teaching staff, protect teachers rights and interests, and improve the quality of education.

4. Resource guarantee: The resource guarantee mentioned here refers to providing the necessary material and non-material resources for university teaching, scientific research, talent training and other activities, and ensuring the effective supply and rational allocation of these resources.

5. Development platform: The development platform mentioned here refers to an environment or carrier that provides the resources and conditions required for the development of university teachers and students. This environment or carrier can be a physical space, such as an industrial park, a science and technology park, a teaching building, a laboratory, etc., or a virtual space, such as an online learning platform, a social network, etc. Its core function is to promote innovation and development, and to support the teaching, scientific research, learning and personal growth of university teachers and students by gathering resources, optimizing the environment, and providing services.

6. Evaluation and incentives: The evaluation and motivation mentioned here refers to the comprehensive evaluation of teachers teaching quality and the process of stimulating teachers work enthusiasm and creativity through corresponding reward mechanisms. Teacher evaluation is a comprehensive review and evaluation of teachers work, aiming to promote personal professional development of teachers and improve teaching quality. Teacher incentives are achieved through corresponding reward mechanisms, such as honorary titles,

bonuses, promotion opportunities, etc., to stimulate teachers' work enthusiasm and creativity.

7. career support and psychological care: The professional support and psychological care for teachers mentioned here refers to the career development opportunities, mental health support and positive working environment provided by colleges and universities for teachers. In terms of career support, colleges and universities provide a variety of training and further study opportunities to help teachers improve their professional skills and teaching methods and achieve career growth. This not only helps to enhance teachers' job satisfaction and self-efficacy, but also improves the overall teaching quality and academic level. In terms of psychological care, colleges and universities pay attention to the mental health of teachers. By setting up special psychological counseling centers, they provide free or low-cost psychological counseling services to teachers to help them identify and deal with common psychological problems such as stress, anxiety and depression. At the same time, colleges and universities also strive to create a supportive and inclusive working environment, including reasonably arranging workloads, providing flexible working hours, and ensuring that teachers have enough rest and vacation time, so as to reduce teachers' work pressure and psychological burden.

8. Teaching Quality: Teaching quality encompasses a comprehensive assessment of educators' instructional prowess, resource allocation, management acumen, and evaluation practices within educational settings. It encompasses teaching outcomes, instructional processes, educators' professional competencies, student learning outcomes, prudent utilization of educational resources, and educational management and evaluation practices. Teaching quality profoundly influences students' learning outcomes and the overall effectiveness of educational endeavors, rendering it a pivotal metric in educational practice.

9. Research Level: Research level denotes the scholarly achievements and competencies of individual educators or academic teams. It encompasses metrics such as the quantity and caliber of research projects, publication records, citation metrics, acquisition of research grants and accolades, disciplinary influence, and

engagement in international academic collaborations. Research proficiency reflects educators or academic teams' research capabilities and competitiveness within specific domains.

10. Salary System: The salary system refers to a set of regulations and protocols governing the remuneration and benefits of educators and staff within academic institutions. It encompasses fundamental salary structures, bonus schemes, fringe benefits, promotion criteria, performance evaluations, and related protocols. The primary objective of the salary system is to ensure equitable and fair compensation for employees while incentivizing continuous improvement in work performance.

11. Training and Professional Title Evaluation System: Teacher training encompasses structured educational activities aimed at enhancing educators' pedagogical knowledge, teaching skills, and educational philosophies. Its overarching goal is to elevate educators' professional acumen, enabling them to deliver superior educational outcomes, foster holistic student development, and enhance institutional educational quality. The professional title evaluation system involves a formalized process wherein professionals apply for advancements in professional titles. Evaluation committees, comprising leaders and subject matter experts, assess applicants' academic credentials, professional competencies, and contributions in accordance with established evaluation criteria, culminating in recommendations regarding title advancements.

12. Young Teachers in Higher Vocational Colleges: Young teachers in higher vocational colleges are educators under the age of 35 engaged in teaching roles within higher vocational educational institutions. They play a vital role in delivering high-quality education and are characterized by their high levels of professional proficiency and teaching efficacy. As the emerging talent pool in educational institutions, they are committed to advancing teaching standards, enhancing research capabilities, and contributing to the educational mission of higher vocational colleges.

13. Higher Vocational Colleges: Higher vocational colleges, also known as higher vocational institutions, constitute a significant segment of higher education institutions, specializing in vocational education. These institutions play a pivotal role in training highly skilled professionals for various sectors, including production, formulate, services, and management. As a crucial component of vocational education, higher vocational colleges are tasked with nurturing talent tailored to meet the practical needs of society, thereby driving economic and social development.

14. Material needs of life: The material needs of teachers in higher vocational colleges refer to the needs of teachers in higher vocational colleges in their daily lives for various material conditions and resources required for their basic life and work. The satisfaction of these needs is of great significance to improving the quality of life and job satisfaction of teachers, and further promoting the overall development of higher vocational colleges.

15. Personal development needs: The personal development needs of teachers in higher vocational colleges refer to the requirements for improvement and perfection of their own abilities, knowledge, skills, etc. based on personal growth, professional improvement, teaching development, etc. during their careers. Meeting these needs is of great significance to improving the teaching quality of teachers, promoting the personal growth of teachers, and promoting the overall development of higher vocational colleges.

16. Interpersonal relationship needs: The interpersonal relationship needs of teachers in higher vocational colleges refer to the need for teachers to establish and maintain good relationships with colleagues, students, leaders and other relevant personnel in their professional activities. These needs are of great significance to teachers' personal growth, teaching quality and professional development. Meeting these needs will help improve teachers' teaching quality, promote personal growth and professional development, and also help build a harmonious campus culture and educational ecology.

17. Sustainable Development Goal 4 (SDG4): SDG4 is a key component of the United Nations 2030 Sustainable Development Agenda, focusing on ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. It underscores the imperative of fostering accessible, equitable, and high-quality education, along with lifelong learning opportunities, as integral components of sustainable development efforts worldwide. SDG4 underscores the critical role of education in advancing societal progress, eradicating poverty, safeguarding the environment, and fostering shared prosperity.

Research Framework

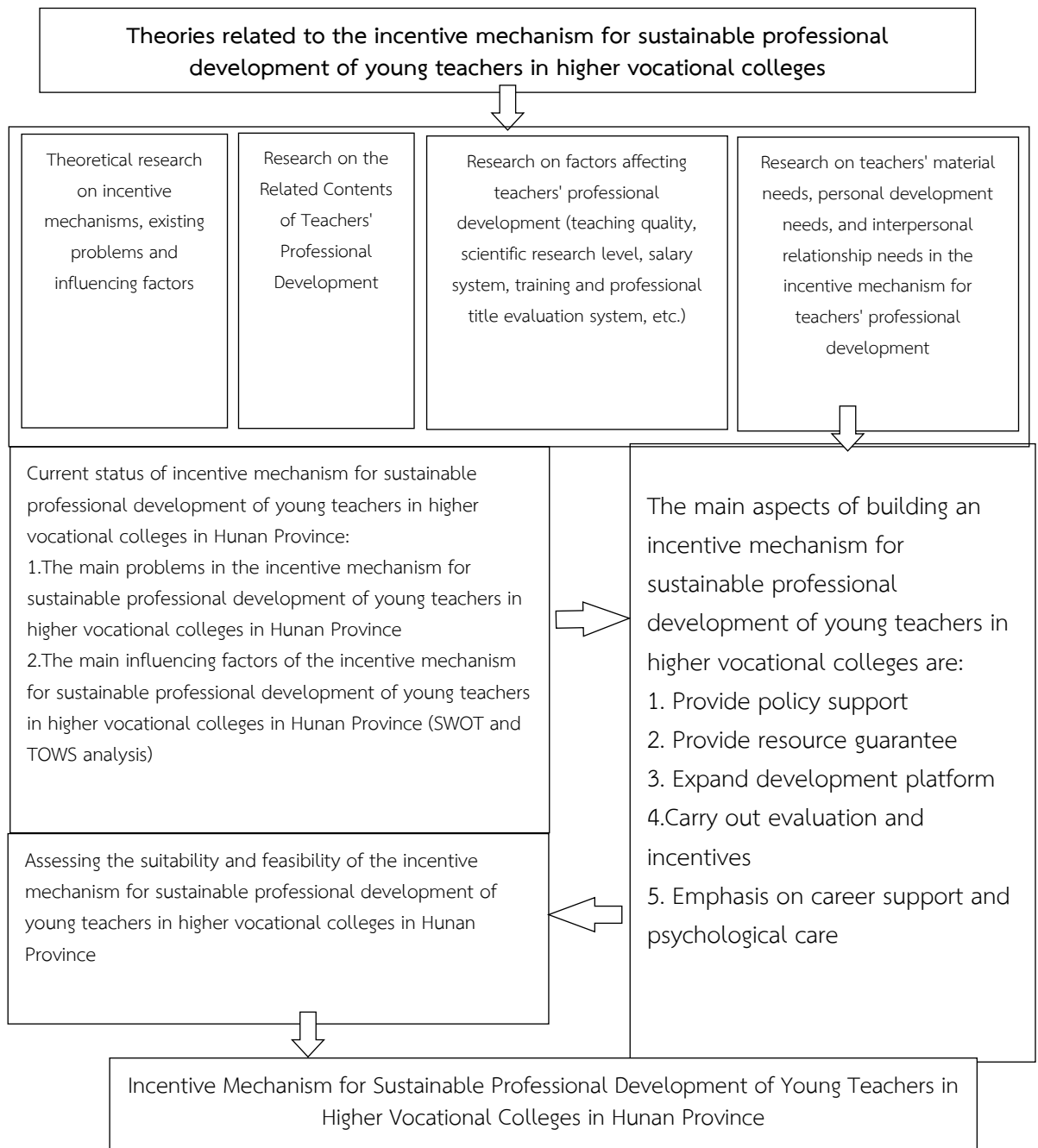


Figure 1.1 Research Framework

This study focuses on the incentive mechanism for sustainable development of young teachers in higher vocational colleges in Hunan Province. By sorting out relevant theories and existing problems (such as imperfect incentive mechanisms,

and teachers' professional development being limited by factors such as teaching quality, scientific research level, salary system, training and professional title evaluation), combined with an analysis of the current situation in Hunan Province (using the SWOT/TOWS method to identify major problems and influencing factors), the appropriateness and feasibility of the mechanism were evaluated, and the key path to building an incentive mechanism was proposed: including policy support, resource guarantee, development platform expansion, scientific evaluation and incentive system establishment, as well as career support and psychological care strengthening. It aims to systematically solve the material needs, personal growth needs and interpersonal relationship needs of young teachers' career development, and promote their sustainable professional development.

Chapter 2

Literature Review

In the study of the incentive mechanism promoting sustainable professional development among young teachers in higher vocational colleges across Hunan Province, the researcher meticulously analyzed pertinent concepts, theories, and literature. The following areas of interest were explored in depth:

1. Incentive Mechanism Concept
2. Sustainable Concept
3. Concept of incentive mechanism for sustainable professional development
4. Philosophy of Vocational Colleges
5. Related research

Each aspect was scrutinized to illuminate the intricate dynamics influencing the sustainable growth and professional enrichment of young educators in the higher vocational education landscape of Hunan Province.

Incentive Mechanism Concept

Literature research on incentive mechanism concepts includes research related to motivation theory and research on teacher incentive mechanisms.

1. Research related to motivation theory

1.1 Content-based motivation theory:

American psychologist Maslow. (1943) formulated the hierarchy of needs theory, which posits that human needs are arranged in a hierarchical order, with lower-level needs needing fulfillment before higher-level needs become motivational factors. This theory serves as a foundational framework for understanding employee motivation mechanisms.

In 1959, American psychologist Herzberg proposed his two-factor theory, suggesting that the depth and effectiveness of motivation vary depending on the

fulfillment of different needs. Herzberg emphasized that while basic needs must be met to prevent

dissatisfaction, sustained motivation requires attention to both external and internal factors. This entails providing suitable job roles that align with employees' strengths and talents, as well as offering spiritual encouragement and growth opportunities.

McClelland (1967) a Harvard University professor, advocated for the thematic apperception test method as a means to measure implicit and subconscious motivations effectively. He emphasized the importance of objectifying individual motivations, particularly when administered in group settings, using a simplified scoring method to categorize story characteristics.

Belbin (2000) discovered through research that performance-based pay systems may appear motivating on the surface but often fail to deliver expected results. He noted discrepancies between expectations and outcomes, indicating that such systems may not equally benefit all hardworking and high-performing employees.

Process motivation theory, introduced by American psychologist Vroom. (1964) highlights the control of individual behavior by altering the correlation between rewards, performance, and reward value. Adams (1965) explored employee motivation and perception, focusing on the fairness of reward sharing and its positive impact on employees. Porter and Lawler (1967) underscored the importance of aligning received rewards with psychological expectations to enhance job satisfaction and motivation.

Locke and Hughes (1968) outlined the transformation of needs into motivations, enabling individuals to align their efforts with organizational goals and make necessary adjustments to achieve desired outcomes. Blasco (2019) survey of 1,237 employees engaged in public welfare activities revealed that managerial care and timely recognition of outstanding performance were significant motivators.

Overall, these findings underscore the multifaceted nature of employee motivation and the importance of addressing various needs to foster sustained engagement and performance in the workplace.

1.2 Behavior modification theory:

Behavior modification theory, as evidenced by research conducted by Skinner scholars in 1966, emphasizes the influence of environmental stimuli on human behavior. Individuals tend to engage in specific behavioral methods to achieve desired goals, with behaviors resulting in beneficial outcomes being reinforced and repeated, while those leading to unfavorable results weaken or disappear.

Adams (2009) provided a psychological perspective on motivation, defining it as the drive to achieve personal goals and using these aspirations as guiding principles to enhance work efficiency among relevant performers.

Colen (2016) highlighted the managerial application of adjustment strategies to develop motivating models for employees. Managers strategically align external rewards with professional values, drawing upon their background and practical knowledge to foster motivation in the workforce.

In a study by Friedrich et al. (2020), different motivational effects of status and monetary incentives on employees at various levels were observed. This suggests the importance of tailoring incentive strategies to suit the diverse needs and preferences of employees.

1.3 Research on the importance of incentive mechanisms:

Research on the significance of incentive mechanisms underscores their critical role in stimulating enthusiasm, initiative, and creativity among teachers in higher vocational colleges. Yuan (2015) emphasized the pivotal role of teacher motivation in cultivating innovative technical talents through well-designed incentives.

Zhou (2000) attributed the increasing attention to incentives to various internal and external factors, such as intensified competition and diverse needs

among incentive targets. Organizations must enhance their competitiveness by motivating all members effectively, tapping into their inherent potential.

Hu (2003) advocated for the inclusion of competitive spirit in incentive systems, particularly within colleges and universities. A healthy competitive atmosphere can harness external pressures as motivation for teachers and staff, fostering a culture of continuous improvement and achievement.

1.4 Research on Implementation Defects of Incentive Mechanisms:

Liu and Qing (2002) stressed the need to align incentives with core values, as lacking this alignment may lead to employee dissatisfaction and negative impacts on performance.

Tang (2009) pointed out the issue of management inequality, which can result in arbitrary staff salaries and poor incentive outcomes.

Xu and Xu (2009) The paper believes that there are some deficiencies in the incentive mechanism for teachers in higher vocational colleges, which are mainly manifested in the lack of differentiation, fairness, humanity and competitiveness. To establish a reasonable incentive mechanism, we should follow the principles of combining institutionalization with humanity, fairness with differentiation, material incentives with spiritual incentives, needs with guidance needs, create a harmonious and positive organizational environment, establish a scientific, fair and reasonable performance appraisal mechanism, help teachers formulate and implement career planning and provide appropriate career development opportunities.

He and Liu (2014) researched on teacher incentives in higher vocational colleges reveals economic, professional, and environmental incentives, each with independent relationships.

Wang (2014) discussed the importance of both internal and external motivations in shaping college teachers' commitment, emphasizing factors like personal growth and a supportive work environment.

Huo. (2019) analyzed teachers' growth demands, identifying economic, professional, innovation, and social needs as critical factors influencing motivation.

Wang (2022) This study investigates the current status of the teacher incentive mechanism in some higher vocational colleges in Gansu Province, and points out that the main problems of the current incentive mechanism in higher vocational colleges are: the salary distribution system needs to be improved; the professional title evaluation and appointment system needs to be optimized; the pre-job training and post-job training mechanisms are not yet sound; the emotional incentive and self-motivation mechanisms need to be strengthened. Countermeasures and suggestions are put forward: improve the institutional organizational guarantee and strengthen the formulate of the internal governance system; improve the performance appraisal system and reform the performance wage implementation plan; deepen the professional title system reform and optimize the internal job promotion system; improve the teacher training system and focus on the emotional incentive of teachers; establish a collaborative innovation operation mechanism and build a diversified teacher evaluation system.

Yao (2023) The paper points out that the incentive mechanism for teachers in higher vocational colleges has problems such as insufficient standardization of salary standards, imperfect working conditions, relatively limited promotion paths, and weakened value shaping functions. The formulate of the incentive mechanism for teachers in higher vocational colleges should be guided by the dual-factor theory, improve the salary incentive system, optimize the distribution mechanism; strengthen the formulate of the teaching environment, improve the working mechanism; create a fair promotion path, deepen the assessment mechanism; pay attention to ideological and value guidance, and implement the growth mechanism.

Overall, addressing these implementation defects is essential for ensuring effective incentive programs aligned with organizational values and employee motivations.

1.5 Research on incentive mechanism optimization measures:

Zhang (2009) advocated for the adoption of the broadband salary method in salary design, aiming to redefine job roles to emphasize individual

contributions within the team. They propose shifting focus from job salary to performance pay to enhance teachers' work enthusiasm.

Cheng (2018) emphasized the importance of addressing salary gaps to ensure fairness and competitiveness in incentive implementation.

Peng (1999) acknowledged variations in motivation among teachers in different colleges and universities. However, he suggests common strategies like improving the working environment and increasing work freedom to positively impact teachers' performance.

Pan (2010) It is pointed out that in the incentive mechanism for teachers in higher vocational colleges, rewards and punishments are means, and the development of teachers and the improvement of education and teaching quality are the goals. It is appropriate to use rewards rather than punishments to encourage teachers to improve their teaching level and achieve scientific research results. The assessment incentive mechanism should reduce the scientific research pressure of teachers and increase the pressure on teachers' teaching quality. It is recommended to implement a declaration assessment and reward system for scientific research work. The assessment incentive mechanism should guide teachers to work harder on cultivating students' abilities and improving their quality. In the work of teacher assessment, people-oriented and building a positive and long-term incentive mechanism are conducive to the sustainable development of schools and teachers.

Ma and Li (2019) highlighted the significance of understanding employee information for effective incentive measures. They stress the need to address information asymmetry to accurately assess employees' knowledge levels and work efforts.

Zhang (2023) It is pointed out that young teachers in higher vocational colleges are the backbone of the three major functions of teaching, scientific research and social service. While undertaking heavy teaching tasks, they also shoulder the important task of ensuring the sustainable development of scientific research in schools. Some higher vocational colleges have not kept up with the pace of reform in terms of scientific research incentive mechanisms. There are problems

such as weak scientific research awareness, single incentive means, uncertain scientific research funds, and lagging scientific research management, which are contrary to the requirements of achieving the goal of educational modernization and building an educational power.

1.6 Research related to incentive mechanism model design:

Liu (1998) effectively analyzed the scientific rationality of existing incentive mechanisms through research, creating a model of incentive mechanism in management practice. This had guiding significance for subsequent scholars in designing incentive mechanisms. He also pointed out that the principles and methods of incentive organizations are interdependent.

Hou (2002) constructed a management incentive and constraint mechanism model, highlighting the systematic optimization and hardening of management incentives and constraints. This optimization, based on leveraging intellectual capital and effectively utilizing knowledge and management resources, is crucial for organizational success.

Scholars like Zhang and Shi (2002) argued that teacher motivation requires a combination of multiple forms or measures integrated into teachers' daily work. They propose a diversified and integrated motivation model to maximize motivational effectiveness.

Li (2003) suggested that, in the face of the challenges of the knowledge economy, trust-based incentives and institutionalized trust can cultivate social capital and enhance institutional trust. This, in turn, promotes successful development in the social economy and enterprises.

Zhang (2005) formulated an incentive mechanism model for Chinese knowledge-based talents, proposing specific incentive measures for implementation.

Li (2007) advocated for utilizing all available incentives to encourage faculty and staff. While maintaining material and spiritual incentives, continuous exploration of new incentives, such as activity incentives, is essential.

Li and Zheng (2011) proposed that the study of university teacher incentive mechanisms should be based on the total compensation model. They

emphasize aligning incentive strategic goals with human resources and overall development strategic goals of universities.

Lu Yumei (2016) employed the principal-agent game model to analyze incentive issues for knowledge workers. They argue that improving the sense of responsibility of knowledge workers is crucial for motivation.

Fu and Zhu (2016) expanded the principal-agent model to account for agents' horizontal and vertical preferences, suggesting that similar preferences in an incentive environment prompt harder work.

Wu and Gao (2017) redesigned the incentive mechanism of college teachers from the perspective of the psychological contract based on the three-dimensional incentive model. They stress the motivating effect of the psychological contract on teacher-school relationships.

Ma (2017) explored the design of a salary incentive mechanism based on a competency model, allowing employees to choose salaries based on their competencies, thereby highlighting their value as an incentive.

Ma and Wang (2019) studies teacher motivation issues based on the Porter-Bahrer comprehensive motivation model, recommending optimization of the teacher incentive mechanism by improving the teaching system and evaluation system, and considering material and non-material incentives comprehensively.

Foreign research on motivation theory originated in the mid-20th century, mainly focusing on corporate employees and methods to stimulate their subjective initiative. Motivation theories can be categorized into content-based, process-based, and behavior modification theories. In contrast, Chinese scholars combine early foreign theories with China's national conditions in researching incentive mechanisms, covering areas such as the importance, problems, improvement paths, and model design of incentive mechanisms.

Table 2.1 This encapsulates a comprehensive summary of research pertaining to motivation theory and mechanisms, organized into distinct categories.

Category	Researcher	Year	Findings
Content-based Motivation	Maslow	1943	Maslow's hierarchy of needs theory outlines the progression of human needs influencing behavior.
	Herzberg	1959	Herzberg's two-factor theory emphasizes the role of intrinsic and extrinsic factors in motivation.
	McClelland	1967	McClelland's research introduces methods for assessing subconscious motivations.
	Belbin	2000	Belbin's study challenges the efficacy of performance-based incentives.
Process-based Motivation	Vroom	1964	Vroom's expectancy theory explores the correlation between rewards and performance.
	Adams	1965	Adams' equity theory stresses the importance of perceived fairness in motivating individuals.
	Porter and Lawler	1967	Porter and Lawler highlight the impact of fairness on job satisfaction.
	Locke and Hughes	1968	Locke and Hughes propose a process model highlighting the transformation of needs into motivations.

Table 2.1 (Continued)

Category	Researcher	Year	Findings
Behavior Modification	Skinner	1966	Skinner scholars illustrate the influence of environmental stimuli on behavior.
	Adams	2009	Adams explains motivation as a drive to achieve personal goals, influencing work efficiency.
	Colen et al.	2016	Colen et al. emphasize the role of managers in aligning incentives with professional values.
Importance of Incentives	Yuan, X.C.	2015	Yuan, X.C. highlights the significance of teacher motivation in fostering technical talents.
	Zhou, S. D.	2000	Zhou, S. D. emphasizes the link between motivation and organizational competitiveness.
	Hu, C.	2003	Hu, C. advocates for a competitive atmosphere in colleges to harness external pressures for motivation.
Implementation Defects	Liu, Z.H., and Qing, J.S.	2002	Liu, Z.H., and Qing, J.S. stress the importance of core values in incentive realization.
	Tang, X.S.	2009	Tang, X.S. identifies management inequality as a source of incentive structure defects.
	He, X., and Liu, W.M.	2014	He, X., and Liu, W.M. research highlights the multidimensional nature of teacher incentive mechanisms.

Table 2.1 (Continued)

Category	Researcher	Year	Findings
Optimization Measures	Wang, C.F., et al.	2014	Wang, C.F., et al. link teacher incentives to organizational commitment, emphasizing intrinsic motivators.
	Zhang, M.H.	2009	Zhang, M.H. proposes performance-based pay to enhance work enthusiasm.
	Cheng, X.S.	2018	Cheng, X.S. highlights the importance of salary equity in incentive implementation.
	Peng, J.G.	1999	Peng, J.G. suggests improving the working environment to positively impact motivation.
Incentive Mechanism Design	Ma, H.K., and Li, Z.F.	2019	Ma, H.K., and Li, Z.F. emphasize the importance of employee information in incentive design.
	Liu, Z.Z.	1998	Liu, Z.Z. model offers insights into the scientific design of incentive mechanisms.
	Hou, G.M.	2002	Hou, G.M. model focuses on optimizing management incentives and constraints.
	Zhang, F.Q., and Shi, Z.	2002	Zhang, F.Q., and Shi, Z. advocate for a diversified incentive model integrating multiple forms.
	Li, H.X.	2003	Li, H.X. proposes trust-based incentives to cultivate social capital.

This comprehensive compilation underscores the breadth and depth of research in motivation theory and mechanisms, offering valuable insights for organizations striving to enhance employee engagement and performance (See Table 2.1)

2. Research on Teacher Incentive Mechanism

Research by Aikehead (2001) believes that schools should focus on the two factors of working environment and working conditions when motivating teachers, and they also need to create a fair and just atmosphere.

David and Roger (2003) believe that teachers need a good teamwork atmosphere more than other practitioners, so schools should take corresponding measures in this regard.

Umansky and Vegas (2005) believe that effective incentives can be developed from five aspects: self-achievement, remuneration level, social status, responsibility and mission, and working environment. Self-achievement mainly refers to the teacher's sense of accomplishment from his or her career in teaching and educating people, and the level of remuneration. It refers to the salary, bonuses and various benefits received by teachers. Social status mainly refers to the degree to which teachers are valued in society and the honors and awards they receive. Responsibility and mission refers to teachers' sense of responsibility and mission for their work. Work Environment mainly refers to the working environment of teachers in teaching, management and scientific research.

Hansen (2005) divided the motivating factors for teachers into three dimensions: job satisfaction, working conditions and personal attributes. Job satisfaction refers to the sense of personal achievement such as honor and status brought to teachers by their work. Whether it exceeds the teacher's expectations or not, teachers' working conditions mainly include external influences such as salary, treatment, and living software and hardware conditions, while personal attributes refer to teachers' own conditions, including teachers' housing conditions and physical condition.

On the basis of previous research, Dachler and Hulin. (2009) constructed a stimulation model, including five major categories and ten indicators, and analyzed the different directions and degrees of teachers' incentives one by one.

Claude Fernet (2011) proposed and tested a stimulus model for individual changes in teachers' personal burnout (emotional exhaustion, depersonalization, and reduced sense of personal accomplishment).

Vegas (2017) believes that salary is an irreplaceable and important factor in the incentive mechanism of teachers in colleges and universities, because salary not only determines the quality of survival of college teachers, but also reflects the work value of college teachers from the side, and the quality of salary levels is also directly affected by the work motivation of college teachers.

Dong (2019) Based on the analysis of the current status of the incentive mechanism for teachers in X vocational colleges, some incentive mechanisms have problems such as misunderstanding of the title evaluation system, unscientific performance appraisal, imperfect training system, lack of effective salary distribution system, and neglect of spiritual incentives. After analyzing the reasons, it is proposed to carry out teacher post appointment, establish a scientific performance appraisal system, improve the teacher team training system, establish an effective salary distribution system, and pay attention to the optimization plan of spiritual incentives for the teacher team.

Zhou (2019) The study found that compared with Shenzhen Vocational and Technical College, the overall level of Yuexi A Vocational College is lower, the number of high-level talents is small, the quality is low, the service innovation ability is poor, and the internationalization level is low. Therefore, if Yuexi A Vocational College wants to build a first-class teaching staff, it should innovate the teacher incentive mechanism and fully mobilize the enthusiasm of teachers; introduce and train at the same time to increase the proportion of high-level talents; insist on promoting long-term planning and strengthen the training of young and middle-aged teachers; strengthen the formulation of the teaching team and create a platform for

the professional development of teachers; and cultivate and educate with enterprises to improve the dual-teacher structure of professional teachers.

Research on existing problems and influencing factors of the current status of incentive mechanism for college teachers:

Xie (2004) enumerated the incentive model plans of Peking University and Sun Yat-sen University and assessed the current status of teacher management systems in universities abroad. Based on this analysis, Xie examined incentive models in domestic universities and discussed the need for reform in teacher personnel systems.

Qin (2004) highlighted emerging phenomena in the education reform process, including an emphasis on group incentives over individual ones, professional title incentives overshadowing job incentives, and material incentives prevailing over spiritual ones. He noted a disproportionate emphasis on administrative and scientific research work incentives compared to educational incentives.

Guo (2005) conducted a survey on teachers in Gannan Medical College and other universities, revealing material incentives as the primary motivator. They concluded that addressing teachers' strong material needs requires sustained efforts.

Chen (2005) identified several challenges in motivating teachers, such as a lack of comprehensive analysis of personal needs, inflexible incentive programs, and insufficient scientific evaluation of teachers' performance.

Zeng (2005) pointed out shortcomings in incentive mechanisms, including lagging systems, short-term goals, rigid principles, and simplistic methods.

Su (2006) analyzed the shortcomings of the educational incentive mechanism, citing a lack of self-motivation environment, formalized ideological education, and a loose democratic environment as key issues.

Peng (2007) highlighted the disparity between teacher incentive measures and their actual needs, attributing it to misunderstandings of human nature and institutional emphasis on universities' needs over teachers'.

Zeng (2008) emphasized the imperfections in the teacher appointment system, the lack of effective performance evaluation methods, and the unreasonable salary system, calling for urgent resolution of these issues.

Jiang (2011) identified four demand characteristics of young teachers in higher vocational colleges, including strong material and interpersonal needs, a need for respect, and self-actualization.

Liu (2013) It is pointed out that the teacher incentive mechanism of higher vocational colleges is a system centered on people, and professional title incentive is an important part of this complex system. The organic combination of incentive theory and the professional title evaluation index system of teachers in higher vocational colleges is an effective way to mobilize the enthusiasm of teachers in higher vocational colleges, give full play to their creativity, and improve the quality and efficiency of education.

Xie and Zhang (2013) compared salary systems of university teachers in China, the United States, and Germany, highlighting a tendency towards quantity over quality in Chinese universities salary incentive mechanisms.

Cui and Wang (2014) analyzed the incentive mechanism of young teachers in Nanjing Information Vocational and Technical College, citing challenges such as an overabundance of young teachers and high life pressure.

Wang (2015) It is believed that the training of young teachers in higher vocational colleges is an important way to improve the quality of talent training in higher vocational colleges, which is directly related to the sustainable development of higher vocational education in my country. The implementation of the mentor system for young teachers in higher vocational colleges is one of the effective ways to cultivate the professional development of young teachers.

Wei and Li (2018) identified obstacles to the sustainable development of young teachers in higher vocational colleges, including transactional leadership and unreasonable evaluation systems.

Hu (2018) pointed out shortcomings in university salary and performance appraisal policies, advocating for reforms to address insufficient incentives and improve scientific evaluation..

Overall, the frequency of discussion in the research literature varies across these factors, with working environment and conditions, remuneration level, and personal attributes being the most frequently discussed aspects influencing teacher motivation shown in Table 2.2

Table 2.2 Factors Affecting Teacher Motivation and Their Frequency of Mention in Research

Research Topic	Main Points	Frequency
Factors Affecting Teacher Motivation	- Working environment and conditions (Aikehead, 2001; Umansky and Vegas, 2005; Hansen, 2005)	3
	- Teamwork atmosphere (David and Roger, 2003)	1
	- Self-achievement (Umansky and Vegas, 2005)	1
	- Remuneration level (Umansky and Vegas, 2005; Hansen, 2005)	2
	- Social status (Umansky and Vegas, 2005)	1
	- Responsibility and mission (Umansky and Vegas, 2005)	1
	- Job satisfaction (Hansen, 2005)	1
	- Personal attributes (Hansen, 2005)	1

Research on measures to improve the incentive mechanism for college teachers:

Emphasizing the importance of understanding teachers' needs and motivations, several scholars (Li, 2005; Mao and Cheng, 2005) advocated for building a supportive environment rooted in humanistic care to enhance teacher ethics and culture within universities.

Scholars like Zhang (2008) and Huang with Cheng (2008) underscored the significance of designing a comprehensive incentive mechanism for college teachers,

incorporating elements such as reasonable salary structures, standardized position appointments, and scientific performance evaluations, while adhering to fundamental principles of fairness and humanistic values.

Recommendations for fostering a conducive working atmosphere and promoting teacher creativity were echoed by Jia and Wang (2009) Liu and Wang (2020) who emphasized the need for harmonious innovative cultural atmospheres and balanced use of material and spiritual incentives.

Addressing the multifaceted nature of teacher motivation, scholars such as Xu (2015) and Zeng (2018) proposed approaches encompassing job satisfaction, career development prospects, and academic recognition, alongside initiatives to promote teaching progress and academic excellence.

Finally, calls for establishing differentiated incentive structures tailored to individual needs and career stages were evident in the suggestions by Tan (2021), emphasizing the importance of conducting in-depth demand surveys and adopting a hierarchical incentive framework focused on self-motivation and career advancement.

Research on the importance of incentive models and incentive mechanisms for college teachers:

Shen (2005) proposed that it is necessary to use emotional incentives, establish a reasonable salary system to continuously improve the various satisfactions of young teachers, use goal incentives to encourage young teachers to formulate personal career plans, and leaders are good at communicating with teachers. Only in this way can Constructing an effective incentive mechanism for young teachers.

Chen (2005) believes that to construct effective incentive measures, we must adhere to the people-oriented approach and create a good environment; establish a relatively reasonable assessment and incentive system; the compensation strategy must be comprehensive; and handle various incentive relationships reasonably and scientifically.

Ma (2006) in *Research on the Incentive Mechanism for Teachers Professional Development* motivates teachers by formulating relevant incentive policies and carrying out relevant professional development activities. At the same time, it is important to encourage teachers to self-motivate to improve the strategy of the incentive mechanism for teachers professional development.

Guan and Chen (2015) constructed a binary incentive model with capital compensation and behavioral compensation as the core to study the incentive mechanism of college teachers. They believed that the use of the binary incentive model can make up for the shortcomings of the fixed salary incentive model.

Luo (2019) analyzed the main problems faced by current evaluation methods on the basis of studying the organizational personnel performance evaluation system: the lack of reasonable evaluation indicators in the performance evaluation of college teachers and the failure to consider the differences between positions. Due to problems such as differences and imperfect evaluation mechanisms, it is proposed to improve the management methods and performance appraisal plans of our country's universities by classifying and modeling the performance appraisal of university teachers.

Ge (2020) believes that we should pay attention to the formulate of the teaching incentive mechanism for college teachers, focus on solving problems related to teaching incentives, continuously optimize the teaching incentive mechanism for college teachers, systematically standardize the teaching behaviors and teaching models of college teachers, and make incentive teaching become the basis for teacher development. Motivation, thereby comprehensively improving the teaching level and quality of college teachers and cultivating more high-quality talents.

In recent years, foreign scholars have also paid attention to the research and practice of teacher motivation. There are related research documents on issues related to teacher motivation mechanisms, mainly discussing their role in motivation from several factors such as performance appraisal, salary, career development, and professional atmosphere. role in mechanism building. At present, domestic scholars

in China have also made many research results on the incentive mechanism of university teachers. While affirming the achievements, they also analyzed the existing problems and deficiencies, and put forward reference solutions. Young teachers are also part of the group of college teachers. Therefore, when studying the incentive mechanism of young teachers in higher vocational colleges, we can refer to relevant research on the incentive mechanism of college teachers.

Sustainable Concept

Literature research on sustainable concepts includes research on sustainable professional development and research on sustainable development goals.

1. Sustainable professional development

1.1 Research on the connotation of teachers professional development

Several scholars have proposed various strategies to enhance teacher motivation and professional development. Shen (2005) emphasizes the importance of using emotional incentives and establishing a reasonable salary system to continuously improve young teachers' satisfaction and encourage them to formulate personal career plans. Chen (2005) advocates for a people-oriented approach to construct effective incentive measures, focusing on creating a conducive environment, establishing a reasonable assessment and incentive system, and comprehensively handling incentive relationships. Ma (2006) suggests formulating relevant incentive policies and conducting professional development activities while encouraging teachers to self-motivate. Guan and Chen (2015) propose a binary incentive model with capital and behavioral compensation to address shortcomings in fixed salary incentives. Furthermore, Luo (2019) analyzes problems in current evaluation methods and propose improvements in performance appraisal plans for university teachers. These insights collectively highlight the significance of comprehensive incentive mechanisms and targeted professional development strategies in fostering sustainable teacher growth and motivation.

In recent years, both domestic and foreign scholars have delved into research on teacher motivation mechanisms, emphasizing factors such as performance appraisal, salary, career development, and professional atmosphere in building effective incentive structures. Moreover, young teachers, being an integral part of the college teaching community, benefit from studies focusing on the incentive mechanisms tailored to college educators, which can inform the development of strategies for motivating young teachers in higher vocational colleges.

In terms of sustainable professional development, various scholars have contributed to defining its connotation. Fullan, and Hargreaves. (1992) emphasize both the specific skill development and overall growth in awareness and collaboration among teachers. Holye (1980) describes professional development as the ongoing process of acquiring the necessary knowledge and skills for effective teaching. Postholm (2012), Desimone (2009), Perry (1980), and others highlight the active learning and collaborative aspects of professional development, which involve enhancing teaching skills, subject knowledge, and professional ethics. These definitions collectively underscore the dynamic nature of teachers' professional growth and the importance of continuous learning and improvement throughout their careers.

1.2 Research on the stages of teachers' professional development

Several scholars have proposed different models to delineate the stages of teacher professional development. Fuller (1969) introduced the Teacher Teaching Concern Stage Theory, comprising four stages: pre-service concern, early survival, teaching status, and student concern stages. Steffy (1990) outlined five stages in teachers' professional development: preparatory, expert, retreated, renewal, and exit career stages. Katz (1972) categorized professional development into survival, consolidation, renewal, and maturity stages. Huberman (1993) identified six stages: entry, stability, experimentation and divergence, re-evaluation, calmness, and alienation periods. Zhang (2018) described teachers' professional development trajectories as novice-experienced-expert. Zheng (2010) proposed four steps for dual-qualified teachers: literacy, qualification, proficiency, and expert stages. Yang

(2013) delineated five stages for higher vocational teachers: adaptation transition, exploration and growth, double teacher proficiency, three skills balance, and outstanding achievement periods. Zhong (2012) suggested five stages: adaptation, proficiency, exploration, maturity, and expert periods. While definitions of teacher professional development vary, scholars generally agree that it involves a gradual process of self-reflection and improvement to enhance teaching quality.

1.3 Research on factors influencing teachers professional development

Fessler (2005) emphasized the significance of personal and organizational environmental factors in shaping the professional development of young teachers in higher education institutions. Similarly, Grabowski (1983) identified four key conditions influencing teacher professional development: teacher participation, school support, development projects, and the salary incentive system. Dellamura (1986) highlighted the importance of school support, alignment of school goals with teacher development needs, administrative assistance in development projects, diverse project design, and using the salary system to incentivize teacher development in community colleges.

Wright (2002) discussed the impact of external environmental factors like politics, economy, and culture, as well as internal factors such as organizational structure, conditions, and culture on university teachers professional development. Kelchtermans. (1993) argued that teacher professional development is shaped by the interaction between individual teachers and specific environmental status, analyzed through the dimensions of social, organizational, and cultural contexts, as well as teachers career trajectories and life experiences.

Warford (1978) and Vygotsky (1978) stressed the importance of leveraging teachers prior knowledge and experiences to facilitate their professional development. Glatthorn (1995) emphasized the influence of individual factors like teachers growth experiences, interpersonal relationships, professional motivation, and cognitive abilities on professional development. Hoekstra., and Korthagen (2011)

highlighted the necessity of considering cognitive, emotional, and motivational factors in teacher professional development processes.

Day (1999) identified factors such as professional development stage, personal qualities, life experiences, quality of development activities, and the professional backgrounds of fellow teachers as significant influences on professional development. Chen, B.J. (2012) categorized environmental factors affecting teacher development into social, school, and personal environments.

Chen (2010) It points out that the development of teachers' teaching ability is an urgent requirement of the new status of higher education development, an inherent need for teachers' own development, and an effective way to improve educational effectiveness. It is an effective measure for local universities to develop teachers' teaching ability to consolidate the foundation of grassroots teaching organizations, rely on the two carriers of curriculum formulate and teaching team formulate, improve the three systems of teaching ability content, training, and evaluation, build a four-level platform of teaching experts, top ten teachers, new teachers, and famous teachers, and establish five mechanisms of tutor guidance, excellent demonstration, system incentives, supervision and teaching, and performance assessment. The development of teachers' teaching ability is a systematic project. On the basis of teachers' independent development, we must seek the path of coupled development of autonomy and others ; we must organically combine the development of teaching ability with the improvement of teachers' ethics; we must take the improvement of evaluation and assessment incentive system as the key to the development of teachers' teaching ability.

Fan and Cai (2010) It is pointed out that vocational college teachers going deep into enterprises for on-the-job training is an important way for many colleges to encourage teachers to study and practice. However, there are still many problems in the practice process. The author of this article analyzes the necessity and responsibilities of on-the-job training based on his own practical experience, and then thinks and explores the problems existing in the current on-the-job training, hoping to formulate a more effective on-the-job training system.

Yan (2011) It points out that the purpose of higher education in my country is to cultivate socialist high-level professionals with all-round development of morality, intelligence and physique . Colleges and universities are responsible for the important mission of cultivating high-level professionals and knowledge innovation and technological innovation. The development level of higher education depends to a large extent on the overall quality of the teaching staff. The number, quality, structure and ability of teachers play a key role in the development of higher education. It is necessary to quickly improve the teaching and scientific research capabilities of young college teachers by participating in relevant meetings, conducting investigations and research, selecting and sending them for further studies, sending them for field visits, organizing academic exchanges, etc. And planned on-the-job training in certain positions is an important way to enhance their ability to connect theory with practice.

Various scholars, including Liu and Zhao (2013), Wan and Wang (2013), and Wu and Jin (2013), emphasized factors like self-awareness, policy support, interpersonal relationships, economic and psychological pressures, and teaching and research burdens on young teachers' professional growth. Moreover, researchers like Zhang (2014) and Xing (2015) offered insights into external support mechanisms, economic pressures, psychological factors, and institutional structures influencing young teachers' professional development.

Zhou (2015) It is believed that building a team of double-qualified young teachers with excellent quality, high teaching level and strong practical ability is the key to talent training and sustainable development in higher vocational colleges. In higher vocational colleges of medicine, the practical ability of young teachers is particularly important, and the implementation of the young teacher tutor system is one of the effective ways to train young teachers.

Wang (2018) It is pointed out that with the development of society, more and more people are joining the basic education industry, especially young people with high education. Behind the improvement of teachers' education, the education research and training departments need to have new concepts and new methods for

in-service training of teachers, which inevitably requires a large number of research and training teachers with strong professional capabilities. In order to ensure that young research and training teachers have high academic research capabilities and practical teaching experience, each young research and training teacher should be assigned to work in grassroots schools for at least three years.

Lin (2023) It is believed that among all the elements and resources of education, teachers are the most important. The educator Mr. Ye Shengtao pointed out: In education, the school system, curriculum, training outline, and textbooks are all secondary to teachers. Heilongjiang Polytechnic (hereinafter referred to as the College) has always attached great importance to the formulate of the teaching staff, and regards the ability and quality of teachers as the first hardware. With the measures of academic improvement, training guidance, assessment promotion, and commendation and incentive , it has formed a ladder training model of teaching newcomers, teaching experts, backbone teachers, subject leaders, professional leaders, and teaching masters .

In conclusion, the professional development of higher vocational teachers is crucial for the quality of vocational education and the cultivation of modern professional talent. This process is multifaceted, influenced by a complex interplay of individual qualities and external factors. Understanding and addressing these factors is essential for fostering effective professional development among young teachers in higher education.

2. Sustainable Development Goal 4 (SDG 4)

The literature on Sustainable Development Goal 4 (SDG 4) underscores the critical importance of quality education in fostering inclusive and sustainable societies. UNESCO s initiatives, such as the Incheon Declaration and Education 2030 Framework for Action, have set the direction for global education development, emphasizing the goal of ensuring inclusive and equitable high-quality education for all by 2030. SDG4 has been officially integrated into the United Nations Sustainable Development Goals, highlighting the significance of education in achieving broader societal and economic objectives.

Scholars have emphasized the role of education in promoting sustainability, with a focus on the need for qualified teachers and transformative pedagogies. Quality education is seen as essential for fostering individuals who are aware, responsible, and capable of effecting meaningful societal change. Education for Sustainable Development is highlighted as a holistic approach that addresses learning content, pedagogy, and learning environments, aligning with the goals of SDG4.

The evolving role of teachers in the face of technological advancements and the COVID-19 pandemic underscores the need for education policymakers to adapt to changing contexts and support teachers in fulfilling their roles effectively. Challenges such as the lack of transdisciplinary study programs and networking opportunities in higher education institutions pose obstacles to achieving SDG4 but also highlight areas for improvement.

In summary, the literature on SDG4 encompasses a wide range of topics, including education quality, teacher training, curriculum development, and learning outcome assessment. These studies offer valuable insights and recommendations for policymakers, educators, and researchers seeking to advance the sustainable development of education on a global scale. By addressing these challenges and leveraging opportunities for improvement, stakeholders can work towards achieving the overarching aim of SDG4: to provide quality education and lifelong learning opportunities for all, thereby promoting inclusive and sustainable societies.

Concept of incentive mechanism for sustainable professional development

Literature research on the concept of sustainable professional development incentive mechanism includes research on teaching quality, scientific research level, salary system, training and professional title evaluation system, material needs of life, personal development needs, and interpersonal relationship needs.

1. Teaching quality

Lian (2009) delineated teaching quality into broad and narrow senses: the narrow sense emphasizes achieving teaching objectives in classroom instruction, while the broad sense encompasses moral, intellectual, physical, aesthetic, and technical education outcomes.

Fang. (2006) The author implemented the method of collaborative teaching for young and middle-aged teachers, thereby improving the teaching quality. Its contents include: collective lesson preparation system, pre-class pre-lecture, unified physical diagnosis practice compliance and full sharing of content resources. Through the teaching reform, the classroom teaching content was unified, the connection between theoretical classes and practical classes was ensured, the accuracy and proficiency of teachers physical examination techniques were improved, and the teaching content was enriched.

Following the developmental teaching concept, Zhang (2015) proposed that teaching quality entails adherence to educational principles, effective teacher-student interactions, and alignment with university stakeholders needs.

Liang (2012) provided a multifaceted definition of teaching quality: the fulfillment of educational objectives, students acquisition of knowledge and skills, and the attainment of certain standards by students during the teaching process.

Li (2018) stressed that the quality of higher education, including vocational education, profoundly impacts institutional competitiveness and sustainability, particularly amid resource constraints and declining student standards.

Huang (2005) identified teaching model implementation, curriculum design, and teacher quantity and quality as key issues affecting teaching quality.

Cheng (2012) emphasized meeting individual and societal needs, highlighting the importance of curriculum alignment with educational and employment demands.

Yu (2020) underscored the pivotal role of teacher factors in determining teaching quality. Zhou (2019) and Zhang (2019) highlighted teaching ability and attitude as crucial elements influencing teaching quality.

In summary, scholars extensively explore teaching quality in higher vocational education, encompassing various dimensions such as teaching effects, processes, teacher abilities, and student learning outcomes, all essential for effective education delivery.

2. Research level

The Higher Education Law of the People's Republic of China (1998) underscores the importance of possessing educational and teaching abilities, along with scientific research abilities, as basic conditions for college teachers to hold corresponding positions. Hence, scientific research quality is deemed a fundamental requirement for college teachers.

Hu (2006) delineate the scientific research level of higher vocational college teachers to include understanding social development trends, engaging with cutting-edge science and technology, and integrating new knowledge and technologies into teaching.

Cai (2013) highlights the necessity for higher vocational colleges to prioritize scientific research, citing its role in enhancing competitiveness and addressing challenges such as a late start and weak foundation.

Zhang (2015) notes the increasing importance of scientific research in higher vocational education, emphasizing its role in reflecting institutional strength and enhancing educational quality.

Zhang (2010) underscores the significance of scientific research capabilities in reflecting the overall level of higher vocational colleges, highlighting its role alongside talent cultivation and social services.

Xu and Yuan (2023) assert that scientific research is integral to vocational education, serving as a crucial indicator of higher vocational colleges' soft power and their ability to contribute to social and economic development.

In summary, the emphasis on scientific research level and capabilities in higher vocational colleges by state, government, and educational institutions underscores its importance in enhancing institutional standards and reputation.

3. Salary system

The topic of college teacher salaries is a multifaceted one, encompassing various aspects such as definitions, formulation, reform, and appraisal of salary systems. Scholars and researchers have delved into these areas to understand the complexities and propose improvements. Here, we present an overview of key insights from academic literature on college teacher salaries:

Definition of College Teacher Salary: Li (2010) provides a comprehensive definition, highlighting both monetary and non-monetary rewards that contribute to meeting basic needs, providing economic security, and recognizing the value of teaching and research.

Formulation of Salary System: Zhao (2012) explores how salary systems are structured, focusing on factors like academic qualifications, length of service, professional titles, and performance.

Constructing Suitable Salary Systems: Yang and Shen (2004) advocate for tailoring salary systems to match the unique labor characteristics of teachers, including provisions for deferred compensation.

Reform Proposals: Liu and Shao (2005) propose reforms centered on market-based salary determination, long-term incentive mechanisms, and transitioning to absolute performance evaluation.

Issues with Current System: Qiao (2006) identifies existing problems such as structural confusion and unscientific subsidies, stressing the importance of autonomy in salary scale decisions.

Reform Strategies: Wang and Jiao (2007) suggest breaking away from unified salary standards and adopting a model based on position salary and performance pay.

Performance Appraisal: Lin (2012) advocates for instituting formal performance appraisal systems that integrate various evaluation methods.

Comparison with Foreign Systems: Xie and Zhang (2013) conduct comparative analyses of salary systems in China, the United States, and Germany, highlighting deficiencies in competitiveness and internal incentives.

Egalitarianism and Efficiency: Sun (2011) promote the need to balance egalitarian principles with efficiency-based labor competition mechanisms to ensure fairness in salary distribution.

These perspectives offer valuable insights into the complexities of college teacher salary systems and provide a foundation for ongoing discussions and potential reforms in this critical aspect of higher education.

4. Training and professional title evaluation system

4.1 Literature research on training

In 2017, a series of documents promulgated by the Chinese government have gradually increased the content on teacher professional development. For example, the Ministry of Education promulgated the Innovative Development Action Plan for Higher Vocational Education (2015-2018) in 2015, which clearly proposed the improvement of higher vocational colleges. The training of full-time teachers and the requirement China (2017): A series of documents promulgated by the Chinese government have gradually increased the focus on teacher professional development. For instance, in 2015, the Ministry of Education issued the Innovative Development Action Plan for Higher Vocational Education (2015-2018), which emphasized the enhancement of higher vocational colleges, including the training of full-time teachers and the requirements of the continuing education system (Ministry of Education, 2017).

In 2018, the Central Committee of the Communist Party of China and the State Council issued the Opinions on Comprehensively Deepening the Reform of the formulate of the Teacher Team in the New Era, highlighting the necessity to strengthen the teaching team. However, practical challenges such as insufficient support and outdated teacher quality and ability were identified. The plan outlined strategies to address these issues, including a five-year plan to improve the training system and the involvement of high-level universities in teacher training for vocational colleges (State Council, 2018).

In 2019, the Implementation Plan for Deepening the Reform and formulate of the Double-qualified Teacher Team in Vocational Education in the

New Era, released in 2019, outlined a five-year plan to establish a robust teacher training system, aiming to facilitate smoother development channels and growth paths for teachers (Ministry of Education, 2019). Additionally, the State Council issued the National Vocational Education Reform Implementation Plan in the same year, proposing initiatives such as the establishment of dual-qualified teacher training bases and implementing a five-year rotation training system for all teachers (China Government Network, 2019).

In 2020, the Action Plan for Improving the Quality of Vocational Education (2020-2023) emphasized enhancing the quality of dual teachers, implementing relevant training systems, and improving talent cultivation in vocational colleges (Central People's Government of the People's Republic of China, 2020).

In 2021, the Ministry of Education and the Ministry of Finance issued the Notice on Implementing the Plan for Improving the Quality of Teachers in Vocational Colleges (2021-2025) in 2021, urging local governments to improve the teacher training system and overall education system to create a high-level technical skills talent training team (China Ministry of Education website, 2021).

Yang (2017) highlighted the importance of teacher training in strengthening the formulate of the teacher team and promoting professional development.

Shen and Zhou (2017) discussed the German vocational education system as a leading example, emphasizing its organic development through cooperative relationships between training subjects.

Wang and Kuang (2008) noted Australia's emphasis on lifelong education for vocational teachers.

Shi (2021) praised the comprehensive coverage of the American college teacher training system, catering to the needs of teachers at different career stages.

Various researchers pointed out the diverse forms of teacher training in Chinese higher vocational colleges, including on-the-job training, educational theory training, and corporate temporary training (Zou, 2020; Liu, 2019).

Challenges in teacher recruitment and training in Chinese higher vocational colleges were identified, emphasizing the need for better planning and training methods (Liao, 2017; Fang, 2020).

Researchers emphasized the importance of practical and engaging training methods to enhance teaching effectiveness and job satisfaction (Liu ,and Zhang, 2020).

Teacher training was viewed as an investment that enhances teachers teaching and research abilities, job satisfaction, and professional development (Zhang, 2013; Weng 2020).

In conclusion, the government s focus on teacher training reflects its commitment to the quality development of vocational education. Through effective policies and research-backed strategies, China aims to elevate the teaching profession, improve educational outcomes, and enhance the competitiveness of vocational colleges.

4.2 Literature research on professional title evaluation system

Over the years, China has witnessed a significant evolution in its professional title evaluation policies, reflecting a strategic shift towards decentralization, autonomy, and quality enhancement within its educational system (See the table below).

Table 2.3 Evolution of Professional Title Evaluation Policies in China (2016-2022).

Year	Policy/Document
2016	Opinions on Deepening the Reform of the Professional Title System (Zhong ban fa [2016] No. 77)
2017	Several Opinions on Deepening the Reform of Streamlining Administration, Delegating Powers, Delegating Power and Combining Optimizing Services in the Field of Higher Education (Jiao Zheng Fa [2017] No. 7)
2020	Guiding Opinions of the Ministry of Human Resources and Social Security and the Ministry of Education on Deepening the Reform of the Professional Title System for Teachers in Colleges and Universities
2020	Action Plan for Improving the Quality of Vocational Education (2020-2023) (Jiao Zong Cheng [2020] No. 7)
2021	Opinions on Promoting the High-Quality Development of Modern Vocational Education
2022	Vocational Education Law of the People's Republic of China

Introduction of Autonomy (2016): In 2016, the Opinions on Deepening the Reform of the Professional Title System granted universities the authority to conduct independent professional title reviews. This marked a pivotal step towards decentralizing evaluation power and empowering educational institutions.

Decentralization (2017): The issuance of the Several Opinions on Deepening the Reform of Streamlining Administration, Delegating Powers, Delegating Power and Combining Optimizing Services in the Field of Higher Education in 2017 emphasized the decentralization of evaluation power. Colleges and universities were encouraged to formulate their own evaluation methods and plans, promoting greater autonomy.

Classified and Hierarchical Evaluations (2020): Policies introduced in 2020, such as the Guiding Opinions, implemented classified and hierarchical evaluations for professional titles in colleges and universities. This approach aimed to streamline the evaluation process, ensuring fairness and transparency.

Reinforcement of Autonomy (2021): The Opinions on Promoting the High-Quality Development of Modern Vocational Education in 2021 reiterated the importance of autonomy in vocational schools, particularly concerning professional title evaluation and recruitment. This reinforced the trend towards empowering educational institutions.

Legislative Mandate (2022): The enactment of the Vocational Education Law in 2022 mandated the establishment and enhancement of professional title systems tailored to the characteristics and development needs of vocational education. This legislative measure underscored the government's commitment to promoting quality and relevance in professional title evaluations.

In conclusion, these policy developments signify China's proactive efforts to enhance the quality, fairness, and autonomy of professional title evaluations, aligning with broader objectives of educational reform and modernization.

5. Life material needs

The material needs of higher vocational college teachers refer to the needs of higher vocational college teachers in their daily lives for various material conditions and resources required for their basic life and work.

Li and Chen (2010) believe that college teachers have various needs, but they are mainly manifested as material needs and spiritual needs. Studying the needs of university teachers from both material and spiritual aspects is of great guiding significance for innovating the incentive mechanism of university teachers and improving the ideological and political work of university teachers. Zhai, S.L., et al. (2012) Also believe that the needs of young teachers in colleges and universities are not only basic material needs, but also have the needs of self-realization of personal ideals and values.

Chen (2017) points out that building efficient teacher incentive mechanism needs to analyze the needs of teachers, teachers' demand characteristics including the basic material needs, spiritual and cultural needs, honor and self-esteem, moral and knowledge needs and creation and achievement, and the demand is changing environment constantly produce new content, according to the requirements of

social development, to meet the material spirit of teachers and other different demand content, build the goal of the incentive system, pointed out the direction of the incentive mechanism for the school.

Chen (2014) for college young teachers incentive income level is low, heavy teaching task, research pressure, social status is not high, the problems such as job burnout, based on the level of demand theory, in L universities, from young teachers material needs, safety demand, social demand, respect demand and self realization demand five aspects discusses the university young teachers incentive way, in order to the management of young teachers provide reference.

Cheng (2014) It is proposed that because the deeper internal needs of young teachers are not met, the behavioral characteristics of young teachers such as job burnout and career confusion, which further lead to surface problems such as the decline of teacher ethics level in the process of educating students.

Liu (2020) It is found that the practical difficulties of young college teachers include: low income level, high life pressure, difficulty of teaching and research; difficulty of self-realization and self-improvement. To solve these difficulties, colleges and universities should constantly improve the system formulate, establish a reasonable salary system to ensure the basic needs of young teachers; deepen the system reform, open the upward channel, meet the development needs of young teachers social communication; and establish a talent development strategy to help young teachers achieve the beyond needs of self-realization.

In short, teachers personal material needs refer to teachers needs for clothing, food, housing, transportation and related items. Teachers personal material needs are the basis of teachers life and work. Reasonable material treatment can stimulate teachers work enthusiasm and creativity, and contribute to the stability and development of teachers.

6. Personal development needs

The personal development needs of teachers in higher vocational colleges are also called teachers' career development needs, which refers to the requirements for improvement and perfection of their own abilities, knowledge, skills, etc. based on personal growth, professional improvement, teaching development and other considerations during their careers.

Ye (2008) defines the professional development of teachers in higher vocational colleges as: The professional development of teachers in higher vocational colleges is a lifelong process that runs through the teaching profession. This process is dynamic and developing, and practice is the soil for teachers' professional growth. Teachers need to engage in teaching. Theoretical knowledge and practical skills are the two wings of teachers' professional development.

Wang (2009) It is believed that the society's high expectations of the image of young teachers and the heavy and complex teaching and scientific research work of young teachers make them bear certain psychological pressure. To promote the mental health of young teachers in higher vocational colleges, the whole society should truly form a trend of respecting teachers and valuing education, and establish a scientific assessment mechanism. At the same time, higher vocational colleges should create conditions to carry out activities that are beneficial to the physical and mental health of young teachers.

Desimone (2009) pointed out in a theoretical study that the process of teacher professional development is a process of strengthening teachers' knowledge, skills and practical abilities, and should highlight five characteristics: content focus, active learning, coherence, persistence and collectiveness, Participate in collaboration.

Wu and Li (2013) analyzed the defects and shortcomings of young teachers from the aspects of grasping the development direction of higher vocational education, understanding the modern higher vocational teaching concept, improving the professional knowledge structure, and improving professional quality, teaching ability, scientific research and social service ability. They proposed that young teachers should strengthen the study of modern higher vocational education and

teaching theories and concepts, strengthen the awareness of professional independent development, and schools should carry out all-round and multi-level professional ability training through carrying out teaching transmission, help, and guidance and professional listening, speaking, and comparing activities, establish a two-way talent flow mechanism between schools and enterprises, build a cooperative teacher culture, and establish a team training mechanism to improve the teaching ability of young teachers and promote professional development.

Liang (2014) believes that the connotation of teacher teaching professional development refers to teachers' efforts and willingness to continue to pursue personal progress and development in teaching knowledge, skills and attitudes during their teaching career, in order to improve teaching quality and achieve school education goals and personal growth.

Liu (2015) It is believed that the low professional happiness of young teachers in vocational colleges, as an important part of the university teaching team, deserves people's deep thought. The reasons are largely related to the generally greater pressure of economic life, the large psychological gap between ideals and reality, and the lack of attention to young teachers. In view of the current status, the professional happiness of young teachers in higher vocational colleges can be enhanced by establishing a scientific and reasonable salary system, building a platform for the growth of young teachers through multiple channels, creating an atmosphere for young teachers to participate democratically in school management, and adhering to the people-oriented approach to create a humane working atmosphere.

Gao (2016) pointed out that teachers' professional development needs refer to the requirements that teachers continuously generate based on their own needs in the process of their career development. Modern motivation theory tells us that human behavior is dominated by motivation, and motivation is caused by needs. Studying the current status of vocational college teachers' professional development needs and their influencing factors, and further taking targeted countermeasures, is undoubtedly a powerful means of motivation for vocational college teachers.

Zha (2018) believes that the basic content of teachers' professional development is the ability to form a reasonable professional knowledge structure, continuously enhance and develop professional abilities, and continuously improve professional ethics.

To sum up, teachers' personal development needs are a comprehensive concept, which covers multiple aspects such as subject knowledge updating, professional ability improvement, career path expansion, and policy and environmental support.

7. Interpersonal relationship needs

The personal development needs of teachers in higher vocational colleges refer to the requirements for improvement and perfection of their own abilities, knowledge, skills, etc., which arise from teachers' considerations such as personal growth, professional improvement, and teaching development during their careers.

Lei (1999) It is believed that teachers' interpersonal relationship refers to the relatively stable psychological relationship formed by teachers through communication in order to meet certain needs. Generally speaking, the interpersonal relationship of teachers includes the relationship between teachers and school leaders, teachers and teachers, teachers and students, teachers and parents, etc. Liu (2017) It is pointed out that young teachers, as an important part of the teaching team, bear the heavy responsibility of teaching and educating people. Whether they can build a harmonious interpersonal relationship is directly related to the future development of China's education cause. Therefore, should strengthen the young teachers' interpersonal skills training, to create a harmonious interpersonal environment, contribute to young teachers' success and development, give full play to the age of young teachers, coordinate the work, improve their education level, cultivate more excellent talents for the society, its significance is far-reaching. Li (Ching-Zong Lee). (2006) Further proposed that teachers have difficulties with administrative staff, school colleagues, students, and students' parents, and how to maintain a good interpersonal relationship with each class, so as to make their teaching work and ideas run smoothly. An and An (2015) also think that teachers in

the education teaching work, must be with students, colleagues, leadership, parents develop good harmonious interpersonal relationship, to solve all kinds of difficulties and setbacks, and can gradually establish their own self-confidence, enhance collectivism sense of honor, improve the personal comprehensive quality, growth into knowledge and moral character of people's teachers.

Qlin (2012) Taking the professional certification formulate work of the School of Automation of Nanjing University of Aeronautics and Astronautics as an opportunity, this paper investigates and analyzes the current professional status of college teachers, points out the typical problems that exist at present, and proposes a teaching reform idea to strengthen the post-job training of college teachers. In view of the post-job status of college teachers, it is proposed to adopt a post-job education and training reform idea that combines internal training and external training to enhance the comprehensive quality and ability level of young and middle-aged teachers. Internal training refers to on-campus education and training organized by schools, colleges, and departments at all levels; external training refers to overseas training, which is divided into three types: teaching type, teaching and research combination type, and research type. Yes. Foreign training refers to overseas training. For new middle-aged and young teachers who have no overseas experience, the school, college, and department level require new teachers to participate in overseas training within five years to achieve internationalization of teacher training: cooperate with well-known foreign universities, mainly rely on the Middle-aged and Young Key Teachers Overseas Training Project, and support middle-aged and young teachers to go abroad as visiting scholars for exchange and study. Foreign training is divided into three types: teaching, teaching and research combined, and research. Within five years, you must have participated in teaching and teaching and research combined overseas training, or have made significant achievements in teaching, before you are eligible to apply for research overseas training.

Zhang (2015) found that the profession of teachers is a special profession, with contact with a variety of groups. Specific performance is: the relationship between teachers and students, the relationship between teachers and teachers, the

relationship between teachers and school administrators, the relationship between teachers and students parents. If the above several interpersonal relationships can be handled properly, then teachers whether in work or life, will be comfortable.

Ren (2019) Emphasizes that with the further deepening of education and teaching reform, the development of society and the continuous change of teaching environment, teachers take increasingly important responsibilities, and the pressure on teachers is also increasing. Teachers in the teaching process, not only have pressure from work itself, and from the assessment, title evaluation, social evaluation and so on factors caused by the disharmonious interpersonal relationship pressure, many teachers so serious lack of professional happiness, of course also can't pass happiness and happiness to students, therefore, create a harmonious interpersonal environment, reduce the pressure of teachers, effectively improve teachers professional happiness, to further enhance the teachers' education enthusiasm, so as to further improve our education teaching quality.

Guo (2004) It is believed that the professional nature and working characteristics of teachers determine that teachers should keep close contact with students, peers, parents and the outside world. Whether the relationship between teachers and these groups and individuals is handled properly affects the effectiveness of teacher education and teaching work to a large extent. Therefore, teachers must have certain interpersonal skills. Pu (1997) On the importance of establishing a good interpersonal relationship among teachers, interpersonal relationship plays a very important role in people's study, work, life and physical and mental health.

In the process of education, good interpersonal relationship is the foundation and premise of education; for teachers, interpersonal relationship plays an important role in their professional growth; maintaining close contact with school leaders, and actively participating in school teaching and research activities and discipline formulate, also help to improve teaching effect; teachers also need to maintain good interpersonal relationship with colleagues, jointly solve problems in teaching and improve teaching effect; good teacher-student relationship is not only conducive to

students' physical and mental health, but also motivate students' learning. To sum up, teachers' interpersonal relationship needs have an important impact on the quality of education, teaching effect, teachers' professional growth and students' development.

Philosophy of Vocational Colleges

The research on the philosophy of higher vocational colleges includes the research on young teachers in higher vocational colleges and the research on higher vocational colleges.

1. Young teachers in higher vocational colleges

Ma (2019) emphasizes the pivotal role young teachers play in the sustainable development of higher vocational colleges. They are seen as essential for ensuring the future quality and success of higher education in the country.

Peng (2009) suggests that setbacks can motivate young teachers to develop their skills and enhance their competitiveness. Various forms of competition and skill development can contribute to their growth and self-improvement.

Wan (2021) defines young teachers in higher vocational colleges as those who possess professional training, good ethics, and mastery of theoretical knowledge and technology required for educational work.

Wang (2008) acknowledges the increasing presence of young teachers in higher education institutions, highlighting their strong academic qualifications, broad knowledge, and creativity. However, challenges such as financial pressures and limited management support hinder their development to varying degrees.

Yang (2016) notes that young teachers value recognition from leaders, peers, and society, seeking to fulfill their personal values in both work and life. They often possess expertise in specific subjects, embrace new ideas, and advocate for academic freedom.

In summary, scholars agree that young teachers are vital contributors to higher vocational education, possessing strong professional qualities and teaching

abilities. However, challenges such as financial pressures and limited management support may impede their development.

2. Higher vocational colleges

In 2022, Article 15 of the Vocational Education Law of the People's Republic of China solidifies the role of higher vocational education in the country's educational landscape. It emphasizes that higher vocational education, implemented by higher vocational schools and ordinary colleges and universities, serves as a crucial pillar in cultivating skilled talents for various sectors, accelerating socialist modernization, and contributing to the country's development.

Zhu (2020) provides insight into the evolution of China's higher vocational colleges, tracing their development since the reform and opening up period. These institutions have undergone significant growth and recognition, with policies such as the *Decision of the Central Committee of the Communist Party of China on the Reform of the Education System* in 1985 and the *Decision of the State Council on Vigorously Developing Vocational and Technical Education* in 1991 shaping their trajectory. Today, higher vocational colleges encompass a range of institutions aimed at providing practical education and cultivating skilled professionals.

Scholars like Guo (2018), Kong (2017), and Chen (2019) offer perspectives on the nature and mission of higher vocational colleges. These institutions are unique in that they blend vocational skills training with higher education standards, focusing on producing graduates equipped with both theoretical knowledge and practical skills essential for various industries. Higher vocational colleges accept high school and technical secondary school graduates, aiming to prepare them directly for employment with specialized skills and knowledge relevant to their chosen fields.

In summary, higher vocational colleges in China hold significant importance in the educational landscape, serving as vital contributors to the country's workforce development and economic growth. Their role in providing practical, skill-oriented education for various sectors underscores their pivotal position in the higher education sector and their crucial contribution to the nation's modernization efforts.

Related Research

In the realm of higher vocational education, the role of young teachers is pivotal in shaping the trajectory of colleges towards sustainable development. Recognizing their significance, numerous studies have delved into the intricacies of incentive mechanisms tailored to support and empower young educators within higher vocational colleges. This is an overview of the comprehensive understanding and analysis conducted across various studies regarding the optimization of incentive mechanisms for young teachers.

Comprehensive Understanding and Analysis of Incentive Mechanisms for Young Teachers: The studies conducted comprehensively analyze the existing incentive mechanisms for young teachers in various higher vocational colleges. They objectively identify problems and suggest solutions to optimize these mechanisms.

Identified Problems and Proposed Solutions: The studies identify common problems such as lack of competitiveness in salary and welfare incentives, challenges in promotion, and issues with performance appraisal systems. They propose solutions tailored to each college's context, including standardizing evaluation systems, adjusting salary distribution methods, and enhancing career development support.

Insights from Theory and Practice: Drawing on motivation theories and empirical analysis, the studies highlight the impact of working conditions, policies, and development environments on teacher satisfaction and enthusiasm. They emphasize the importance of addressing material and development needs while establishing fair competition mechanisms and improving training opportunities.

Optimization Strategies and Improvement Measures: Recommendations include improving the pertinence and flexibility of incentive methods, enhancing professional training, activating performance appraisal systems, and smoothing promotion channels. Suggestions also focus on principles, content, and safeguards to enhance the effectiveness of incentive mechanisms.

Focus on Sustainable Professional Development: The studies emphasize the need for sustainable professional development among young teachers, aligning incentive mechanisms with their needs and characteristics. Proposed strategies

include improving salary incentives, performance evaluations, and creating a supportive working environment.

Creation of Incentive Models: Researchers propose incentive models based on environmental factors, system formulate, salary, benefits, performance evaluation, and self-motivation. These models aim to meet the needs of young teachers and enhance motivation through a balanced approach.

Establishment of People-Oriented Incentive Systems: Recommendations stress the establishment of scientific, people-oriented incentive systems that respect teachers' individuality, achievements, and development needs. Measures include improving working conditions, enhancing incentives, and strengthening performance management.

Future Research Directions: Suggestions for future research include conducting on-site surveys, interviews, and expert evaluations to further refine and implement proposed incentive mechanisms. The focus is on promoting sustainable professional development among young teachers in higher vocational colleges.

In conclusion, the studies provide valuable insights into optimizing incentive mechanisms for young teachers in higher vocational colleges. By addressing identified challenges and implementing tailored solutions, these colleges can foster sustainable professional development, improve teaching quality, and contribute to the broader goals of vocational education.

Chapter 3

Research Methodology

This chapter outlines the methodology used to address the research objectives outlined in Chapter 1. This study aims to investigate the current status of research on incentive mechanisms for professional development of young teachers in higher vocational colleges in Hunan Province and to formulate incentive mechanisms for sustainable professional development. The following sections detail the population and sample group, research methods and steps, data collection procedures, and data analysis techniques used in this study.

Researchers have the following procedures:

Step 1: Research on the current status of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Step 2: Formulate of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Step 3: Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Step 1: Research on the current status of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Population/Sample Groups

Population

The study population included 716 young teachers and 32 school personnel managers from three public vocational colleges in Hengyang City, Hunan Province.

Sample group

1.1 Analysis of the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province

The sample group for this study was randomly selected using the form provided by Krejcie and Morgan (Krejcie & Morgan, 1970) and was determined to be 248 young teachers and 28 school personnel managers.

1.2 Understand the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province

The sample group of this study used a purposive sampling method to randomly select 12 people, including 6 young teachers and 6 school personnel managers.

Research Instruments

The tools used in this research step include questionnaire and interview outline.

1.1 Questionnaire. The researchers constructed it as follows:

1.1.1 Design purpose: To understand the current status of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

1.1.2 Design ideas: By referring to relevant literature, research reports and data related to variable measurement, the operational definition of variables and the framework of variable measurement are defined. 1) The researchers designed a questionnaire for young teachers to understand the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province from three aspects: "material needs of life", "personal development needs" and "interpersonal relationship needs". The questionnaire proposed three first-level indicators and 13 second-level indicators. 2) The researchers designed a questionnaire for school personnel management personnel to understand the current status of the professional development incentive mechanism

for young teachers in higher vocational colleges in Hunan Province from five aspects: policy support, resource guarantee, development platform, evaluation and incentive, career support and psychological care. The questionnaire proposed five first-level indicators and 14 second-level indicators.

1.1.3 Questionnaire IOC test: The questionnaire was sent to authoritative experts in the industry, who tested it on the scope of the International Olympic Committee. The content analysis and questionnaire were handed over to 5 authoritative experts in the industry to check the content validity. The experts were asked to consider the consistency and applicability of each question based on appropriate and inappropriate operations, and the definition and suggestions for improving the questionnaire were solicited. Then the index corresponding to each question (Project Objective Congruence Index: IOC) and the operational definition were calculated, and it was found that the index of each question was 0.80-1.00, indicating that each question was consistent with the operational definition. At the same time, the Delphi technique was used to seek expert consensus, improve the theme and expression of the questionnaire, and finally determine the questionnaire.

1.2 Interview forms. The interview members were randomly selected using a purposive sampling method, 12 people, including 6 young teachers and 6 school personnel managers. The researchers constructed it in the following way:

1.2.1 Design purpose: To understand the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province.

1.2.2 Design idea: Present the information provided by the interviewees through structured interviews. The interview content focuses on the problems and influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province, including the advantages, disadvantages, opportunities, threats and improvement directions that affect development.

1.2.3 Interview form IOC test: Sent to authoritative experts in the industry, who tested the scope of the IOC. Submit the content analysis form and interview

outline to 5 authoritative experts in the industry to check the content validity, and ask the experts to consider the consistency and applicability of each question based on appropriate and inappropriate operations, and solicit definitions and suggestions for improving the interview outline. Then calculate the index (project goal consistency index: IOC) and operational definition corresponding to each question, and find that the index of each question is 0.80-1.00, indicating that each question is consistent with the operational definition. At the same time, the Delphi technique is used to seek expert consensus, improve the theme and expression of the questionnaire, and finally determine the interview outline.

Data Collection

When conducting a study on the current status of incentive mechanisms for professional development of young teachers in higher vocational colleges in Hunan Province, data collection is a key step. The following are some suggestions on data collection, which can be divided into qualitative and quantitative aspects:

1.1 Qualitative data collection

Interviews: A purposive sampling method was used to randomly select 12 people, including 6 young teachers and 6 school personnel managers. Through structured interviews with them, the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province were understood. WeChat, Internet, and mail were used to collect data.

1.2 Quantitative data collection

Questionnaire survey: Different questionnaires were designed for different survey objects, covering young teachers and school personnel managers. A questionnaire survey was conducted with 248 young teachers and 28 school personnel managers from three higher vocational colleges in Hengyang City, Hunan Province, to understand the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province, and use online questionnaire survey software to collect data.

Data Analysis

1.1. Qualitative data analysis

1.1.1 Statistical analysis

Statistical analysis software was used to conduct statistical analysis on the data collected from the quantitative survey, including:

1) Frequency and percentage: Analyze the information of the sample respondents. Analyze the distribution of respondents by gender, age, education, work experience, etc.

2) Mean and standard deviation method: Analyze the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province. The data interpretation of the mean is based on Rensis Likert (1932). The data interpretation is as follows:

4.50–5.00 Indicates the highest level

3.50–4.49 Indicates high level

2.50–3.49 Indicates medium level

1.50–2.49 Indicates low level

1.00–1.49 Indicates the lowest level

1.1.2 Validity Analysis

The researchers calculated the KMO values for the questionnaire data of different groups of respondents, which were 0.894 and 0.837, respectively, both higher than 0.80, indicating that the validity of the questionnaire was good, the survey information was fully supported, and consistent with the analysis of the paper. At the same time, the chi-square value of Bartlett's sphericity test can be verified from the data aspect, and the correlation matrix between the variables is positively correlated, so the data can be further analyzed.

1.1.3 Reliability Analysis

The researchers tested the questionnaire set on 248 young teachers and 28 school personnel managers from three higher vocational colleges in Hengyang, Hunan Province, and then used the collected data to check the quality of the tool. The reliability of the questionnaire was analyzed using Cronbach's Alpha coefficient,

and the reliability of the questionnaire was 0.962 and 0.975, both higher than 0.95, indicating that the reliability and consistency were very high.

1.2 Quantitative data analysis

Content Analysis:

Through SWOT and TOWS analysis methods, the internal and external factors of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province are analyzed.

Step 2: Formulate of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

2.1 Draft of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Through focus group discussions, a draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was constructed. Six people participating in the focus group discussion were randomly selected using a purposive sampling method. The selection criteria are:

Table 3.1 Expert qualification criteria for constructing the incentive mechanism draft

Eligibility criteria	Number of experts
Experts and scholars with doctoral degrees who research teacher professional development and incentive mechanisms	3
Experts with professorial title and more than 5 years of experience in personnel management	3

2.2 Establishing an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Through focus group discussion, the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was reviewed, and the incentive mechanism for sustainable professional

development of young teachers in higher vocational colleges in Hunan Province was constructed. Purposeful sampling method was used to randomly select 3 young teachers and 3 educational institution managers, and the sampling criteria are as follows:

Table 3.2 Expert qualification criteria for building incentive mechanisms

Eligibility criteria	Number of experts
Young teachers with a master's degree or above and more than 5 years of work experience	3
Educational institution managers with a professional title of associate professor or above and more than 10 years of work experience	3

Research Instruments

The tools used in this research step include the focus group discussion outline form and the content synthesis form

2.1 Focus Group Discussion Outline Table. The researcher constructed it as follows:

2.1.1 Design purpose: To propose a draft incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

2.1.2 Design idea: By analyzing the results of the questionnaire survey on the current status of the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province and the interviews on the main influencing factors of the incentive mechanism, a scientific and reasonable mechanism draft is constructed. By discussing the suitability and feasibility of the incentive mechanism draft for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province, an incentive mechanism for

the sustainable professional development of young teachers in higher vocational colleges in Hunan Province is constructed.

2.2 Content synthesis table. The researchers constructed it as follows:

2.1.1 Design purpose: To establish an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

2.1.2 Design idea: The focus group discussed the effectiveness of the draft incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province from three aspects: "material needs of life", "personal development needs" and "interpersonal relationship needs", so as to construct an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Data Collection

When conducting a study on the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province, data collection was mainly qualitative data collection:

2.1 Focus group discussion outline: 6 school personnel managers from 3 sample groups of higher vocational colleges discussed the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province based on the content of the focus group discussion outline and combined with the results of questionnaires and interviews.

2.2 Content synthesis table: A focus group consisting of 3 young teachers with a master's degree or above and more than 5 years of work experience and 3 educational institution managers with the title of associate professor and more than 10 years of work experience discussed the effectiveness of the draft incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province from the three aspects of "material needs of life", "personal development needs" and "interpersonal relationship needs", so as to

construct an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Data analysis

Hybrid analysis

1) Integrate qualitative and quantitative data, and find intersections through SWOT, PEST, and TOWS analysis to provide a more comprehensive understanding. Through in-depth analysis, researchers can understand the advantages, disadvantages, challenges, and opportunities of the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province, and provide strong support for the formulate of the mechanism.

2) Combined with the content analysis results and relevant literature, this paper explores the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Step 3: Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

3.1 Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

The incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was evaluated from the perspective of suitability and feasibility. According to the selection qualification criteria, five experts with knowledge and ability in constructing incentive mechanisms in higher vocational colleges in Hunan Province were selected. Purposeful sampling was adopted, and they are:

Table 3.3 Qualification criteria for experts in evaluating incentive mechanisms

Eligibility criteria	Number of experts
Experts with PhDs, knowledge and experience in mechanism building	1
personnel managers with a master's degree or above and a professional title of associate professor or above	2
Educational institution managers with a master's degree and a professional title of associate professor or above	1
Teachers with a master's degree or above and a title of associate professor or above	1

Research Instruments

The tools used in this research step include the evaluation form.

3.1 Evaluation form. The researchers constructed it as follows:

3.1.1 Design purpose: To evaluate the effectiveness of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

3.1.2 Design idea: Evaluate the effectiveness of the sustainable professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province from the two aspects of suitability and feasibility.

Data Collection

When evaluating the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province, quantitative data collection was used.

Evaluation scale: Experts with knowledge and ability in mechanism formulate in higher vocational colleges in Hunan Province were asked to evaluate the incentive mechanism for sustainable professional development of young teachers in higher

vocational colleges in Hunan Province from two aspects: suitability and feasibility. Rensis Likert (1932) was used to collect data.

Data analysis

3.1 Statistical analysis:

Statistical analysis: Use statistical analysis software to conduct statistical analysis on the data collected from the quantitative survey, including:

Mean and standard deviation method: Analyzing the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

The data interpretation of the mean is based on Rensis Likert (1932). The data interpretation is as follows:

- 4.50 – 5.00 represents the highest level
- 3.50 – 4.49 represents the high level
- 2.50 – 3.49 represents the moderate level
- 1.50 – 2.49 represents the low level
- 1.00 – 1.49 represents the lowest level

Table 3.4 Research steps

Research Steps	Research Method	Resources/Target Group	Instruments	Data Analysis	Results
Objective 1. This paper studies the current status of incentive mechanism for young teachers in higher vocational colleges in Hunan Province.					
Step 1: Research on the current status of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.	1.1 Analysis of the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province	1.1 Respondents: - 248 young teachers - 28 school personnel managers	Questionnaire	Statistical analysis, reliability analysis, validity analysis	The current status and main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province
	1.2 Understand the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (SWOT, TOWS analysis)	1.2 Interview subjects: - 6 young teachers - 6 school personnel managers	Interview forms	Content Analysis	

Table 3.4 (Continued)

Research Steps	Research Method	Resources/Target Group	Instruments	Data Analysis	Results
Objective 2. Formulating an incentive mechanism to promote the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.					
Step 2: The 2.1 Formulating the draft of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province	2.1 Formulating the draft of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province	2.1 Respondents: - 6 experts	Focus Group Discussion Outline	Hybrid analysis	Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province
	2.2 Formulating an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province	2.2 Respondents: - 6 experts	Content synthesis form	Content Analysis	

Table 3.4 (Continued)

Research Steps	Research Method	Resources/Target Group	Instruments	Data Analysis	Results
Objective 3. To evaluate the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.					
Step 3: Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.	Evaluation of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province	Respondents: - 5 experts	Evaluation form	Statistical analysis	Suitability and feasibility of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Chapter 4

Results of Analysis

According to the research objectives of Research on the formulate of Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province : 1) To study the current status of incentive mechanisms for young teachers in higher vocational colleges in Hunan Province. 2) To build an incentive mechanism to promote the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. 3) To evaluate the suitability and feasibility of incentive mechanisms for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. The data analysis results can be presented as follows:

Information Analysis: Analysis of the respondents personal information. The respondents were classified by gender, educational background, years of work experience, job title, marital status, annual salary, etc., and the data were presented in the form of frequency and percentage.

Current status analysis: Analysis of the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province. The analysis found that young teachers are at a medium level in terms of material needs of life , personal development needs and interpersonal relationship needs , which need to be improved; higher vocational colleges are at a medium level in terms of policy support, resource guarantee, development platform, evaluation and incentives, career support and psychological care, which need to be improved.

Mechanism formulate: Results of the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Five incentive mechanisms and 17 measures were constructed, including policy support, resource guarantee, development platform, evaluation and incentive mechanism, career support and psychological care.

Suitability and feasibility assessment: Evaluation of the applicability and feasibility results of the incentive mechanism for sustainable professional young teachers in higher vocational colleges in Hunan Province for sustainable development. The study found that both the suitability and feasibility are at a high level and effective.

The symbols and meanings used to express the data analysis results are as follows:

n means sample group

\bar{X} means mean

S.D. means standard deviation

Information Analysis: Analysis results of respondents personal information.

The data were categorized by gender, educational background, years of work experience, job title, marital status, annual salary, etc., and presented in the form of frequency and percentage.

Table 4.1 Number of people and percentage of respondents (For young teachers)

		(n=248)	
Personal Information		Frequency	Percentage(%)
Gender	Male	60	24.19
	Female	188	75.81
	Total	248	100.00
Age	20-25 years old	24	9.68
	26-30 years old	198	79.84
	31-35 years old	26	10.48
	Total	248	100.00
Education	Specialist	10	4.03
	Undergraduate	18	7.26
	postgraduate	220	88.71
	Total	248	100.00

Table 4.1 (Continued)

(n=248)

Personal Information		Frequency	Percentage(%)
Academic position	Teaching assistant	46	18.55
	Lecturer	124	50.00
	Associate professor	47	18.95
	Professor	31	12.50
	Total	248	100.00
Work experience	1-2 years	35	14.11
	3-5 years	179	72.18
	6-10 years	23	9.27
	10+ years	11	4.44
	Total	248	100.00
Marital status	single	54	21.77
	in love	115	46.38
	Married	79	31.85
	Total	248	100.00
Annual Salary	Less than RMB 50,000	46	18.55
	RMB 50,000-100,000	124	50.00
	RMB 100,000-150,000	47	18.95
	RMB 150,000 or more	31	12.50
	Total	248	100.00

Table 4.1 shows that this study involved 248 young teachers as effective participants. 1) In terms of gender, there were 60 males, accounting for 24.19%, and 188 females, accounting for 75.81%. 2) In terms of age, there were 24 people aged 20-25, accounting for 9.68%, 198 people aged 26-30, accounting for 79.84%, and 26 people aged 31-35, accounting for 10.48%. 3) In terms of education, there were 10 people with a college degree, accounting for 4.03%, 18 people with a bachelor's degree, accounting for 7.26%, and 220 people with a postgraduate degree, accounting for 88.71%. 4) In terms of professional title, there were 46 teaching assistants, accounting for 18.55%, 124 lecturers, accounting for 50.00%, 47 associate professors, accounting for 18.95%, and 31 professors, accounting for 12.50%. 5) In

terms of years of work experience, there are 35 people with 1-2 years, accounting for 14.11%, 179 people with 3-5 years, accounting for 72.18%, 23 people with 6-10 years, accounting for 9.27%, and 11 people with more than 10 years, accounting for 4.44%. 6) In terms of marital status, there are 54 single people, accounting for 21.77%, 115 people in a relationship, accounting for 46.38%, and 79 married people, accounting for 31.85%. 7) In terms of annual salary, there are 46 people with less than 50,000 RMB, accounting for 18.55%, 124 people with 5-10 RMB, accounting for 50.00%, 47 people with 100,000-150,000 RMB, accounting for 18.95%, and 31 people with more than 150,000 RMB, accounting for 12.50%

Table 4.2 Number of people and percentage of respondents (For school personnel managers) (n=28)

Personal Information		Frequency	Percentage(%)
Gender	Male	18	64.29
	Female	10	35.71
	Total	28	100.00
Age	25 years old or below	1	3.57
	26 to 35 years old	3	10.71
	36 to 45 years old	12	42.87
	46 to 55 years old	9	32.14
	56 years or above	3	10.71
	Total	28	100.00
Education	Specialist	1	3.57
	Undergraduate	4	14.29
	postgraduate	23	82.14
	Total	28	100.00

Table 4.2 (Continued)

(n=28)

Personal Information		Frequency	Percentage(%)
Academic position	Teaching assistant	1	3.57
	Lecturer	2	7.14
	Associate professor	16	57.15
	Professor	9	32.14
	Total	28	100.00
Work experience	Within 5 years	1	3.57
	5 to 10 years	4	14.29
	11 to 15 years	8	28.57
	16 to 20 years	7	25.00
	More than 20 years	8	28.57
	Total	28	100.00

Table 4.2 shows that this study involved 28 effective participants from school personnel management personnel. 1) In terms of gender, there were 18 males, accounting for 64.29%, and 10 females, accounting for 35.71%. 2) In terms of age, there was 1 person aged 25 or below, accounting for 3.57%, 3 people aged 26 to 35, accounting for 10.71%, 12 people aged 36 to 45, accounting for 42.87%, 9 people aged 46 to 55, accounting for 32.14%, and 3 people aged 56 or above, accounting for 10.71%. 3) In terms of education, there was 1 person with a college degree, accounting for 3.57%, 4 people with a bachelor s degree, accounting for 14.29%, and 23 people with a postgraduate degree, accounting for 82.14%. 4) In terms of professional title, there was 1 teaching assistant, accounting for 3.57%, 2 lecturers, accounting for 7.14%, 16 associate professors, accounting for 57.15%, and 9 professors, accounting for 32.14%. 5) In terms of years of work experience, there is 1 person with less than 5 years, accounting for 3.57%; there are 4 people with 5-10

years, accounting for 14.29%; there are 8 people with 11-15 years, accounting for 28.57%; there are 7 people with 16 to 20 years, accounting for 25.00%; there are 8 people with more than 20 years, accounting for 28.57%.

Current status analysis: Analysis results of the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province.

1.1 Analysis of the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province

1.1.1 By referring to relevant literature, research reports and data related to variable measurement, defining the operational definition of variables and the framework of variable measurement, the researchers designed a questionnaire for young teachers to understand the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province from three aspects: material needs of life, personal development needs and interpersonal relationship needs . The questionnaire proposed 3 first-level indicators and 13 second-level indicators.

Table 4.3 Current status of professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (For young teachers)

(n=248)

Content	\bar{X}	S.D.	Level	Rank
1. material needs of life	2.96	0.38	moderate	3
2. personal development needs	3.14	0.49	moderate	1
3. interpersonal relationship needs	3.09	0.55	moderate	2
Total	3.06	0.47	moderate	

It can be seen from Table 4.3 that the current status of the incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province. The current average level of young teachers' material needs, personal development needs, and interpersonal relationship needs is at a medium level ($\bar{X}=3.06$), among which the average level of personal development needs is the highest ($\bar{X}=3.14$), followed by the average level of interpersonal relationship needs ($\bar{X}=3.09$), and the average level of material needs is the lowest ($\bar{X}=2.96$).

Table 4.4 Current status of professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province and their living material needs (For young teachers)

(n=248)

Material needs of life	\bar{X}	S.D.	Level	Rank
1. Salary package can meet your living needs	2.82	0.50	moderate	3
2. Welfare benefits satisfy you	3.01	0.36	moderate	2
3. Provide a good working environment and facilities	3.04	0.29	moderate	1
Total	2.96	0.38	moderate	

It can be seen from Table 4.4 that the current status of the material needs of young teachers' professional development incentive mechanism in higher vocational colleges in Hunan Province is generally at a medium level ($\bar{X}=2.96$). Among the three aspects, providing a good working environment and facilities has the highest average level ($\bar{X}=3.04$), followed by welfare benefits that satisfy you ($\bar{X}=3.01$), and salary benefits that can meet your living need has the lowest average level ($\bar{X}=2.82$).

Table 4.5 Current status of professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province in terms of personal development needs (For young teachers)

(n=248)

Personal development needs	\bar{X}	S.D.	Level	Rank
1. Provide a comprehensive training system to support career development	3.45	0.50	moderate	1
2. The job title evaluation and appointment system is reasonable and transparent	2.68	0.59	moderate	5
3. Create a fair and reasonable competition environment	2.58	0.52	moderate	6
4. Provide sufficient funding support for scientific research	3.44	0.76	moderate	2
5. The school's goals can be effectively combined with your personal career development	3.42	0.54	moderate	3
6. Enhance your sense of professional honor through various evaluation activities	2.98	0.40	moderate	4
Total	3.09	0.55	moderate	

As can be seen from Table 4.5, the current status of personal development needs of professional development incentive mechanisms for young teachers in higher vocational colleges in Hunan Province is generally at a medium level ($\bar{X}=3.09$). Among the six aspects, providing a complete training system to support career development has the highest average level ($\bar{X}=3.45$), followed by providing sufficient scientific research supporting funds ($\bar{X}=3.44$), the school's goals and your personal career development can be effectively combined ($\bar{X}=3.42$), enhancing your sense of professional honor through various evaluation activities ($\bar{X}=2.98$), the professional title evaluation and appointment system is reasonable and transparent ($\bar{X}=2.68$), and creating a fair and reasonable competition environment has the lowest average level ($\bar{X}=2.58$).

Table 4.6 Current status of interpersonal relationship needs in the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (For young teachers)
(n=248)

Interpersonal relationship needs	\bar{X}	S.D.	Level	Rank
1. Work is recognized by leadership	3.39	0.50	moderate	1
2. Harmonious relationship between colleagues	3.12	0.49	moderate	2
3. Students respect and recognition for you	2.76	0.57	moderate	4
4. Society's professional recognition and respect for higher vocational teachers	3.12	0.49	moderate	2
Total	3.10	0.51	moderate	

It can be seen from Table 4.6 that the current status of interpersonal relationship needs in the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province is at a medium level as a whole ($\bar{X}=3.10$). Among the four aspects, recognition of work by leaders has the highest average level ($\bar{X}=3.39$), followed by harmonious relationships between colleagues and professional recognition and respect of higher vocational teachers by society ($\bar{X}=3.12$), and the lowest average level is respect and recognition of students for you ($\bar{X}=2.76$).

1.1.2 By referring to relevant literature, research reports and data related to variable measurement, defining the operational definition of variables and the framework of variable measurement, the researchers designed a questionnaire for school personnel management personnel to understand the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province from five aspects: policy support, resource guarantee, development platform, evaluation and incentive, career support and psychological care. The questionnaire proposed 5 first-level indicators and 14 second-level indicators.

Table 4.7 Current status of professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel)

(n=28)

Content	\bar{X}	S.D.	Level	Rank
1. Policy support	3.00	0.46	moderate	4
2. Resource guarantee	3.23	0.58	moderate	2
3. Development Platform	2.99	0.48	moderate	5
4. Evaluation and incentives	3.31	0.55	moderate	1
5. Career support and psychological care	3.07	0.45	moderate	3
Total	3.12	0.50	moderate	

As can be seen from Table 4.7, the current status of the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province involves five aspects, and the average level is at a medium level ($\bar{X}=3.12$), among which the average level of evaluation and incentive is the highest ($\bar{X}=3.31$), followed by resource guarantee ($\bar{X}=3.23$), career support and psychological care ($\bar{X}=3.07$) and policy support ($\bar{X}=3.00$), and the average level of development platform is the lowest ($\bar{X}=2.99$).

Table 4.8 Current status of policy support for professional development incentive mechanisms for young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel)

(n=28)

Policy support	\bar{X}	S.D.	Level	Rank
Provide talent introduction policies	3.32	0.47	moderate	1
Provide talent introduction policies	3.32	0.47	moderate	1
Incorporate the training of young teachers into the overall development strategy of higher vocational colleges	3.04	0.42	moderate	2
Provide funding for academic advancement	2.64	0.48	moderate	3
Total	3.00	0.46	moderate	

As can be seen from Table 4.8, the overall status of policy support for the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province is at a medium level ($\bar{X}=3.00$), among which providing talent introduction policies has the highest average level ($\bar{X}=3.32$), incorporating the training of young teachers into the overall development strategy of higher vocational colleges ($\bar{X}=3.04$), and providing academic qualification improvement funding has the lowest average level ($\bar{X}=2.64$).

Table 4.9 Current status of resource guarantee for professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel)

(n=28)

Resource guarantee	\bar{X}	S.D.	Level	Rank
Establish a special research fund for young teachers	3.39	0.67	moderate	1
Provide advanced teaching and scientific research equipment	3.36	0.61	moderate	2
Establish an open teaching resource platform	2.93	0.46	moderate	3
Total	3.23	0.58	moderate	

As can be seen from Table 4.9, the overall status of resource guarantee for the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province is at a medium level ($\bar{X}=3.23$), among which establishing a special scientific research fund for young teachers has the highest average level ($\bar{X}=3.39$), providing advanced teaching and scientific research equipment ($\bar{X}=3.36$), and establishing an open teaching resource platform has the lowest average level ($\bar{X}=2.93$).

Table 4.10 The current status of the professional development incentive mechanism development platform for young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel)

(n=28)

Development Platform	\bar{X}	S.D.	Level	Rank
Organize job exchanges and on-the-job training for young teachers	3.29	0.45	moderate	1
Organize young teachers to participate in teaching competitions and project applications	2.89	0.49	moderate	2
Forming teaching teams to promote cooperation between young and experienced teachers	2.79	0.49	moderate	3
Total	2.99	0.48	moderate	

It can be seen from Table 4.10 that the current status of the development platform of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province is at a medium level as a whole ($\bar{X}=2.99$), among which organizing job exchanges and on-the-job training for young teachers has the highest average level ($\bar{X}=3.29$), organizing young teachers to participate in teaching competitions and project applications ($\bar{X}=2.89$), and forming teaching teams to promote cooperation between young teachers and senior teachers has the lowest average level ($\bar{X}=2.79$).

Table 4.11 The current status of evaluation and incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel)

(n=28)

Evaluation and incentives	\bar{X}	S.D.	Level	Rank
The evaluation system for young teachers focuses on diversity	2.89	0.49	moderate	3
A reward and promotion mechanism has been established for outstanding young teachers	3.64	0.61	moderate	1
Carry out selection activities such as Outstanding Young Teachers and Teaching Newcomers	3.39	0.56	moderate	2
Total	3.31	0.55	moderate	

It can be seen from Table 4.11 that the overall evaluation and incentive status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province is at a medium level ($\bar{X}=3.31$), among which establishing a reward and promotion mechanism for outstanding young teachers has the highest average level ($\bar{X}=3.64$), carrying out selection activities such as outstanding young teachers and teaching newcomers ($\bar{X}=3.39$), and the evaluation system for young teachers pays attention to diversification has the lowest average level ($\bar{X}=2.89$).

Table 4.12 Current status of professional development incentive mechanism, career support and psychological care for young teachers in higher vocational colleges in Hunan Province (For school personnel management personnel) (n=28)

Career support and psychological care				\bar{X}	S.D.	Level	Rank
Provide	frequent	instructional	and	3.29	0.45	moderate	1
professional development guidance							
Regularly	hold	mental health	lectures and	2.86	0.44	moderate	2
establish a psychological counseling center							
Total				3.07	0.45	moderate	

It can be seen from Table 4.12 that the current status of professional support and psychological care for the professional development incentive mechanism of young teachers in higher vocational colleges in Hunan Province is at a medium level as a whole ($\bar{X}=3.39$), with the highest average level of frequently providing guidance on teaching and career development ($\bar{X}=3.29$), and the lowest average level of regularly holding mental health lectures and establishing a psychological counseling center ($\bar{X}=2.86$).

1.2 Analysis results of the main influencing factors of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province

This study adopts the interview outline designed by the researcher for this study. The interviewees are members of the sample group of this study, including three higher vocational colleges: Hunan Environmental Biology Vocational and Technical College, Hunan High-speed Railway Vocational and Technical College, and Hunan Finance and Industry Vocational and Technical College. The interviewees have a postgraduate degree and have worked in higher vocational colleges for more than 5 years. There are 6 young teachers and 6 school personnel management personnel.

Table 4.13 Interview content analysis table

(n=12)

Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
Q1: What are the main problems with the current policy support for the professional development incentive mechanism for young teachers in your school?														
1. There is no clear medium- and long-term plan for the professional development of young teachers, and policies are fragmented and implementation is uneven.	√	√	√	√	√	√	√	√	√	√	√	√	12	100.00
2. The policy bias is mainly concentrated in the introduction stage, but subsequent training and support are insufficient.	√		√	√	√		√	√	√		√	√	9	75.00
3. Some colleges and universities emphasize scientific research results in the evaluation of professional titles and neglect teaching quality and practical ability.			√	√			√			√		√	5	41.67
4. There is little funding for young teachers to pursue doctoral degrees or participate in further studies at home or abroad.	√	√	√		√	√	√		√	√	√	√	10	83.33

Table 4.13 (Continued)

(n=12)														
Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
Q2: What are the main problems with your school's current incentive mechanism for young teachers' professional development in terms of resource guarantee?														
1. There is a lack of sufficient scientific research funding support when conducting innovative or applied research.	√	√	√	√	√		√	√	√	√	√		10	83.33
2. Practical teaching equipment is difficult to meet the new demands of industry development, affecting the quality of teaching and scientific research.		√	√	√	√	√	√	√	√	√	√	√	11	91.67
3. The integration of teaching resources is not strong enough, and young teachers have limited channels to obtain high-quality course materials and practical cases.	√		√		√		√	√	√	√		√	8	66.67
4. Provincial capitals and key universities have sufficient resources, the development of local higher vocational colleges is limited, and there is a large gap in the support system for young teachers.		√				√		√			√		4	33.33

Table 4.13 (Continued)

(n=12)

Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
Q5: What are the main problems with your school s current professional development incentive mechanism for young teachers in terms of evaluation and incentive mechanisms?														
1. The teaching, helping and guiding mentors have limited input in actual guidance and the results are not obvious.	√	√	√		√	√		√	√	√	√	√	10	83.33
2. Institutions of higher learning have made insufficient investments in psychological support and career planning, failing to alleviate the occupational stress of young teachers.	√	√	√	√	√	√	√	√	√	√	√	√	12	100
3. Young teachers lack a clear understanding of their own development direction and the expectations of institutions, which leads to a strong sense of career confusion.		√			√			√			√		4	33.33

Table 4.13 (Continued)

(n=12)

Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
Q6: What advantages do you think influence the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?														
1. Policy support has been gradually strengthened, providing policy guarantees for the professional development of young teachers in higher vocational colleges.	√	√	√	√	√	√	√	√	√	√	√	√	12	100
2. There are rich resources for school-enterprise cooperation, and higher vocational colleges work closely with enterprises, providing young teachers with abundant practical opportunities.	√			√		√	√		√		√	√	7	58.33
3. We will innovate the talent training model for vocational education, focus on the training of dual-qualified teachers, and promote the integration of young teachers professional development with job requirements.	√	√			√	√		√	√	√	√	√	9	75.00

Table 4.13 (Continued)

(n=12)														
Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
4. With the rapid development of higher vocational colleges, the colleges are paying more attention to teacher development, and the growth space for young teachers in teaching and scientific research is constantly expanding.	√	√		√	√	√		√	√	√	√	√	10	83.33
Q7: What do you think are the disadvantages that affect the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?														
1. Resources are unevenly distributed, local higher vocational colleges are relatively short of resources, and young teachers face large gaps in scientific research funding, equipment support, etc.	√	√		√			√	√	√		√	√	8	66.67
2. The evaluation system is single and the diversified development needs of young teachers are not fully met.	√	√	√		√	√	√	√	√	√		√	10	83.33
3. The development platform is limited, and the teaching competitions, scientific research projects and practical training opportunities provided on campus are limited.	√		√	√	√	√		√	√		√	√	9	75.00

Table 4.13 (Continued)

(n=12)														
Answer	Interviewers												Frequ ency	Perce ntage
	1	2	3	4	5	6	7	8	9	10	11	12		
Q9: What threats do you think affect the establishment of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?														
1. The uncertainty of industry docking and the disconnection between some professional settings and industry needs have led to a lack of clear goals for young teachers in practice and scientific research directions.	√	√		√	√	√	√	√	√	√	√	√	11	91.67
2. There is a loss of outstanding young teachers. Due to restrictions on salary and development space, outstanding young teachers choose to enter enterprises or turn to other types of institutions.		√	√	√	√	√	√		√	√	√	√	10	83.33
3. There is insufficient social recognition, and society's recognition of young teachers in higher vocational colleges is still relatively weak, which affects the sense of professional honor and attractiveness.	√		√	√		√	√	√	√		√	√	9	75.00

Table 4.13 (Continued)

(n=12)														
Answer	Interviewers												Frequency	Percentage
	1	2	3	4	5	6	7	8	9	10	11	12		
4. Due to excessive workload, young teachers face problems such as heavy teaching tasks and great pressure in scientific research, which may lead to professional burnout or limited development.	√			√		√		√		√	√	√	7	58.33

Based on the interview results, the researcher collated the respondents responses, counted the frequency of each response, and identified the coded themes with a frequency of more than 50% as responses to the open-ended questions.

Q1: What are the main problems with the policy support for the professional development incentive mechanism for young teachers in your school?

The main problems with the policy support for the incentive mechanism for young teachers professional development are: no clear medium- and long-term plans have been formulated, relevant policies are scattered and implemented unevenly; policy preferences are mainly concentrated in the introduction stage, but the subsequent training and support for young teachers are insufficient; in addition, there is little funding for young teachers to pursue doctoral degrees or participate in domestic and international training.

Q2: What are the main problems in terms of resource guarantee for the professional development incentive mechanism for young teachers in your school?

The main problems with the incentive mechanism for young teachers professional development in terms of resource guarantee are: lack of sufficient scientific research funding support when conducting innovative or applied research; practical teaching equipment is difficult to meet the new needs of industry development, affecting the quality of teaching and scientific research; in addition, the integration of teaching resources is not strong enough, and young teachers have limited channels to obtain high-quality course materials and practical cases.

Q3: What are the main problems with the development platform of your school's current incentive mechanism for young teachers professional development?

The main problems with the development platform of the incentive mechanism for young teachers professional development are: there are fewer opportunities to actually participate in on-the-job training in enterprises, and the improvement of industry practical ability is limited; when young teachers participate in provincial and national competitions and project applications, they lack professional guidance and on-campus support, and the success rate is not high; in

addition, the teaching team is mostly centered on senior teachers, the participation of young teachers is low, and it is difficult to form growth-oriented cooperation.

Q4: What are the main problems with your school's current professional development incentive mechanism for young teachers in terms of evaluation and incentive mechanisms?

The main problems with the evaluation and incentive mechanisms for the professional development of young teachers are: too much emphasis on the number of scientific research results and neglect of practical teaching and social service capabilities; the focus is mainly on professional title promotion and material rewards, and there is a lack of professional honor and long-term development incentives; the resource allocation and evaluation process lack transparency, and some teachers feel that the incentive mechanism is unfair; in addition, there are few opportunities for honor selection, making it difficult to enhance young teachers' sense of professional honor.

Q5: What are the main problems with your school's current professional development incentive mechanism for young teachers in terms of career support and psychological care?

The main problems with the professional development incentive mechanism for young teachers in terms of career support and psychological care are: the mentoring and helping mentors have limited investment in practical guidance and the effect is not obvious; colleges and universities do not invest enough in psychological support and career planning, and fail to alleviate the career pressure of young teachers.

Q6: What advantages do you think influence the establishment of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

The advantages of building an incentive mechanism for the sustainable professional development of young teachers include: the gradual strengthening of policy support, which provides policy guarantees for the professional development of young teachers in higher vocational colleges; the rich resources for school-enterprise

cooperation, and the close cooperation between higher vocational colleges and enterprises, provide young teachers with abundant practical opportunities; the innovative talent training model of vocational education focuses on the training of dual-qualified teachers, and promotes the integration of young teachers professional development and job requirements; in addition, higher vocational colleges are developing rapidly, and the colleges are paying more attention to teacher development, and the growth space for young teachers in teaching and scientific research is constantly expanding.

Q7: What do you think are the disadvantages that affect the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

The disadvantages of building an incentive mechanism for the sustainable professional development of young teachers include: uneven resource distribution, relatively scarce resources in local higher vocational colleges, and large gaps in scientific research funding, equipment support, etc. for young teachers; a single evaluation system, and the diversified development needs of young teachers are not fully met; there are limited development platforms, and the teaching competitions, scientific research projects, and practical training opportunities provided on campus are limited; in addition, psychological care and career support are insufficient, and no systematic teacher psychological support system has been established.

Q8: What opportunities do you think can influence the establishment of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

The opportunities for building an incentive mechanism for sustainable professional development of young teachers include: policy dividends for vocational education. The country has vigorously developed vocational education and implemented the Double High Plan (a high-level vocational school and professional formulate plan), which has provided financial and policy support for the introduction and training of young teachers in vocational colleges; regional economic development needs. Hunan Province is accelerating industrial transformation and

upgrading, and the demand for skilled talents is increasing, which has formed a reverse driving mechanism for the practical ability training and professional development of young teachers; the trend of internationalization of education. Vocational colleges have gradually promoted international cooperation, providing young teachers with opportunities to participate in international exchanges and learning; in addition, the rapid development of information technology and the promotion of digital and intelligent teaching methods have provided young teachers with broad space to improve teaching quality and innovation capabilities.

Q9: What threats do you think affect the establishment of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

The threats to the establishment of an incentive mechanism for the sustainable professional development of young teachers include: uncertainty in industry docking, the disconnection between some professional settings and industry needs, resulting in a lack of clear goals for young teachers in practice and scientific research; the loss of outstanding young teachers, due to restrictions on salary and development space, outstanding young teachers choose to enter enterprises or turn to other types of colleges; insufficient social recognition, the society's recognition of young teachers in higher vocational colleges is still weak, affecting the sense of professional honor and attractiveness; in addition, excessive workload, young teachers face heavy teaching tasks and high pressure in scientific research, which may lead to professional burnout or limited development.

In this step, the researchers conducted structured interviews with 12 people. Through the respondents' answers, they learned about the problems in the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province in five aspects: policy support, resource guarantee, development platform, evaluation and incentive mechanism, career support and psychological care, as well as the main influencing factors for the formulate of a sustainable professional development incentive mechanism for young

teachers in higher vocational colleges in Hunan Province, including the advantages, disadvantages, opportunities and threats that affect the formulate of the mechanism.

Through a questionnaire survey on the current status of the incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province and interviews with people who influence the formulate of an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province, the SWOT analysis framework can be used to analyze the factors that influence the formulate of an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges.

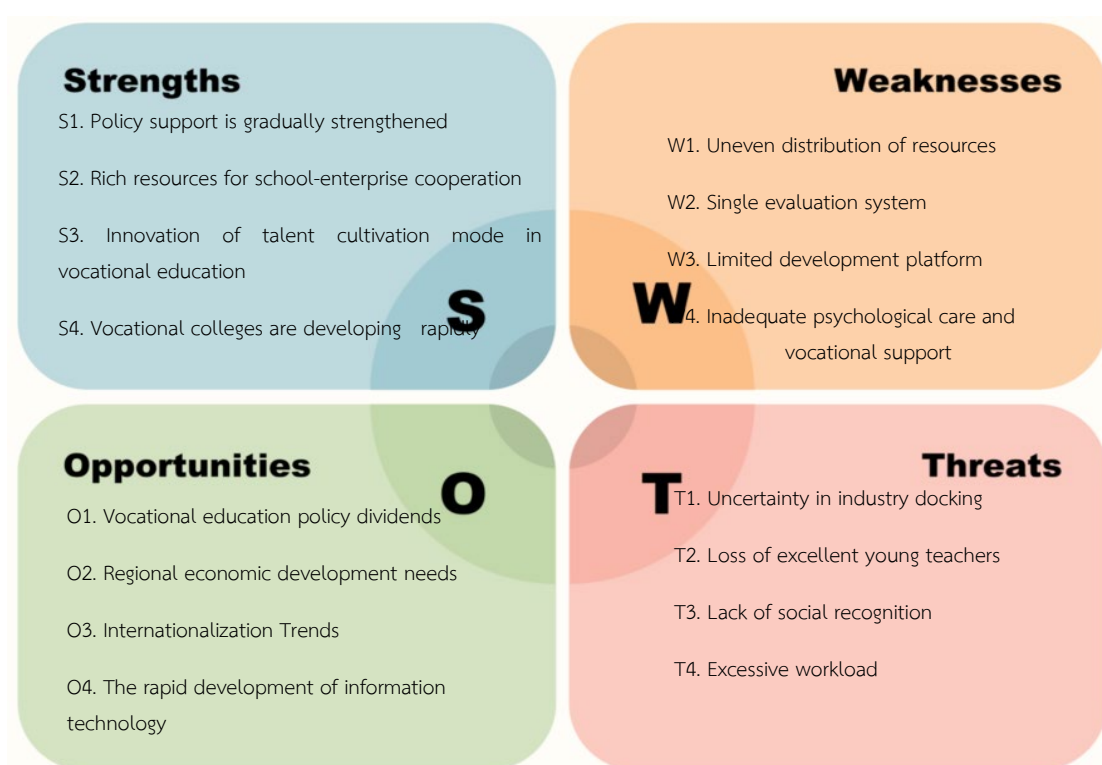


Figure 4.1 SWOT analysis results

Through SWOT analysis, starting from the advantages and disadvantages of the internal environment and combining with the external environment, the advantages and disadvantages of the formulate of the incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province are clarified. When constructing the mechanism, we can better utilize the advantages and overcome the disadvantages. For the opportunities and threats found in the analysis, the researchers constructed a TOWS matrix, starting from the opportunities and threats of the external environment, and constructed a strategy matrix of SO, WO, ST, and WT. The SO strategy focuses on leveraging the advantages of existing resources and transforming policy and technological opportunities into a driving force for the development of young teachers. The WO strategy focuses on making up for shortcomings, optimizing institutional design, and improving the development environment for young teachers. The ST strategy targets external threats, actively responds to them using internal advantages, and enhances the professional attractiveness and competitiveness of young teachers. The WT strategy fundamentally solves the intersection of weaknesses and threats, and improves the sustainability of overall teacher development through a systematic incentive mechanism. Through the analysis of the TOWS matrix, a more complete incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges can be constructed from a global perspective.

Table 4.14 TOWS matrix analysis results

External Opportunities	SO	WO
	<p>1. Relying on policy dividends, strengthen resource allocation: utilizing the support of national vocational education policies, focus on introducing high-quality young teachers, and increase investment in scientific research funds and teaching equipment updates.</p> <p>2. Strengthen the formulate of school-enterprise cooperation platform: Relying on the industrial resource advantages of Hunan Province, create more opportunities for young teachers to work in enterprises and deepen the dual-qualified teacher training model.</p> <p>3. Promote information-based teaching tools: Combined with the rapid development of information technology, create a digital teaching resource platform to improve teaching efficiency and promote the modernization of young teachers teaching capabilities.</p>	<p>1. Optimize the evaluation system: Utilize the support of the national Double High Plan to promote colleges and universities to reform the existing evaluation system, increase the assessment weight of teaching quality and practical contribution, and enhance the recognition of young teachers.</p> <p>2. Improve the development platform: Through the support of government and social resources, expand development opportunities such as competitions, project applications and international exchanges to make up for the lack of development platforms.</p> <p>3. Regional coordinated development: Integrate high-quality higher vocational resources in the province, establish a shared teacher development platform, and bridge the gap between local higher vocational colleges and key colleges.</p>

Table 4.14 (Continued)

External threats	ST	WT
	<p>1.Enhance professional honor: By strengthening the policy advantages of dual-qualified teachers, publicize the importance of vocational education, and enhance young teachers social identity and professional attractiveness.</p> <p>2.Establish a salary incentive mechanism: take advantage of the school s rapid development and policy support to promote the increase of young teachers salary levels and enhance their motivation to stay in school for development.</p> <p>3.Promote international cooperation: Relying on the internationalization trend of vocational education, provide young teachers with diversified development paths to alleviate the threats caused by insufficient industry connection or pressure of loss.</p>	<p>1.Establish a comprehensive support system: strengthen the mentoring system and career planning guidance, improve the psychological care mechanism, and help young teachers relieve professional stress and confusion.</p> <p>2.Promote balanced development of resources: Through provincial education resource allocation and industry support, make up for the shortcomings of insufficient resources in local higher vocational colleges and improve the overall education quality.</p> <p>3.Establish a long-term incentive mechanism: Combine teaching, scientific research and practical requirements to design diversified incentive measures that meet the growth needs of young teachers and prevent loss due to lack of development motivation.</p>

Based on the analysis of the current status of the incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province, it can be found that the formulate of an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province can be considered from five aspects: policy support, resource guarantee, development platform, evaluation and incentive mechanism, career support and psychological care.

Mechanism formulate: Analysis results of the formulate of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

2.1 Analysis results of the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

The researchers invited six experts from three sample groups of higher vocational colleges, including three experts and scholars with doctoral degrees who studied teacher professional development and incentive mechanisms, and three experts with professorial titles who had more than five years of experience in personnel management, to conduct focus group discussions. Based on the questionnaire, interview results, and relevant literature, the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was discussed around five aspects.

The discussion results are as follows:

Question 1. What vision and specific goals should we set in building an incentive mechanism for the sustainable professional development of young teachers?

The vision of the incentive mechanism for sustainable professional development of young teachers: 1) Cultivate a high-level team of dual-qualified teachers, and strive to cultivate dual-qualified young teachers who have both theoretical teaching ability and practical operation ability, so as to provide support for the high-quality development of higher vocational education. 2) Promote the all-round development of young teachers, build a sustainable development system that adapts to the characteristics of vocational education, and enable young teachers to comprehensively improve in teaching, scientific research, professional quality and social services. 3) Achieve efficient allocation of educational resources, promote the balance and sharing of educational resources through multi-party collaboration and mechanism innovation, and achieve accurate matching between the development needs of young teachers and educational resources. 4) Improve the social recognition

of vocational education, establish an incentive and support system, enhance the professional honor and social status of vocational education teachers, and enhance the attractiveness of vocational education. Its specific goals can be carried out around five aspects: policy support, resource guarantee, development platform, evaluation and incentive, and career support and psychological care.

Question 2. What aspects should be included in the policy support for the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges?

The incentive mechanism for the sustainable professional development of young teachers includes the following four aspects in terms of policy support: 1) Establish talent introduction policies: provide resettlement allowances, scientific research start-up funds and preferential policies for professional title evaluation to attract outstanding young teachers. 2) Formulate professional development plans: formulate medium- and long-term teacher development plans, and incorporate the training of young teachers into the overall development strategy of higher vocational colleges. 3) Provide academic improvement support: encourage and subsidize young teachers to pursue doctoral degrees or participate in domestic and foreign advanced studies to improve their academic level. 4) Build a salary incentive mechanism: use the school's rapid development and policy support to promote the improvement of young teachers' salary levels and enhance their motivation to stay in school for development.

Question 3. What aspects should the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges focus on in terms of resource guarantee?

The incentive mechanism for sustainable professional development of young teachers can focus on the following four aspects in terms of resource guarantee: 1) Provide scientific research funding support: Establish a special scientific research fund for young teachers to support them in carrying out independent scientific research projects. 2) Provide equipment and technical support: Provide advanced teaching and scientific research equipment to meet the needs of practical teaching and research.

3) Establish teaching resource sharing: Establish an open teaching resource platform to facilitate young teachers to obtain course materials and teaching cases. 4) Promote balanced development of resources: Through provincial education resource allocation and industry support, make up for the shortcomings of insufficient resources in local higher vocational colleges and improve the overall education quality.

Question 4. In order to build an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges, which development platforms should be expanded?

The formulate of an incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges can expand the development platform from five aspects: 1) Strengthen job exchanges and on-the-job training: Organize young teachers to work in enterprises, industry associations and other units to improve their practical ability. 2) Strengthen teaching competitions and project applications: Encourage participation in provincial and national teaching competitions and project applications to improve professional capabilities. 3) Focus on teaching team building: By forming a teaching team, promote cooperation between young teachers and senior teachers and improve together. 4) Promote international cooperation: Relying on the internationalization trend of vocational education, provide young teachers with diversified development paths to alleviate the threats caused by insufficient industry docking or loss pressure. 5) Regional coordinated development: Integrate high-quality higher vocational resources in the province, establish a shared teacher development platform, and bridge the gap between local higher vocational colleges and key colleges.

Question 5. How to improve evaluation and incentives to promote the formulate of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges?

There are three aspects to consider in improving evaluation and incentives and promoting the formulate of incentive mechanisms for the sustainable professional development of young teachers in higher vocational colleges: 1) Building

a diversified evaluation system: Focusing on the comprehensive performance of teaching, scientific research and social services in the assessment, and reducing excessive reliance on the number of scientific research papers. 2) Establishing a reward and promotion mechanism: Including outstanding young teachers in the fast promotion channel and giving performance rewards. 3) Carrying out honor selection: Carrying out selection activities such as Outstanding Young Teachers and Teaching Newcomers to enhance the professional honor of young teachers.

Question 6. How should higher vocational colleges attach importance to career support and psychological care to encourage sustainable professional development of young teachers?

In terms of attaching importance to career support and psychological care, higher vocational colleges can encourage the sustainable professional development of young teachers from the following three aspects: 1) Establishing a mentor system: equipping young teachers with experienced mentors to provide guidance on teaching and career development. 2) Providing psychological support and care: Relieving the career pressure of young teachers by regularly holding mental health lectures and establishing psychological counseling centers. 3) Enhancing professional honor: By strengthening the policy advantages of dual-qualified teachers, publicizing the importance of vocational education, and enhancing the social identity and career attractiveness of young teachers.

Based on the focus group discussions, a draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was proposed.

Table 4.15 Draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Mechanism	Goal
Mechanism 1 Providing policy support	1. Establish talent introduction policy 2. Develop professional development plans 3. Provide support for academic advancement 4. Building a salary incentive mechanism
Mechanism 2 Providing resource guarantees	5. Provide research funding support 6. Provide equipment and technical support 7. Establish teaching resource sharing 8. Promoting balanced development of resources
Mechanism 3 Expanding development platforms	9. Strengthen job exchanges and on-the-job training 10. Strengthen teaching competitions and project applications 11. Focus on teaching team building 12. Promoting international cooperation 13. Regional coordinated development
Mechanism 4 Improve evaluation and incentives	14. Building a diversified evaluation system 15. Establish reward and promotion mechanism 16. Building a diversified evaluation system
Mechanism 5 Emphasis on career support and psychological care	17. Establishing a mentoring system 18. Providing psychological support and care 19. Enhance professional honor

2.2 Analysis results of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

6 experts were invited to participate in the focus group discussion to review the draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. The group consisted of three young teachers with a master's degree or above and more than five years of work experience and three educational institution managers with the title of associate professor or above and more than ten years of work experience.

The focus group discussed the effectiveness of the draft incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province from three aspects: material needs of life , personal development needs and interpersonal relationship needs . After the focus group discussion, the original draft incentive mechanism, the target 13 of mechanism 3 and the target 19 of mechanism 5 were deleted. Finally, the following mechanism was obtained, as shown in Figure 4.1.

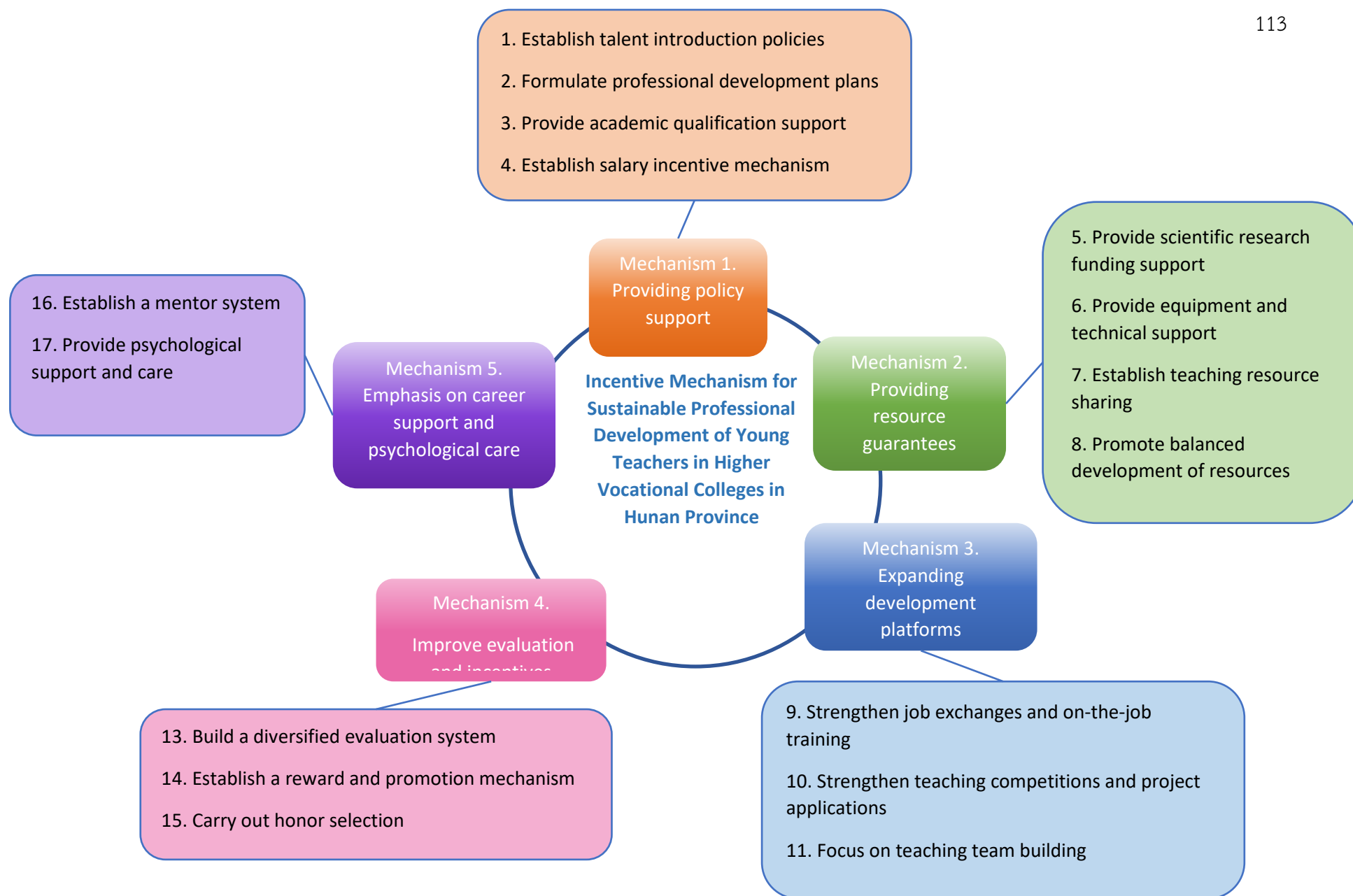


Figure 4.2 Structure of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

There are 5 incentive mechanisms for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province, with a total of 17 goals, including 4 for providing policy support, 4 for providing resource guarantees, 4 for expanding development platforms, 3 for improving evaluation and incentives, and 2 for paying attention to career support and psychological care.

Provide policy support mechanisms, including: 1. Establish talent introduction policies. 2. Formulate professional development plans. 3. Provide academic qualification support. 4. Establish salary incentive mechanisms.

Provide resource guarantee mechanism, including: 5. Provide scientific research funding support. 6. Provide equipment and technical support. 7. Establish teaching resource sharing. 8. Promote balanced development of resources.

Expand the development platform mechanism, including: 9. Strengthen job exchanges and on-the-job training. 10. Strengthen teaching competitions and project applications. 11. Focus on teaching team building. 12. Promote international cooperation.

Improve the evaluation and incentive mechanism, including: 13. Build a diversified evaluation system. 14. Establish a reward and promotion mechanism. 15. Carry out honor selection.

Emphasis on career support and psychological care mechanisms, including: 16. Establishing a mentor system. 17. Providing psychological support and care.

Suitability and feasibility assessment: Evaluation of the applicability and feasibility results of the incentive mechanism for sustainable professional young teachers in higher vocational colleges in Hunan Province for sustainable development.

The data are presented in the form of mean and standard deviation.

The analysis results of this section were evaluated by 5 experts. The expert group members consisted of 1 expert with a doctorate degree and knowledge and experience in mechanism building, 2 personnel managers with master's degrees or above and the title of associate professor or above, 1 educational institution

manager with a master's degree or above and the title of associate professor or above, and 1 teacher with a master's degree or above and the title of associate professor or above. The evaluation adopted a five-level scoring system, and the respondents could only choose one level. The evaluation was conducted to assess the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Table 4.16 Analysis on the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

(n=5)						
Strategy	Suitability			feasibility		
	\bar{X}	S.D.	Level	\bar{X}	S.D.	Level
Mechanism 1. Providing policy support						
Establish talent introduction policy	4.60	0.49	highest	4.40	0.49	highest
Develop professional development plans	3.80	0.75	high	3.60	0.80	high
Provide support for academic advancement	3.80	0.75	high	4.20	0.75	high
Building a salary incentive mechanism	4.80	0.40	highest	4.80	0.40	highest
Total	4.25	0.60	high	4.25	0.61	High
Mechanism 2. Providing resource guarantees						
Provide research funding support	4.80	0.40	highest	4.80	0.40	highest
Provide equipment and technical support	4.20	0.40	high	4.40	0.49	high
Establish teaching resource sharing	4.00	0.63	high	4.60	0.49	highest
Promoting balanced development of resources	3.60	0.49	high	3.60	0.49	high
Total	4.15	0.48	high	4.35	0.47	High

Table 4.16 (Continued)

(n=5)

Strategy	Suitability			feasibility		
	\bar{x}	S.D.	Level	\bar{x}	S.D.	Level
Mechanism 3. Expanding development platforms						
Strengthen job exchanges and on-the-job training	4.00	0.63	high	3.80	0.75	high
Strengthen teaching competitions and project applications	4.80	0.40	highest	4.80	0.40	highest
Focus on teaching team building	4.60	0.49	highest	4.80	0.40	highest
Promoting international cooperation	3.80	0.40	high	3.60	0.49	high
Total	4.30	0.48	high	4.25	0.51	High
Mechanism 4. Improve evaluation and incentives						
Building a diversified evaluation system	4.60	0.49	highest	4.80	0.40	highest
Establish reward and promotion mechanism	4.60	0.49	highest	4.80	0.40	highest
Conduct honor selection	4.00	0.63	high	4.20	0.75	high
Total	4.40	0.54	high	4.60	0.52	Highest
Mechanism 5. Emphasis on career support and psychological care						
Establishing a mentoring system	4.80	0.40	highest	4.80	0.40	highest
Providing psychological support and care	4.20	0.40	high	4.60	0.49	highest
Total	4.50	0.40	highest	4.70	0.44	highest

According to Table 4.16, the average values of suitability of the 17 objectives of the five incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province range from above 3.60, and the average value of feasibility is above 4.25, both of which are at a high or relatively high level.

Table 4.17 Analysis on the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Strategy	(n=5)					
	Suitability			feasibility		
	\bar{x}	S.D.	Level	\bar{x}	S.D.	Level
Mechanism 1. Providing policy support	4.25	0.60	high	4.25	0.61	high
Mechanism 2. Providing resource guarantees	4.15	0.48	high	4.35	0.47	high
Mechanism 3. Expanding development platforms	4.30	0.48	high	4.25	0.51	high
Mechanism 4. Improve evaluation and incentives	4.40	0.54	high	4.60	0.52	highest
Mechanism 5. Emphasis on career support and psychological care	4.50	0.40	highest	4.70	0.44	highest
Total	4.32	0.50	high	4.43	0.51	high

According to Table 4.17, the average suitability of the five incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province is 4.32, and the average feasibility is 0.50, both of which are at a high level.

Through the evaluation and analysis of the suitability and feasibility of the incentive mechanism, it can be found that the average scores of the suitability and feasibility of the five incentive mechanisms, namely, providing policy support, providing resource guarantees, expanding development platforms, improving evaluation and incentives, and paying attention to career support and psychological care, are all higher than 3.5, and the standard deviation is below 0.80, indicating that the experts' scoring standards are relatively consistent and that this research strategy has high suitability and feasibility.

Chapter 5

Conclusion Discussion and Recommendations

The purpose of this study includes three aspects: 1) to study the current status of the incentive mechanism for young teachers in higher vocational colleges in Hunan Province. 2) formulate an incentive mechanism the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. 3) to evaluate the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. On this basis, the researchers took the incentive mechanism concept, sustainable concept, the concept of the incentive mechanism for sustainable professional development, and the concept of higher vocational colleges as theoretical support, conducted a questionnaire survey on the current status of the incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province and interviewed the main influencing factors of the incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province, and used SWOT and TOWS for data analysis to lay the foundation for the formulation of a scientific and reasonable incentive mechanism draft. Then, through focus group discussions, five sustainable professional development incentive mechanisms were proposed, including providing policy support, providing resource guarantees, expanding development platforms, improving evaluation and incentives, and paying attention to career support and psychological care, which played a role in promoting the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Details are as follows:

Part 1: The current status of incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province.

Part 2: Formulate Incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Part 3: Evaluate The suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Conclusion

Research on the formulate of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. The researchers summarized the conclusions into three parts, as follows:

Part 1: The current status of incentive mechanism for professional development of young teachers in higher vocational colleges in Hunan Province.

At present, the current average level of the material needs, personal development needs, and interpersonal relationship needs of young teachers in Hunan s higher vocational colleges is at a medium level, among which the average level of personal development needs is the highest, followed by the average level of interpersonal relationship needs, and the average level of material needs is the lowest. The current status of the incentive mechanism for professional development of young teachers in Hunan s higher vocational colleges involves the average levels of policy support, resource guarantee, development platform, evaluation and incentives, and career support and psychological care. Among them, the average level of evaluation and incentives is the highest, followed by resource guarantee , career support and psychological care and policy support , and the average level of development platform is the lowest.

The overall status of material needs in life is at a medium level. According to the results of this study, the current status of material needs in life is in the following order from high to low: providing a good working environment and facilities has the highest average level, followed by welfare benefits that satisfy you, and salary benefits that can meet your living needs has the lowest average level.

The overall status of personal development needs is at a medium level. According to the results of this study, the status quo of personal development needs is in the following order from high to low: Providing a complete training system to support career development has the highest average level, followed by Providing sufficient scientific research supporting funds, The school's goals can be effectively combined with your personal career development, Enhancing your sense of professional honor through various evaluation activities and Reasonable and transparent professional title evaluation and appointment system, and Creating a fair and reasonable competition environment has the lowest average level.

The overall status of interpersonal relationship needs is at a medium level. According to the results of this study, the order of the current status of interpersonal relationship needs from high to low is as follows: Work is recognized by leaders has the highest average level, followed by harmonious relationships among colleagues and society's professional recognition and respect for higher vocational teachers, and the lowest average level is students' respect and recognition of you.

The overall status of policy support is at a medium level. According to the results of this study, the order of the current status of policy support from high to low is as follows: providing talent introduction policies has the highest average level, followed by incorporating the training of young teachers into the overall development strategy of higher vocational colleges, and providing academic qualification improvement funding has the lowest average level.

The overall status of resource guarantee is at a medium level. According to the results of this study, the order of the status of resource guarantee from high to low is as follows: Establishing a special scientific research fund for young teachers has the highest average level, followed by Providing advanced teaching and scientific research equipment, and Establishing an open teaching resource platform has the lowest average level.

The overall status of the development platform is at a medium level. According to the results of this study, the order of the current status of the development platform from high to low is as follows: Organizing young teachers to

exchange positions and train on the job has the highest average level, followed by Organizing young teachers to participate in teaching competitions and project applications, and Forming teaching teams to promote cooperation between young teachers and senior teachers has the lowest average level.

The overall status of evaluation and incentives is at a medium level. According to the results of this study, the order of the current levels of evaluation and incentives from high to low is as follows: Establishing a reward and promotion mechanism for outstanding young teachers has the highest average level, followed by Carrying out selection activities such as Outstanding Young Teachers and Teaching Newcomers, and The evaluation system for young teachers pays attention to diversity has the lowest average level.

The overall status of career support and psychological care is at a medium level. According to the results of this study, the order of the current status of career support and psychological care from high to low is as follows: Frequently providing guidance on teaching and career development has the highest average level, and regularly holding mental health lectures and establishing a psychological counseling center has the lowest average level.

Through in-depth research on the current status, we can accurately identify the problems and challenges faced by the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province, understand the successes and failures in existing practices, and help determine the key factors and influencing factors of the incentive mechanism for the professional development of young teachers.

Part 2: Formulate Incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

There are 5 incentive mechanisms for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province, with a total of 17 goals, including 4 for providing policy support, 4 for providing resource

guarantees, 4 for expanding development platforms, 3 for improving evaluation and incentives, and 2 for paying attention to career support and psychological care.

Provide policy support mechanisms, including: 1. Establish talent introduction policies. 2. Formulate professional development plans. 3. Provide academic qualification support. 4. Establish salary incentive mechanisms.

Provide resource guarantee mechanism, including: 5. Provide scientific research funding support. 6. Provide equipment and technical support. 7. Establish teaching resource sharing. 8. Promote balanced development of resources.

Expand the development platform mechanism, including: 9. Strengthen job exchanges and on-the-job training. 10. Strengthen teaching competitions and project applications. 11. Focus on teaching team building. 12. Promote international cooperation.

Improve the evaluation and incentive mechanism, including: 13. Build a diversified evaluation system. 14. Establish a reward and promotion mechanism. 15. Carry out honor selection.

Emphasis on career support and psychological care mechanisms, including: 16. Establishing a mentor system. 17. Providing psychological support and care.

Based on a deep understanding of the current status, a more personalized and targeted incentive mechanism can be formulated to solve specific problems and promote sustainable development. An effective incentive mechanism should make comprehensive use of internal and external resources of the school, integrate the strength of all parties, and improve the actual effect.

Part 3: Evaluate The suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

The average suitability of the 17 objectives of the five incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province ranged from 3.60 to above, and the average feasibility was from 4.25 to above, both of which were at a high or relatively high level,

indicating that the mechanism constructed in this study had high suitability and feasibility.

Mechanism 1. The suitability and feasibility of providing policy support are at a high level.

Mechanism 2. The suitability and feasibility of providing resource guarantees are at a high level.

Mechanism 3. The suitability and feasibility of expanding development platforms are at a high level.

Mechanism 4. The suitability of improving evaluation and incentives is at a high level, and the feasibility is at the highest level.

Mechanism 5. The suitability and feasibility of attaching importance to career support and psychological care are at the highest level.

By evaluating the effectiveness of the incentive mechanism, the strategy can be adjusted in a timely manner to ensure that it is consistent with the actual status and improve the effect of sustainable development.

Discussion

Research on the formulate of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. The researchers summarized the discussion into three parts, as follows:

Part 1: The current status of incentive mechanism for young teachers in higher vocational colleges in Hunan Province.

Part 2: Incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Part 3: Suitability and feasibility of incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Part 1: The current status of incentive mechanism for young teachers in higher vocational colleges in Hunan Province.

Through the investigation of the current status of young teachers' incentive mechanism in higher vocational colleges in Hunan Province, including the material needs of life, personal development needs, and interpersonal relationship needs of young teachers, the mean and standard deviation of the three variables were analyzed, and it was found that the total mean of material needs, personal development needs, and interpersonal relationship needs was 3.06, which was at a medium level and needed further improvement. Secondly, through the investigation of the current status of the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province, including the policy support, resource guarantee, development platform, evaluation and incentive, career support and psychological care, the mean and standard deviation of the five variables were analyzed, and it was found that the total mean of policy support, resource guarantee, development platform, evaluation and incentive, career support and psychological care was 3.12, which was at a medium level and needed further improvement.

In terms of material needs of life, salary and benefits can meet your living needs, welfare benefits satisfy you, and provide a good working environment and facilities are at a medium level, which is consistent with the views of Chen (2014). He believes that young teachers have low income levels, heavy teaching tasks, research pressure, low social status, and work burnout. This is also consistent with the views of Liu (2020). She believes that the difficulties faced by young teachers in professional development include: low income, poor welfare benefits, high living pressure, difficult teaching environment and scientific research facilities, and difficulties in self-realization and self-improvement. It is also consistent with the views of Liu and W (2020). They believe that colleges and universities need to further strengthen their attention to teachers' wages, work goals, group differences, etc., optimize the evaluation system, balance the use of material incentives and spiritual incentives, appropriately integrate the competition mechanism, provide a good

working environment and conditions, etc., so as to maximize the initiative and creativity of college teachers.

In terms of personal development needs, providing a complete training system to support career development, a reasonable and transparent system for job title evaluation and appointment, creating a fair and reasonable competitive environment, providing sufficient scientific research supporting funds, the school's goals can be effectively combined with your personal career development, and enhancing your sense of professional honor through various evaluation activities are at a medium level, which is consistent with the views of Wu (2013), who analyzed the shortcomings of young teachers' personal development needs from the aspects of grasping the development direction of higher vocational education, understanding the modern higher vocational teaching concept, improving the professional knowledge structure, and improving professional quality, teaching ability, scientific research and social service ability. This is also consistent with the views of (Liao, 2017 Fang, 2020), who believe that the recruitment and training of teachers in China's higher vocational colleges face serious challenges and need to create a fair and just competitive environment.

In terms of interpersonal relationship needs, recognition of leadership in work, harmonious relationships among colleagues, respect and recognition from students, and professional recognition and respect from society for higher vocational teachers are at a medium level, which is consistent with the views of Liu, J.X.(2017), who pointed out that young teachers still have great deficiencies in interpersonal skills training and creating a harmonious interpersonal environment. This is also consistent with the views of An and An (2015), who believe that teachers have poor interpersonal communication with students, colleagues, leaders, and parents in their education and teaching work, and have encountered various difficulties and setbacks. This is also consistent with the views of Li (2006), who further proposed that young teachers have difficulties in maintaining good interpersonal relationships, such as getting along with administrative staff, school colleagues, students, and parents.

In terms of policy support, providing talent introduction policies , incorporating the training of young teachers into the overall development strategy of higher vocational colleges , and providing academic qualification improvement funding are at a medium level. This is consistent with Li (2018) view. She believes that in the context of mass higher education, higher vocational colleges have relatively scarce educational resources, declining student quality, and declining quality standards for talent training. This is mainly due to the small number of teachers and the poor channels for schools to improve teachers professional quality. It is also consistent with Liu (2019) view. He pointed out that the training and exercise of higher vocational teachers in new technology research, enterprise services, teaching achievements, scientific research papers, etc. needs to be strengthened. It is also consistent with Liao (2017) view. Through research, he found that China's higher vocational colleges have developed rapidly in recent years. Most higher vocational colleges have been restricted by various reasons when supplementing the school's teaching staff. Most of the teachers hired are college graduates with a short graduation time and insufficient experience or technical personnel of enterprises. Most of them have not received professional training that higher vocational school teachers should receive.

In terms of resource guarantee, establishing a special research fund for young teachers , providing advanced teaching and research equipment , and establishing an open teaching resource platform are at a medium level, which is consistent with Zhang (2023) view. He believes that some higher vocational colleges have not kept up with the pace of reform in terms of scientific research incentive mechanisms, and have problems such as weak scientific research awareness, single incentive means, uncertain scientific research funds, and lagging scientific research management. This is also consistent with Zeng (2018) view. She believes that colleges and universities need to strengthen their incentives for young teachers in teaching and academics and provide good teaching and research equipment.

In terms of development platforms, organizing job exchanges and on-the-job training for young teachers, organizing young teachers to participate in teaching

competitions and project applications , and forming teaching teams to promote cooperation between young teachers and senior teachers are at a medium level, which is consistent with Liu (2019) view, who pointed out that higher vocational teachers need to strengthen training in new technology research, enterprise services, teaching achievements, scientific research papers, etc. It is also consistent with Shen (2005) view, who believes that young teachers need to further strengthen their personal career planning, be good at communicating with teachers, and improve their own abilities in all aspects. This is also consistent with David Roger (2003) view, who believe that teachers need a good teamwork atmosphere.

In terms of evaluation and incentives, the evaluation system for young teachers focuses on diversification , a reward and promotion mechanism has been established for outstanding young teachers , and selection activities such as outstanding young teachers and teaching newcomers have been carried out are at a medium level. This is consistent with Chen (2005), who believes that the incentives for college teachers have the following problems: there is no full analysis of teachers' personal needs; the time, content, and intensity of incentives are not flexible enough; the incentive plan focuses on remuneration rather than evaluation of teachers; teachers' work performance cannot be scientifically and effectively evaluated and assessed; there is no real scientific evaluation of teachers' real work performance; there is no flexible space for the design of salary differences . It is also consistent with Hu (2018), who pointed out that there is a problem that cannot be ignored in the performance evaluation system of colleges and universities, that is, the lack of incentives for work reward policies, the lack of scientific evaluation of results, and the failure of incentive policies to achieve the expected results.

In terms of career support and psychological care, frequently providing guidance on teaching and career development and regularly holding mental health lectures and establishing psychological counseling centers are at a medium level, which is consistent with Ge (2020) view. He believes that the teaching behavior and teaching model of college teachers are not standardized enough, and it is necessary to comprehensively improve the teaching level and teaching quality of college

teachers and cultivate more high-quality talents. It is also consistent with the views of Liu (2010). They concluded based on the questionnaire survey that 48.9% of the surveyed teachers believe that the school has a status of focusing on scientific research and neglecting teaching in the professional title evaluation, and the higher the level of the university, the more teachers believe that the school has a scientific research orientation. It is also consistent with the views of Wan and Wang (2013). They believe that economic pressure, psychological pressure, teaching and scientific research pressure, professional level improvement pressure and improper self-positioning are the five major factors that restrict the growth of young college teachers. It is also consistent with the views of Xu (2015), who believes that the academic atmosphere has an important impact on the psychology and scientific research performance of young teachers.

Part 2: Incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

Through the questionnaire survey on the current status of the incentive mechanism for the professional development of young teachers in higher vocational colleges in Hunan Province and the interviews on the influencing factors of the formulate of the incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province, the data analysis was carried out using SWOT and TOWS to lay the foundation for the formulation of a scientific and reasonable incentive mechanism. Then, a focus group discussion was conducted with 6 experts from higher vocational colleges in 3 sample groups, and a draft incentive mechanism with 19 measures in 5 aspects was proposed. Finally, 6 experts were invited to participate in the focus group discussion to review the draft incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. After the focus group discussion of the experts, the incentive mechanism for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province was obtained, including an incentive mechanism with 17 measures in 5 aspects.

Mechanism 1. Provide policy support. The four measures of establishing talent introduction policies , formulating professional development plans , providing support for academic advancement and building a salary incentive mechanism are consistent with the views of Yao (2023). He believes that the formulate of the incentive mechanism for teachers in higher vocational colleges should be guided by the dual-factor theory, improve the salary incentive system, and optimize the distribution mechanism; strengthen the formulate of the teaching environment and improve the working mechanism; create a fair promotion path and deepen the assessment mechanism; pay attention to ideological and value guidance and implement the growth mechanism. It is also consistent with the views of Xu and Xu (2009). They believe that the establishment of a reasonable incentive mechanism should follow the principles of combining institutionalization with humanization, fairness with differences, material incentives with spiritual incentives, needs with guidance needs, create a harmonious and positive organizational environment, establish a scientific, fair and reasonable performance assessment mechanism, help teachers formulate and implement career plans and provide appropriate career development opportunities. It is also consistent with the views of Dong (2019) holds the same view. He believes that some incentive mechanisms have misunderstandings about the professional title evaluation and appointment system, unscientific performance appraisal, imperfect training system, lack of effective salary distribution system, and neglect of spiritual motivation. After analyzing the reasons, he proposed to carry out teacher post appointment, establish a scientific performance appraisal system, improve the teacher team training system, establish an effective salary distribution system, and pay attention to the optimization plan of spiritual motivation for the teacher team. He also agrees with Wang (2018) who believes that behind the improvement of teachers academic qualifications, the education research and training departments need to have new concepts and new methods for the in-service training of teachers, which will inevitably require a large number of research and training teachers with strong professional capabilities.

Mechanism 2. Provide resource guarantee. The four measures of providing research funding support , providing equipment and technical support , establishing teaching resource sharing and promoting balanced development of resources are consistent with the views of Pan (2010). He believes that it is appropriate to use rewards rather than punishment to encourage teachers to improve their teaching level and achieve scientific research results. The assessment incentive mechanism should reduce the scientific research pressure of teachers and increase the pressure on teachers teaching quality. It is recommended to implement a declaration assessment and reward system for scientific research work. This is also consistent with the views of Zhang (2015). He pointed out that the importance of scientific research in higher vocational education is increasing, emphasizing its role in reflecting the strength of the school and improving the quality of education. Young teachers should participate in scientific research. This is also consistent with the views of Zeng, J. (2018). She believes that colleges and universities should attach importance to giving teaching and academic incentives to young teachers and provide good teaching and scientific research equipment. It is also consistent with Fang (2006). They implemented the method of collaborative teaching for young and middle-aged teachers, thereby improving the teaching quality. Its contents include: collective lesson preparation system, pre-class pre-lecture, unified physical diagnosis practice compliance and full sharing of content resources. Through teaching reform, the classroom teaching content was unified, the connection between theoretical classes and practical classes was guaranteed, the accuracy and proficiency of teachers physical examination techniques were improved, and the teaching content was enriched. It is also consistent with Yang (2019). They improved the teaching ability of young teachers through optimizing the teacher structure, old professors mentoring, website resource formulate, practice reform and innovation, and proposed that the formulate of high-quality resource sharing courses is an effective way to cultivate the teaching ability of young teachers.

Mechanism 3. Expanding development platforms. The four measures of strengthening job exchanges and on-the-job training, strengthening teaching

competitions and project applications , focusing on teaching team building and promoting international cooperation are consistent with the views of Fan Cai (2010), who believe that the on-the-job training of teachers from higher vocational colleges in enterprises is an important way for many colleges to encourage teachers to continue their studies and practice. Yan (2011) also agrees with his point of view. He believes that it is necessary to quickly improve the teaching and scientific research capabilities of young college teachers by participating in relevant meetings, conducting investigations and research, sending them out for further study, sending them on field trips, and organizing academic exchanges. And planned on-the-job training in certain positions is an important way to enhance their ability to link theory with practice. He also agrees with Zhou (2019) who believes that if vocational colleges want to build a first-class teaching staff, they should innovate the teacher incentive mechanism and fully mobilize the enthusiasm of teachers; introduce and train at the same time to increase the proportion of high-level talents; insist on promoting long-term planning and strengthen the training of young and middle-aged teachers; strengthen the formulate of teaching teams and create a platform for the professional development of teachers; and cultivate and educate with enterprises to improve the dual-teacher structure of professional teachers. He also agrees with QIN, WANG, CHEN, (2012). With the same view, they plan to adopt a reform approach of post-employment education and training combining internal training and external training to improve the comprehensive quality and ability of young and middle-aged teachers in view of the current status of post-employment teachers in colleges and universities. Internal training refers to on-campus education and training organized by schools, colleges, and departments at all levels; external training refers to overseas training, which is divided into three types: teaching, teaching and research combined, and research. For overseas training, if new young and middle-aged teachers have no overseas experience, they are required to participate in overseas training within five years from the school, college, and department level to achieve internationalization of teacher training: cooperate with well-known foreign universities, mainly rely on the Overseas Training Program for Young and Middle-aged Backbone Teachers , and

support young and middle-aged teachers to go abroad as visiting scholars for exchange and study. External training is divided into three types: teaching, teaching and research combined, and research. Within five years, you must have participated in teaching and teaching and research combined overseas training, or have made significant achievements in teaching, before you are eligible to apply for research overseas training.

Mechanism 4. Improve evaluation and incentives. The three measures of building a diversified evaluation system , establishing a reward and promotion mechanism and carrying out honor selection were jointly implemented with Wang (2022) agrees with the view that the main problems existing in the incentive mechanism of higher vocational colleges are: the salary distribution system needs to be improved; the professional title evaluation and appointment system needs to be optimized; the pre-job training and post-job training mechanisms are not yet sound; the emotional motivation and self-motivation mechanisms need to be strengthened. And put forward countermeasures and suggestions: improve institutional organizational guarantees, strengthen the formulate of internal governance systems; improve the performance appraisal system, and reform the performance salary implementation plan; deepen the reform of the professional title system, optimize the internal job promotion system; improve the teacher training system, pay attention to the emotional motivation of teachers; establish a collaborative innovation operation mechanism, and build a diversified teacher evaluation system. It is also consistent with Liu (2013) s view. He believes that the teacher incentive mechanism of higher vocational colleges is a people-centered system, and professional title incentives are an important part of this complex system. The organic combination of incentive theory and the professional title evaluation index system for teachers in higher vocational colleges is an effective way to mobilize the enthusiasm of teachers in higher vocational colleges, give full play to their creativity, and improve the quality and efficiency of school management. It is also consistent with Chen (2010) point of view. He believes that the development of teachers teaching ability is an urgent requirement of the new status of higher education

development, the inherent need of teachers' own development, and an effective way to improve educational effectiveness. Consolidating the foundation of grassroots teaching organizations, relying on the two carriers of curriculum formulate and teaching team formulate, improving the three systems of teaching ability content, training, and evaluation, building a four-level platform for teaching experts, top ten teachers, new teachers, and famous teachers, and establishing five mechanisms of tutor guidance, excellent demonstration, system incentives, supervision and teaching, and performance appraisal are effective measures for local universities to develop teachers' teaching ability. It is also consistent with Lin (2023)'s point of view. He believes that always attaching great importance to the formulate of the teaching team, taking teachers' ability and quality as the first hardware, and taking academic qualification improvement, training guidance, assessment promotion, commendation and incentive as measures, forming a teaching newcomer, teaching expert, backbone teacher, subject leader, professional leader, and famous teacher ladder training model.

Mechanism 5. Emphasis on career support and psychological care. The two measures of establishing a mentor system and providing psychological support and care are consistent with the views of Wang (2015), who believes that the training of young teachers in higher vocational colleges is an important way to improve the quality of talent training in higher vocational colleges and is directly related to the sustainable development of higher vocational education in my country. The implementation of the mentor system for young teachers in higher vocational colleges is one of the effective ways to cultivate the professional development of young teachers. It is also consistent with the views of Zhou (2015), who believes that building a team of double-qualified young teachers with excellent quality, high teaching level and strong practical ability is the key to talent training and sustainable development in higher vocational colleges. The practical ability of young teachers is particularly important, and the implementation of the mentor system for young teachers is one of the effective ways to train young teachers. It is also consistent with the views of Wang (2009), who believes that in order to promote the mental health

of young teachers in higher vocational colleges, the whole society should truly form a trend of respecting teachers and valuing education and establish a scientific assessment mechanism. This is also consistent with Liu (2015) view. He believes that the professional happiness of young teachers in higher vocational colleges can be enhanced by establishing a scientific and reasonable salary system, building a platform for young teachers' growth through multiple channels, creating an atmosphere for young teachers to participate democratically in school management, and adhering to a people-oriented approach to create a humane working atmosphere.

Part 3: The suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

The analysis results of this section were evaluated by 5 experts. The expert group members consisted of 1 expert with a doctorate degree and knowledge and experience in mechanism building, 2 personnel managers with a master's degree and the title of associate professor or above, 1 educational institution manager with a master's degree and the title of associate professor or above, and 1 teacher with a master's degree and the title of associate professor or above. The evaluation adopted a five-level scoring system, and the respondents could only choose one level. The appropriateness and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province was evaluated.

The average suitability of the 17 goals of the five incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province is above 3.60, and the average feasibility is above 4.25. The research and analysis found that the average scores of the suitability and feasibility of the five incentive mechanisms of providing policy support, providing resource guarantees, expanding development platforms, improving evaluation and incentives, and paying attention to career support and psychological care are all higher than 3.5, and the standard deviation is below 0.80, indicating that the experts

scoring standards are relatively consistent, and this research strategy has high suitability and feasibility.

Recommendations

Implications

The research results show that the five incentive mechanisms and 17 implementation suggestions for sustainable professional development of young teachers in higher vocational colleges in Hunan Province are as follows:

Mechanism 1. Providing policy support

1. Establish talent introduction policies and formulate flexible talent introduction mechanisms to attract outstanding young teachers to join higher vocational colleges. Provide preferential policies such as housing subsidies and settlement allowances to alleviate the life pressure of young teachers.

2. Formulate professional development plans, tailor three to five-year development plans for young teachers, and clarify career development paths. Regularly organize teacher development seminars to ensure the implementation and dynamic adjustment of plans.

3. Provide academic degree improvement support, launch academic degree improvement plans, and encourage teachers to pursue master's and doctoral degrees or participate in advanced training. Provide tuition subsidies and paid training opportunities to ensure that teachers can balance work and study.

4. Build a salary incentive mechanism, implement performance-based salary reforms, increase the proportion of salary linked to performance, and encourage teachers to actively engage in work. Add special salary incentives such as teaching achievement bonuses and scientific research awards.

Mechanism 2. Providing resource guarantees

5. Provide research funding support, set up special research funding, and support young teachers to carry out innovative research. Optimize the research funding application process and improve the efficiency of teachers' fund acquisition.

6. Provide equipment and technical support, regularly upgrade teaching and research equipment to ensure compliance with the latest industry standards. Establish a technical service center to provide all-round support for teachers teaching and research.

7. Establish teaching resource sharing, build a provincial teaching resource sharing platform, and realize the co-formulate and sharing of teaching courseware, case library and other resources. Encourage inter-school cooperation to improve the utilization rate of teaching resources across the province.

8. Promote balanced development of resources, strengthen regional coordination of education resource allocation, and narrow the resource gap between different colleges and universities. Promote local governments to support the development of vocational education and strive for more resource investment.

Mechanism 3. Expanding development platforms

9. Strengthen job exchanges and on-the-job training, promote school-enterprise cooperation, provide young teachers with opportunities to practice in enterprises, and improve their practical ability. Establish a job exchange system between colleges and universities in the region to broaden teachers' professional horizons.

10. Strengthen teaching competitions and project applications, organize teaching competitions regularly, and encourage young teachers to improve their teaching abilities. Simplify the project application process and provide special guidance and support for young teachers.

11. Focus on teaching team building, encourage the establishment of interdisciplinary and cross-field teaching teams, and enhance collaborative capabilities. Provide team project funding support to improve the overall teaching level of the team.

12. Promote international cooperation and encourage teachers to participate in international academic conferences, training and cooperative research projects. Establish cooperative relations with foreign universities and enterprises to provide teachers with international exchange opportunities.

Mechanism 4. Improve evaluation and incentives

13. Build a diversified evaluation system, and establish an evaluation system with teaching quality, scientific research results, and social services as the core. Introduce diversified evaluation indicators such as student feedback and peer evaluation.

14. Establish a reward and promotion mechanism to increase the priority of professional title review for outstanding teachers and encourage them to continuously improve their professional level. Set up an annual reward mechanism to reward teachers who have outstanding performance in teaching and scientific research.

15. Carry out honor selection and regularly select honorary titles such as Outstanding Young Teacher and Teaching Newcomer. Link the results of the honor selection with promotion and performance rewards to enhance teachers' sense of honor.

Mechanism 5. Emphasis on career support and psychological care

16. Establish a mentor system, assign a senior mentor to each young teacher, provide teaching guidance and career planning support. Regularly organize experience sharing activities between mentors and young teachers to promote communication.

17. Provide psychological support and care, set up psychological counseling services, and help teachers relieve professional stress and psychological problems. Regularly carry out team building activities to create a harmonious working atmosphere and enhance teachers' sense of belonging.

In short, by improving the policy system, we can provide institutional guarantees for the implementation of the incentive mechanism, make full use of resources inside and outside the school, improve the efficiency of educational resource utilization, establish a monitoring and feedback system for the implementation of the incentive mechanism, ensure the achievement of goals, dynamically adjust the mechanism and goals according to actual conditions, and improve the effectiveness of the mechanism. The implementation of these

suggestions will provide a more complete career development environment for young teachers in higher vocational colleges in Hunan Province and help the high-quality development of vocational education.

Future Researches

This study focuses on the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Through theoretical research, questionnaire surveys, in-depth interviews and statistical analysis, preliminary research results and conclusions have been obtained, which are basically consistent with previous high-level literature. However, these results and conclusions still need to be tested in practice.

In the future, the research on the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province can be carried out from the following aspects:

1. Comparative international research. By drawing on the experience and practices of international excellent vocational education systems in motivating young teachers, we can compare the similarities and differences between the incentive mechanisms of Chinese and foreign higher vocational colleges, find paths for reference, and study how international cooperation can be effectively embedded in the incentive mechanism of higher vocational colleges? Which elements of foreign incentive mechanisms are suitable for China's higher vocational education system?

2. Digital and intelligent support research. By exploring the application of digital tools in incentive mechanisms, such as performance appraisal systems, online learning support platforms, etc., use artificial intelligence to analyze teacher needs and customize incentive plans. Study how digital platforms can improve the transparency and efficiency of incentive mechanisms? What is the role of big data in predicting teachers' professional development needs?

3. Research on personalized incentive mechanisms. Design personalized incentive measures based on young teachers' career goals, personality traits, life needs, etc., study the differences in career expectations among teachers of different generations, and design targeted incentive mechanisms.

4. Research on psychological support and professional well-being. In-depth exploration of the impact of psychological care on the professional well-being of young teachers, research on the relationship between job burnout and incentives, and propose intervention suggestions.

5. Research on good governance of teachers. Good teacher governance is of great significance to improving the quality of education, promoting educational equity, and promoting the sustainable development of education. By optimizing the governance structure, improving the governance mechanism, and enhancing governance effectiveness, we can ensure the rational allocation and effective utilization of teacher resources, thereby improving the operating efficiency and effectiveness of the entire education system.

6. Research on the interaction mechanism between teachers and students. Explore the reverse promotion effect of students on the teacher incentive mechanism. Study the two-way relationship between teachers' sense of professional achievement and students' feedback.

By deepening the research from the perspectives of vertical analysis, horizontal comparison, technical integration and system coordination, it can not only enrich the theoretical research on incentive mechanisms, but also provide more scientific and effective guidance for the practice of incentive mechanisms for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

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Appendices

Appendix A

List of Specialists and Letters of Specialists Invitation
for IOC Verification

List of experts to validate research instruments

Name-Surname	Position/Workplace
Assistant Professor Dr. Jintawat Tanamatayarat	Department of Industrial Physics and Medical Instrumentation, Faculty of Applied Science, King Mongkut's University of Technology North Bangkok
Assistant Professor Dr. Pairach Piboonrungraj	Assistant to the President, ChiangMai University
Associate Professor Dr. Suchai Nopparatjamjomras	Institute for Innovative Learning, Mahidol University
Assistant Professor Dr. Thittaya Sitthisopasakul	Educational Evaluation and Research Program, Faculty of Education, Bansomdejchaopraya Rajabhat University
Dr. Khagendra Raj Dhakal	Specialist Lecturer, King Mongkut's University of Technology North Bangkok

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26 July 2024

Subject: Invitation to validate research instrument
Dear Assistant Professor Dr. Jintawat Tanamatayarat
Attachment 1) 2 Questionnaire validity evaluation forms
2) 1 Interview outline validity evaluation form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

- | | |
|--|---------------|
| 1. Dr. Thanida Sujarittham | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

The thesis advisory committee recognizes your expertise in education and believes that your recommendations would be invaluable for the further refinement of this research instrument.

With your specialized knowledge, we kindly request your assistance in validating the attached research instrument. In this regard, we would like to take this opportunity to express our deepest gratitude and appreciation for your support.

Yours faithfully

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26 July 2024

Subject: Invitation to validate research instrument
Dear Assistant Professor Dr. Palrach Piboonrunroj
Attachment 1) 2 Questionnaire validity evaluation forms
2) 1 Interview outline validity evaluation form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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26 July 2024

Subject: Invitation to validate research instrument
Dear Associate Professor Dr. Suchai Nopparatjamjornras
Attachment 1) 2 Questionnaire validity evaluation forms
2) 1 Interview outline validity evaluation form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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26 July 2024

Subject: Invitation to validate research instrument
Dear Assistant Professor Dr. Thittaya Sitthisopasakul
Attachment 1) 2 Questionnaire validity evaluation forms
2) 1 Interview outline validity evaluation form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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|--|---------------|
| 1. Dr. Thanida Sujarittham | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

The thesis advisory committee recognizes your expertise in education and believes that your recommendations would be invaluable for the further refinement of this research instrument.

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26 July 2024

Subject: Invitation to validate research instrument
Dear Dr. Khagendra Raj Dhakal
Attachment 1) 2 Questionnaire validity evaluation forms
2) 1 Interview outline validity evaluation form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

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List of experts in incentive mechanism assessment

Name-Surname	Position/Workplace
1. Professor Dr. Chen Jianmao	Hunan College of Information
2. Professor Dr. Yu Lushan	Hunan University of Environment and Biology
3. Professor Dr. Zhang Zhihao	Changsha Environmental Protection College
4. Associate Professor Zhao Sijia	Hunan University of Environment and Biology
5. Associate Professor Shi Tongkai	Chenzhou Vocational Technical College

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13 December, 2024

Subject Invitation to participate in the mechanism assessment as an expert
Dear Professor Dr. Chen Jianmao
Attachment Mechanism Effectiveness Verification Evaluation Form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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| 1. Dr. Thanida Sujarittham | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

The primary focus of this research is to formulating an Incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan province. In light of your expertise in this area, the Graduate School cordially invites you to serve as an expert reviewer for the in-depth examination of the mechanisms under consideration and to provide feedback on these mechanism Your insights will be instrumental in promoting the establishment of incentive mechanisms. We sincerely value your time and consideration of this request.

Thank you for your kind considerations.

Yours faithfully


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13 December, 2024

Subject Invitation to participate in the mechanism assessment as an expert
Dear Professor Dr. Yu Lushan
Attachment Mechanism Effectiveness Verification Evaluation Form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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| 1. Dr. Thanida Sujarittam | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

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13 December, 2024

Subject Invitation to participate in the mechanism assessment as an expert
Dear Professor Dr. Zhang Zhihao
Attachment Mechanism Effectiveness Verification Evaluation Form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

- | | |
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| 1. Dr. Thanida Sujarittham | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
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13 December, 2024

Subject Invitation to participate in the mechanism assessment as an expert
Dear Associate Professor Zhao Sijia
Attachment Mechanism Effectiveness Verification Evaluation Form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

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Itsaraphap Road, Hiranruchi,
Thonburi, Bangkok, Thailand
10600

13 December, 2024

Subject Invitation to participate in the mechanism assessment as an expert
Dear Associate Professor Shi Tongkal
Attachment Mechanism Effectiveness Verification Evaluation Form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

- | | |
|--|---------------|
| 1. Dr. Thanida Sujarittham | Major Advisor |
| 2. Associate Professor Dr. Sarayuth Sethakhajorn | Co-Advisor |
| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

The primary focus of this research is to formulating an incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan province. In light of your expertise in this area, the Graduate School cordially invites you to serve as an expert reviewer for the in-depth examination of the mechanisms under consideration and to provide feedback on these mechanism Your insights will be instrumental in promoting the establishment of incentive mechanisms. We sincerely value your time and consideration of this request.

Thank you for your kind considerations.

Yours faithfully

(Asst. Prof. Dr. Tanaput Chanchaoren)

Vice Dean of Graduate School for Dean of Graduate School

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Appendix B

Official Letter

List of interviewees

Name-Surname	Position/Workplace
1. Zhang yilong	Hunan University of Environment and Biology
2. Wu wei	Hunan University of Environment and Biology
3. Hu dan	Hunan Financial & Industrial Vocational-technical College
4. Wang xiao	Hunan Financial & Industrial Vocational-technical College
5. Zhou shaobin	Hunan Technical College of Railway High-speed
6. Liu yuanhao	Hunan Technical College of Railway High-speed
7. Professor Zhu jianchang	Hunan University of Environment and Biology
8. Associate Professor Luo jing	Hunan University of Environment and Biology
9. Associate Professor Yang wen	Hunan Financial & Industrial Vocational-technical College
10.Associate Professor Zhou cheng	Hunan Financial & Industrial Vocational-technical College
11.Associate Professor Liu fang	Hunan Technical College of Railway High-speed
12.Professor Zhao hongxu	Hunan Technical College of Railway High-speed

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1061 Soi Itsaraphap 15,
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16 August, 2024

Subject Invitation to join an interview as an expert
Dear Zhang yilong, Hunan University of Environment and Biology
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Thank you for considering this invitation.

Yours faithfully

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10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Wu wei, Hunan University of Environment and Biology
Attachment Interview outline form

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16 August, 2024

Subject Invitation to join an interview as an expert
Dear Hu dan, Hunan Financial & Industrial Vocational-technical College
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Thonburi, Bangkok, Thailand
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16 August, 2024

Subject Invitation to join an interview as an expert

Dear Wang xiao, Hunan Financial & Industrial Vocational-technical College

Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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16 August, 2024

Subject Invitation to join an interview as an expert
Dear Zhou shaobin, Hunan Technical College of Railway High-speed
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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1061 Soi Itsaraphap 15,
Itsaraphap Road, Hiranruchi,
Thonburi, Bangkok, Thailand
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16 August, 2024

Subject Invitation to join an interview as an expert
Dear Liu yuanhao, Hunan Technical College of Railway High-speed
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Professor Zhu Jianchang, Hunan University of Environment and Biology
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansorndejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Thonburi, Bangkok, Thailand
10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Associate Professor Luo jing, Hunan University of Environment and Biology
Attachment Interview outline form

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Thonburi, Bangkok, Thailand
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16 August, 2024

Subject Invitation to join an interview as an expert
Dear Associate Professor Yang wen, Hunan Financial & Industrial Vocational-technical College
Attachment Interview outline form

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10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Associate Professor Zhou cheng, Hunan Financial & Industrial Vocational-technical College
Attachment Interview outline form

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Thonburi, Bangkok, Thailand
10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Associate Professor Liu fang, Hunan Technical College of Railway High-speed
Attachment Interview outline form

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1061 Soi Itsaraphap 15,
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Thonburi, Bangkok, Thailand
10600

16 August, 2024

Subject Invitation to join an interview as an expert
Dear Professor Zhao hongxu, Hunan Technical College of Railway High-speed
Attachment Interview outline form

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List of participants in the focus group discussion on
the draft mechanism

Name-Surname	Position/Workplace
Professor Dr Li bin	Changsha Social Work College
Professor Dr Fu meiyun	Hunan University of Environment and Biology
Professor Dr Li lu	Hunan College of Information
Professor Wen xueyu	Hunan University of Environment and Biology
Professor He wanneng	Hunan Financial & Industrial Vocational-technical College
Professor Xiao xuewen	Hunan Technical College of Railway High-speed

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5 September, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Dr Li bin, Changsha Social Work College

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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1061 Soi Itsaraphap 15,
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Thonburi, Bangkok, Thailand
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5 September, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Dr Fu melyun, Hunan University of Environment and Biology

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1061 Soi Itsaraphap 15,
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10600

5 September, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Dr Li lu, Hunan College of Information

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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10600

5 September, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Wen xueyu, Hunan University of Environment and Biology

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5 September, 2024

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Dear Professor He wanneng, Hunan Financial & Industrial Vocational-technical College

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11 October, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Xiao xuwen, Hunan Technical College of Railway High-speed

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| 3. Associate Professor Dr. Phatchareephorn Bangkheow | Co-Advisor |

The thesis advisory committee, along with the student, recognizes your expertise in school personnel management work. As such, the graduate school would like to formally invite you to join a focus group discussion as an expert, where your insights and suggestions will greatly contribute to the advancement of the student's research.

Thank you for considering this invitation.

Yours faithfully

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List of participants in the mechanism building
focus group discussion

Name-Surname	Position/Workplace
1. Associate Professor Li qing	Hunan Technical College of Railway High-speed
2. Professor Chen ke	Hunan University of Environment and Biology
3. Associate Professor Wang yijun	Hunan Financial & Industrial Vocational- technical College
4. Professor Zhou lingyun	Hunan University of Environment and Biology
5. Professor Dai ming	Hunan Financial & Industrial Vocational- technical College
6. Professor Dai libin	Hunan Technical College of Railway High-speed

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11 October, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Associate Professor Li qing, Hunan Technical College of Railway High-speed

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansorndejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Subject Invitation to join a focus group discussion as an expert
Dear Professor Chen ke, Hunan University of Environment and Biology

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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11 October, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Associate Professor Wang yijun, Hunan Financial & Industrial Vocational-technical College

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansorndejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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11 October, 2024

Subject Invitation to join a focus group discussion as an expert
Dear Professor Dai ming, Hunan Financial & Industrial Vocational-technical College

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Subject Invitation to join a focus group discussion as an expert
Dear Professor Dai libin, Hunan Technical College of Railway High-speed

Mr. Liu Qian is a graduate student in the Doctor of Philosophy Program in Educational Management for Sustainable Development program of Bansomdejchaopraya Rajabhat University. He is conducting research entitled "Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province" under the supervision of the following thesis advisory committee:

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Appendix C

Research Instrument

**Questionnaire on the current status of incentive mechanisms for
professional development of young teachers in higher vocational
colleges in Hunan Province
(For young teachers)**

Directions:

1. This is the data collection tool for the first phase of this study, titled “Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province”, which is led by Liu Qian, a PhD student in Education Management for Sustainable Development at Bansomdejchaopraya Rajabhat University, Thailand, and co-supervised by Dr. Thanida Sujarittham, Associate Professor Dr. Sarayuth Sethakhajorn, and Associate Professor Dr. Phatchareephorn Bangkheow. The research data will be used for Research Purpose 1: To study the current status of incentive mechanisms for young teachers in higher vocational colleges in Hunan Province.

2. Respondents: Young teachers in higher vocational colleges.

3. Questionnaire type: Closed-ended questions, divided into 2 parts. The first part is the personal information of the respondents; the second part is a questionnaire on the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province. According to the actual status, you need to choose the corresponding level number in the total score scale (5 levels) to answer.

The answers you provide will only be used for overall statistical analysis, and will never be processed separately or publicly released. The information will be strictly confidential. You do not need to provide your personal name when filling out the questionnaire, please feel free to answer.

Part I Respondents' Personal Information

1. Gender:

☐ Male ☐ Female

2. Age:

☐ 20 to 25 years ☐ 26 to 30 years ☐ 31 to 35 years

3. Education:

☐ College ☐ Bachelor's degree ☐ Master's degree

4. Academic position:

☐ Teaching assistant ☐ Lecturer

☐ Associate professor ☐ Professor

5. Work experience:

☐ 1 to 2 years ☐ 3 to 5 years ☐ 6 to 10 years ☐ 10 years or more

6. Marital status:

☐ Single ☐ In a relationship ☐ Married

7. Annual salary:

☐ Less than RMB 50,000 ☐ RMB 50,000-100,000

☐ RMB 100,000-150,000 ☐ More than RMB 150,000

Part II Questionnaire on the Current Status of Professional Development Incentive Mechanism for Young Teachers in Higher Vocational Colleges in Hunan Province

Instructions: Please read the following items (questions 1-13) carefully and select one of the five levels based on the actual status according to the following criteria. Details are as follows:

5 means you STRONGLY agree with the contents.

4 means you QUITE agree with the contents.

3 means you remain NEUTRAL with the contents.

2 means you DO NOT QUITE agree with the contents.

1 means you DO NOT STRONGLY agree with the contents.

Questions	Level				
	1	2	3	4	5
Material needs of life					
1. Salary and benefits can meet your living needs					
2. Welfare benefits satisfy you					
3. Provide a good working environment and facilities					
Personal development needs					
4. Provide a complete training system to support career development					
5. The title evaluation and appointment system is reasonable and transparent					
6. Create a fair and reasonable competition environment					
7. Provide sufficient scientific research supporting funds					
8. The school's goals can be effectively combined with your personal career development					
9. Enhance your sense of professional honor through various evaluation activities					
Interpersonal relationship needs					
10. Work is recognized by leaders					
11. The relationship between colleagues is harmonious					
12. Students respect and recognize you					
13. The society recognizes and respects the profession of higher vocational teachers					

**Questionnaire on the current status of incentive mechanisms for
professional development of young teachers in higher vocational
colleges in Hunan Province
(For school personnel managers)**

Directions:

1. This is the data collection tool for the first phase of this study, titled “Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province”, which is led by Liu Qian, a PhD student in Education Management for Sustainable Development at Bansomdejchaopraya Rajabhat University, Thailand, and co-supervised by Dr. Thanida Sujarittham, Associate Professor Dr. Sarayuth Sethakhajorn, and Associate Professor Dr. Phatchareephorn Bangkheow. The research data will be used for Research Purpose 1: To study the current status of incentive mechanisms for young teachers in higher vocational colleges in Hunan Province.

2. Respondents: Personnel management personnel of higher vocational colleges.

3. Questionnaire type: Closed-ended questions, divided into 2 parts. The first part is the personal information of the respondents; the second part is a questionnaire on the current status of the professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province. According to the actual status, you need to choose the corresponding level number in the total score scale (5 levels) to answer.

The answers you provide will only be used for overall statistical analysis, and will never be processed separately or publicly released. The information will be strictly confidential. You do not need to provide your personal name when filling out the questionnaire, please feel free to answer.

Part I Personal information of the interviewee

1. Gender:

☐ Male ☐ Female

2. Age:

☐ 25 years or below ☐ 26 to 35 years ☐ 36 to 45 years

☐ 46 to 55 years ☐ 56 years or above

3. Education:

☐ College ☐ Bachelor's degree ☐ Master's degree

4. Job title:

☐ Teaching assistant ☐ Lecturer

☐ Associate professor ☐ Professor

5. Work experience:

☐ Within 5 years ☐ 5 to 10 years ☐ 11 to 15 years

☐ 16 to 20 years ☐ More than 20 years

Part II Questionnaire on the Current Status of Professional Development Incentive Mechanism for Young Teachers in Higher Vocational Colleges in Hunan Province

Instructions: Please read the following items (questions 1-14) carefully and select one of the five levels based on the actual status according to the following criteria. Details are as follows:

5 means you STRONGLY agree with the contents.

4 means you QUITE agree with the contents.

3 means you remain NEUTRAL with the contents.

2 means you DO NOT QUITE agree with the contents.

1 means you DO NOT STRONGLY agree with the contents.

Questions	Level				
	1	2	3	4	5
Policy support					
1. Provide talent introduction policies					
2. Incorporate the training of young teachers into the overall development strategy of higher vocational colleges					
3. Provide academic qualification improvement funding					
Resource guarantee					
4. Establish a special scientific research fund for young teachers					
5. Provide advanced teaching and scientific research equipment					
6. Establish an open teaching resource platform					
Development platform					
7. Organize job exchanges and on-the-job training for young teachers					
8. Organize young teachers to participate in teaching competitions and project applications					
9. Form a teaching team to promote cooperation between young teachers and senior teachers					
Evaluation and incentives					
10.The evaluation system for young teachers focuses on diversity					
11.Establish a reward and promotion mechanism for outstanding young teachers					
12.Carry out selection activities such as "Outstanding Young Teachers" and "Teaching Newcomers"					
Career support and psychological care					
13.Frequently provide guidance on teaching and career development					
14.Regularly hold mental health lectures and establish a psychological counseling center					

Interview outline

The main problems and main influencing factors of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province
(For young teachers and school personnel managers)

Directions:

1. This is the data collection tool for the first phase of this study, titled “Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province”, which is led by Liu Qian, a PhD student in Education Management for Sustainable Development at Bansomdejchaopraya Rajabhat University, Thailand, and co-supervised by Dr. Thanida Sujarittham, Associate Professor Dr. Sarayuth Sethakhajorn, and Associate Professor Dr. Phatchareephorn Bangkheow. The research data will be used for Research Purpose 1: To study the current status of incentive mechanisms for young teachers in higher vocational colleges in Hunan Province.

2. Interview subjects: young teachers and school personnel managers of higher vocational colleges.

3. Interview type: open-ended questions, divided into 2 parts. The first part is the personal information of the interviewee; the second part is the interview outline on the main problems and main influencing factors of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Please write down your own opinions on each question.

The answers you provide will only be used for overall statistical analysis and will never be processed separately or published publicly. The information will be strictly confidential, so please feel free to answer.

Part I Personal information of the interviewee

1. Name (interviewee):
2. School:
3. Position: ☐ Young teacher ☐ School personnel manager
4. Interview date:
5. Interview duration:

Part II Interview outline on the main problems and main influencing factors of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

1. What are the main problems in the policy support of the incentive mechanism for professional development of young teachers in your school?

2. What are the main problems in resource guarantee of the incentive mechanism for professional development of young teachers in your school?

3. What are the main problems in the development platform of the incentive mechanism for professional development of young teachers in your school?

4. What are the main problems in the evaluation and incentive mechanism of the incentive mechanism for professional development of young teachers in your school?

5. What are the main problems in the career support and psychological care of the incentive mechanism for professional development of young teachers in your school?

6. What do you think are the advantages that affect the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

7. What do you think are the disadvantages that affect the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

8. What do you think are the opportunities that affect the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

9. What do you think are the threats that affect the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province?

Focus Group Discussion Outline

Formulate of a draft incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

(For school personnel managers)

Directions:

1. This is the data collection tool for the second phase of this study, titled “Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province”, which is led by Liu Qian, a PhD student in Education Management for Sustainable Development at Bansomdejchaopraya Rajabhat University, Thailand, and co-supervised by Dr. Thanida Sujarittham, Associate Professor Dr. Sarayuth Sethakhajorn, and Associate Professor Dr. Phatchareephorn Bangkheow. The research data will be used for research purpose 2: to build an incentive mechanism to promote the sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

2. Interview subjects: School personnel managers of higher vocational colleges

3. Interview type: Open-ended questions, divided into 2 parts. The first part is the information of the interviewee; the second part is the discussion outline on the formulate of the incentive mechanism (draft) for the sustainable professional development of young teachers in higher vocational colleges in Hunan Province. Please write down your own opinions on each question.

The answers you provide will only be used for overall statistical analysis and will never be processed separately or published publicly. The information will be strictly confidential, so please feel free to answer.

Part I Information of interviewees

1. Name of interviewee:

1) _____ 2) _____ 3)

4) _____ 5) _____ 6)

2. Interview date:

3. Interview duration:

Part II Discussion outline for the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province (draft)

1. What visions and specific goals should we set in the formulate of the incentive mechanism for sustainable professional development of young teachers?

2. What aspects should the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges include in terms of policy support?

3. What aspects should the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges focus on in terms of resource guarantee?

4. In constructing the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges, what development platforms should be expanded?

5. How to improve evaluation and incentives to promote the formulate of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges?

6. How should higher vocational colleges attach importance to career support and psychological care to encourage sustainable professional development of young teachers?

Evaluation Questionnaire
Suitability and feasibility of incentive mechanism for sustainable
professional development of young teachers in higher vocational
colleges in Hunan Province
(For experts)

Directions:

1. This is the data collection tool for the third phase of this study, titled “Formulating an Incentive Mechanism for Sustainable Professional Development of Young Teachers in Higher Vocational Colleges in Hunan Province”, which is led by Liu Qian, a PhD student in Sustainable Development Education Management at Bansomdejchaopraya Rajabhat University, Thailand, and co-supervised by Dr. Thanida Sujarittham, Associate Professor Dr. Sarayuth Sethakhajorn, and Associate Professor Dr. Phatchareephorn Bangkheow. The research data will be used for research purpose 3: to evaluate the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province.

2. Interview subjects: 5 experts

3. Interviewee requirements: 1) 1 expert with a doctoral degree and knowledge and experience in mechanism formulate; 2) 2 personnel managers with a master's degree and associate professor title; 3) 1 educational institution manager with a master's degree and associate professor title; 4) 1 teacher with a master's degree and associate professor title.

4. Interview type: The interview type is a closed question. In order to examine the suitability and feasibility of the sustainable professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province, please choose the corresponding level number in the total score scale (5 levels) according to the actual status.

The answers you provide are only used for overall statistical analysis and will never be processed separately or published publicly. The information will be strictly confidential. Please feel free to answer.

Part I Personal information of the interviewee

1. Name (interviewee):

2. Education:

☐ Master's degree ☐ Doctoral degree

3. Academic position:

☐ Teaching assistant ☐ Lecturer ☐ Associate professor ☐ Professor

4. Expert category:

☐ Expert with mechanism building experience

☐ Human resources manager

☐ Educational institution manager

☐ Teacher

Part II Questionnaire for the evaluation of the suitability and feasibility of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province

Instructions: Please select one of the five levels based on the actual status according to the following criteria, as follows:

5 means you STRONGLY agree with the contents.

4 means you QUITE agree with the contents.

3 means you remain NEUTRAL with the contents.

2 means you DO NOT QUITE agree with the contents.

1 means you DO NOT STRONGLY agree with the contents.

Appendix D

The Results of the Quality Analysis of Research Instruments

Table Appendix 2: Questionnaire validity evaluation form " Questionnaire on the current status of professional development incentive mechanism for young teachers in higher vocational colleges in Hunan Province (for school personnel managers)"

Contents	Experts rating					IOC	Validity
	1	2	3	4	5		
Policy support							
1. Provide talent introduction policies	1	1	1	1	1	1.00	valid
2. Incorporate the training of young teachers into the overall development strategy of higher vocational colleges	1	1	1	1	1	1.00	valid
3. Provide academic qualification improvement funding	1	1	1	1	1	1.00	valid
Resource guarantee							
4. Establish a special scientific research fund for young teachers	1	1	1	1	1	1.00	valid
5. Provide advanced teaching and scientific research equipment	1	1	1	1	1	1.00	valid
6. Establish an open teaching resource platform	1	1	1	1	1	1.00	valid
Development platform							
7. Organize job exchanges and on-the-job training for young teachers	1	1	1	1	1	1.00	valid
8. Organize young teachers to participate in teaching competitions and project applications	1	1	1	1	1	1.00	valid
9. Form a teaching team to promote cooperation between young teachers and senior teachers	1	1	1	1	1	1.00	valid
Evaluation and incentives							
10. The evaluation system for young	1	1	1	1	1	1.00	valid

Interview outline form IOC value detection

Table Appendix 3: Interview outline validity evaluation form " Interview outline on The main problems and main influencing factors of the incentive mechanism for sustainable professional development of young teachers in higher vocational colleges in Hunan Province (for young teachers and school personnel managers)"

Contents	Experts rating					IOC	Validity
	1	2	3	4	5		
1. What are the main problems in the policy support of the incentive mechanism for the professional development of young teachers in your school?	0	1	1	1	1	0.80	valid
2. What are the main problems in the resource guarantee of the incentive mechanism for the professional development of young teachers in your school?	0	1	1	1	1	0.80	valid
3. What are the main problems in the development platform of the incentive mechanism for the professional development of young teachers in your school?	0	1	1	1	1	0.80	valid
4. What are the main problems in the evaluation and incentive mechanism of the incentive mechanism for the professional development of young teachers in your school?	0	1	1	1	1	0.80	valid
5. What are the main problems in the professional support and psychological	0	1	1	1	1	0.80	valid

Appendix E

Certificate of English



This is to certify that

Mr. Qian Liu

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C2

Given on 12th February 2022

A handwritten signature in blue ink, appearing to read 'K. A.', with a stylized flourish.

(Assistant Professor Dr Kulsirin Aphiratvoradej)

Director

Appendix F

The Document for Acceptance Research



The Editorial Board of International Education Studies
Canadian Center of Science and Education

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Website: www.ccsenet.org

January 29, 2025

Dear Liu Qian,

Thanks for your submission of paper to *International Education Studies*.

We have the pleasure to inform you that your manuscript has been accepted for publication. It will be published on the Vol. 18, No. 5, in October 2025.

Title: Exploring Incentive Mechanisms for the Sustainable Professional Development of Young Teachers in Vocational Colleges in Hunan Province

Authors: Liu Qian, Thanida Sujariththam, Sarayuth Sethakhajorn, Phatcharee Phorn Bangkheow, Trai Unyapoti, Sura Wuttirom & Jintawat Tanamatayarat

If you have any questions, please do not hesitate to contact with us.

Sincerely,

Chris Lee

On behalf of,

The Editorial Board of *International Education Studies*
 Canadian Center of Science and Education

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Place of Birth: Shaoyang, Hunan, China

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- Master of Science in Agricultural Extension, Chinese Academy of Forestry, 2014
- Bachelor of Legal Profession, Hengyang Normal University, 2006

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- Since July 2006, a teacher at Hunan Polytechnic of Environment and Biology

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