SUSTAINABLE DEVELOPMENT STRATEGIES FOR LIFELONG LEARNING OF ADULT HIGHER EDUCATION IN ZHEJIANG
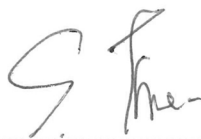
XU ZHONGYAN

A thesis paper submitted in partial fulfillment of the requirements for the Degree of

Doctor of Philosophy Program in Educational Management for

Sustainable Development
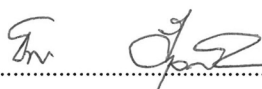
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Thesis Title   Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in Zhejiang

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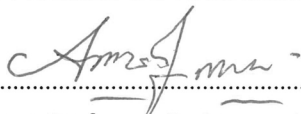**Thesis Committee**

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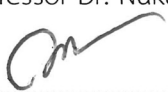
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ABSTRACT

The objectives of this research were 1) to investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province; 2) to develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province; 3) to evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province. The sample group of this study 384 students and 10 interview experts, 10 focus group discussion experts and 5 strategy assessment experts. The research tools included 1) questionnaires; 2) interviews; 3) strategies; and 4) assessment forms. Statistical methods used to analyze the data included percentage, mean, standard deviation, modified Priority Needs Index ($PNI_{modified}$) and content analysis. The research instruments included 1) questionnaires, 2) interview and 3) strategies, and 4) evaluation form. The statistic to analyze the data were percentages, mean, stand deviations, Modified Priority Needs Index; ($PNI_{modified}$) and content analysis.

The results of the study found

1) The current status of sustainable development of lifelong learning in adult education in Zhejiang Province is generally moderate. Considering the overall ideal situation, it is at a good level.

2) Formulate strategies for promoting lifelong learning in adult education in Zhejiang Province, including 26 strategies in 4 aspects, build institutional measures,

including 6 strategies, improve the management system, including 8 strategies, enhance learning motivation, including 7 strategies, and evaluate education quality, including 5 strategies.

3) The feasibility and adaptability evaluation of strategies for promoting lifelong learning in adult education in Zhejiang Province, the overall evaluation result is the highest level.

Keywords: Strategies Developing; Lifelong Learning; Sustainable Development; Adult Higher Education

ชื่อเรื่อง	กลยุทธ์การพัฒนาอย่างยั่งยืนสำหรับการเรียนรู้ตลอดชีวิต ของการศึกษาผู้ใหญ่ในมณฑลเจ้อเจียง
ชื่อผู้วิจัย	ซวี จงเหยียน
สาขาวิชา	การจัดการศึกษาเพื่อการพัฒนาที่ยั่งยืน
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ปีการศึกษา	2567

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์คือ 1) เพื่อศึกษาสถานการณ์ปัจจุบันและแนวโน้มที่คาดหวังของการพัฒนาที่ยั่งยืนสำหรับการเรียนรู้ตลอดชีวิตในการศึกษาผู้ใหญ่ระดับอุดมศึกษาในมณฑลเจ้อเจียง 2) เพื่อพัฒนากลยุทธ์การพัฒนาที่ยั่งยืนสำหรับการเรียนรู้ตลอดชีวิตในการศึกษาผู้ใหญ่ระดับอุดมศึกษาในมณฑลเจ้อเจียง 3) เพื่อประเมินความเหมาะสมและความเป็นไปได้ของกลยุทธ์การพัฒนาที่ยั่งยืนสำหรับการเรียนรู้ตลอดชีวิตในการศึกษาผู้ใหญ่ระดับอุดมศึกษาในมณฑลเจ้อเจียง กลุ่มตัวอย่างของการศึกษานี้ประกอบด้วย นักศึกษาจำนวน 384 คน ผู้เชี่ยวชาญในการสัมภาษณ์ 10 คน ผู้เชี่ยวชาญในการอภิปรายกลุ่ม 10 คน และผู้เชี่ยวชาญในการประเมินกลยุทธ์ 5 คน เครื่องมือในงานวิจัยได้แก่ 1) แบบสอบถาม 2) การสัมภาษณ์ 3) กลยุทธ์และ 4) แบบประเมินกลยุทธ์ สถิติที่ใช้ในการวิจัยคือ เปอร์เซ็นต์ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน ดัชนีความจำเป็นเชิงลำดับความสำคัญและการวิเคราะห์เนื้อหา

ผลการศึกษาพบว่า

1) สถานการณ์ปัจจุบันของการพัฒนาที่ยั่งยืนสำหรับการเรียนรู้ตลอดชีวิตของการศึกษาผู้ใหญ่ในมณฑลเจ้อเจียงโดยภาพรวมอยู่ในระดับปานกลาง เมื่อพิจารณาสภาพที่พึงประสงค์โดยภาพรวมอยู่ในระดับดี

2) แปลกลยุทธ์สำหรับส่งเสริมการเรียนรู้ตลอดชีวิตในการศึกษาผู้ใหญ่ในมณฑลเจ้อเจียงโดยรวม 26 กลยุทธ์ใน 4 ด้าน ได้แก่ การสร้างมาตรการเชิงสถาบัน (รวม 6 กลยุทธ์) การปรับปรุงระบบการจัดการ (รวม 8 กลยุทธ์) การส่งเสริมแรงจูงใจในการเรียนรู้ (รวม 7 กลยุทธ์) และการประเมินคุณภาพการศึกษา (รวม 5 กลยุทธ์) ขอขอบคุณ

3) การประเมินความเป็นไปได้และความเหมาะสมของกลยุทธ์ที่ส่งเสริมการเรียนรู้ตลอดชีวิตของการศึกษาผู้ใหญ่ในมณฑลเจ้อเจียงมีผลการประเมินโดยภาพรวมอยู่ในระดับมากถึงมากที่สุด

คำสำคัญ : กลยุทธ์การพัฒนา, การพัฒนาที่ยั่งยืน, การเรียนรู้ตลอดชีวิต, การศึกษาผู้ใหญ่

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I will continue to strive and become an even better version of myself. I believe that the future holds even brighter prospects!

Xu Zhongyan

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Chapter 1

Introduction

Rationale

Adult continuing education is a supplement to full-time education in China's education system, primarily targeting working adults to help them enhance their academic qualifications and professional and work skills. In line with the national strategy of coordinating vocational education, higher education, and continuing education for collaborative innovation, and the goal of building a lifelong learning society for all, its development prospects are vast (Zhang Yanche, 2019).

Adult continuing education is a key driver of social progress and the comprehensive development of individuals, capable of making significant contributions to societal development. It is essential to clarify its developmental positioning, prioritize quality-driven development, and innovate educational methods to achieve modernization. Enhancing educational quality is the core of quality-driven development, directly impacting the prospects of universities, employers, and students, and remains a focal point of societal attention. Therefore, universities must address the challenges of the times and focus on improving the quality of talent cultivation. Improving the learning situation of adult learners is the key to enhancing quality, and a thorough understanding of the learning situation can help optimize it in a targeted manner, ensuring learning outcomes (Zhou Huan, 2018).

Adults need to continuously improve their own capabilities amid economic and social changes. With socio-economic changes, industrial restructuring, and reforms in the employment system, adults have higher demands for knowledge structure and capabilities, and their desire to learn has become increasingly urgent. They hope to enhance their knowledge and capabilities and achieve comprehensive development through degree-based continuing education at general universities. According to statistics from the Ministry of Education, the number of admissions,

enrolled students, and graduates in adult degree education has continued to grow from 2021 to 2023 (3.7858 million, 8.3265 million, and 2.7795 million in 2021; 4.4002 million, 9.3365 million, and 3.3007 million in 2022; and 4,459,400, 10,082,300, and 3,785,800 in 2022 and 2023, respectively), indicating strong demand for adult learning. To this end, educational institutions must comprehensively understand and analyze students' learning situations, implement targeted measures, and prioritize meeting student needs and enhancing professional capabilities to improve educational quality (Li Kaiyue, 2022).
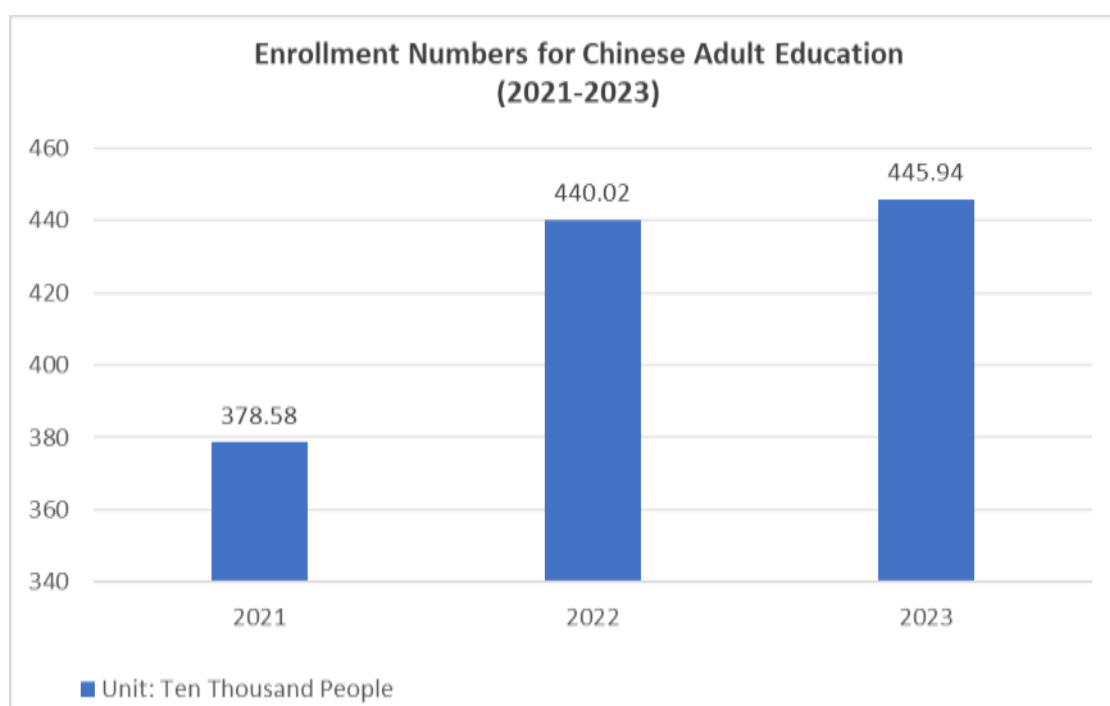
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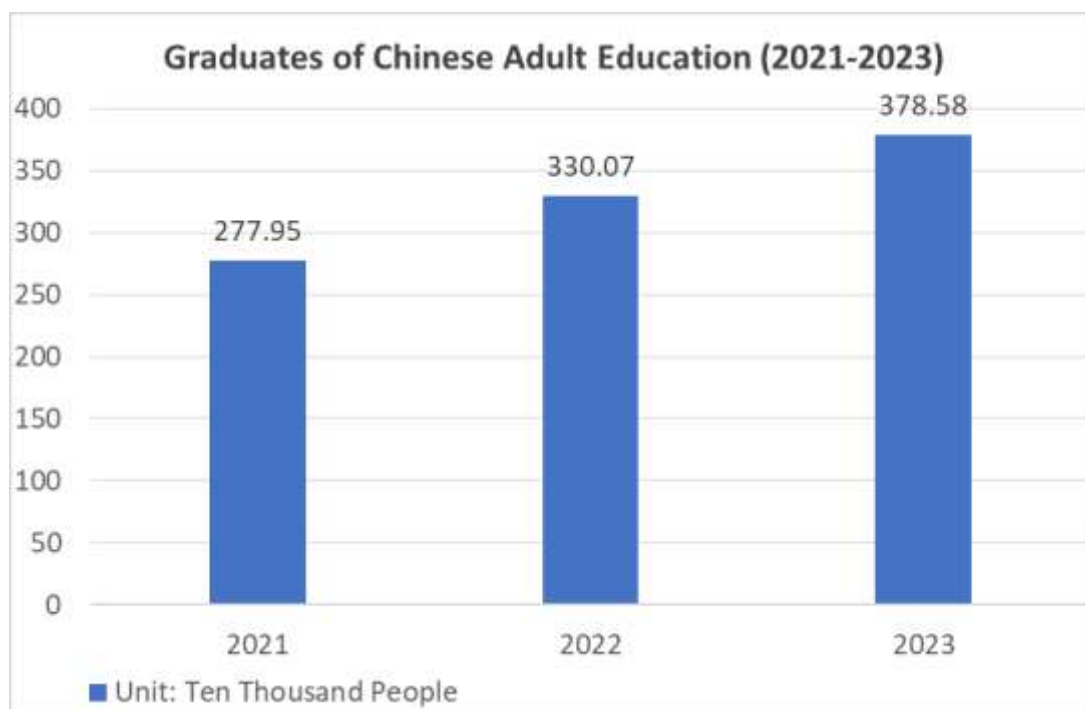
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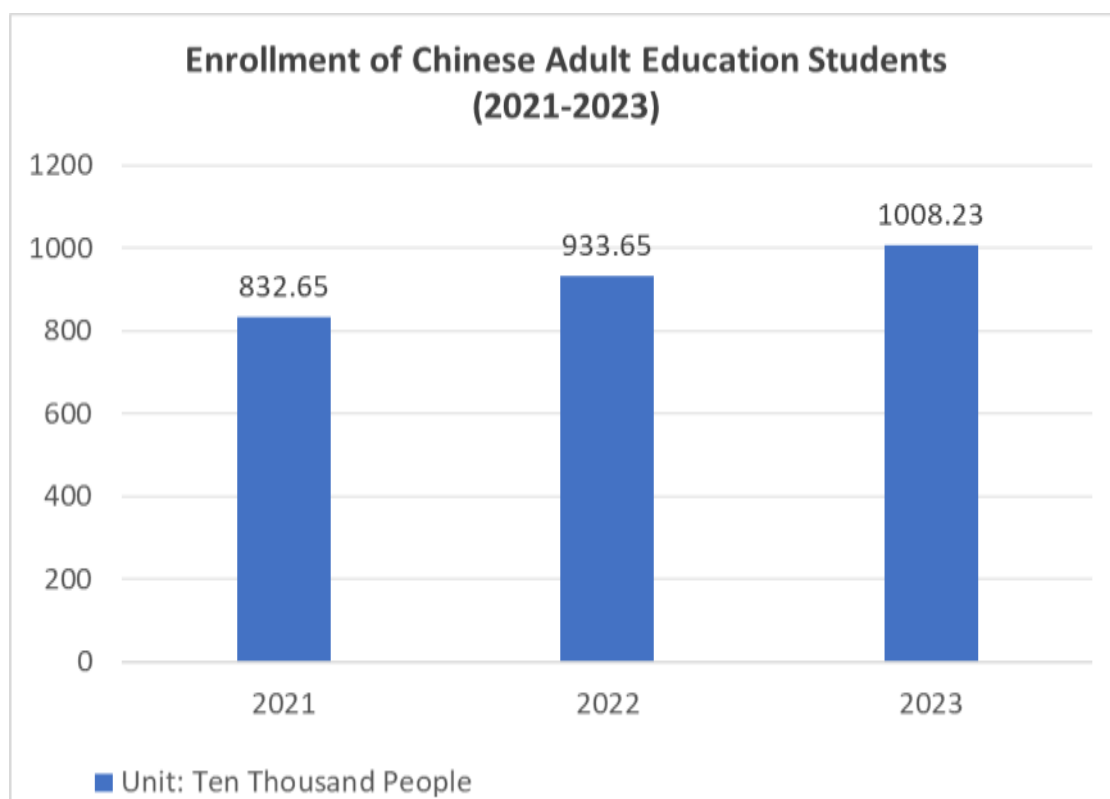
Figure 1.3 Enrollment of Chinese Adult Education Students (2021-2023)

China's regular higher education degree-based continuing education has developed over more than 60 years. Since Renmin University of China first introduced correspondence education in 1953, the scale has expanded from nothing to a significant size, cultivating a large number of talents and making significant contributions to socio-economic development. However, while the expansion of scale has promoted the popularization of higher education, it has also led to a decline in quality. The model of prioritizing scale over quality and external expansion over internal development has hindered its stable and long-term development, and has also caused issues such as a decline in the quality of student sources, insufficient faculty, unreasonable professional program settings, outdated software and hardware facilities, and a focus on 'teaching' over 'learning.' This has led to poor learning outcomes among adult learners, manifested in prominent work-study conflicts, low attendance rates, inappropriate learning methods, poor learning outcomes, a strong utilitarian mindset, and low efficiency, which in turn has impacted the institution's social reputation. Therefore, universities need to shift their focus from teachers' 'teaching' to learners 'learning' (Zhang Yilan, 2019).

Lifelong learning is an ongoing cognitive process and an inevitable choice for adapting to social change. It is crucial for personal fulfillment and self-realization: it helps individuals acquire knowledge and skills, boost self-confidence and self-esteem, provides career development opportunities, enhances workplace competitiveness and satisfaction, broadens horizons, enriches life, and improves quality of life.

Given the above, lifelong learning in adult higher education holds significant importance. Researchers aim to explore sustainable development strategies for lifelong learning in adult higher education to enhance educational quality, cultivate students' lifelong learning concepts, and promote sustainable development. They will develop feasible strategies and assess their feasibility and effectiveness to provide support and practical assistance for the sustainable development of adult higher education in Zhejiang Province.

Research Questions

1. What is the current situation and expectations of adult higher education in Zhejiang Province?

2. What strategies can be formulated for the sustainable development of lifelong learning of adult higher education in Zhejiang Province?

3. What were the level of adaptability and feasibility of the strategy for the sustainable development of lifelong learning of adult higher education in Zhejiang Province?

Research Objectives

1. To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province;

2. To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province;

3. To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

Scope of the Research

The research is divided into 3 phases:

Phase 1: To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province;

Phase 2: To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province;

Phase 3: To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

Population and the Sample Group

Population

In 2023, there were 411700 students registered in Zhejiang Province, and 84 general colleges and universities in Zhejiang Province held adult education.

Figure 1.4 Map of Colleges and Universities in Zhejiang Province

The Sample Group

The sample group for this study was selected based on the regional orientation of the universities in Zhejiang Province, which are Zhejiang Ocean University in the east of Zhejiang Province, Wenzhou University in the south of Zhejiang Province, Lishui University in the west of Zhejiang Province, Zhejiang University of Science and Technology in the north of Zhejiang Province, and Zhejiang Normal University in the central part of Zhejiang Province.

The researchers examined 103,000 registered students in adult higher education from five universities and determined the sample size using Krejcie and Morgan's table (1970). A total of 384 students were selected as survey respondents

through systematic sampling. The respondents included 10 administrators, with 2 from each university. Experts were invited to evaluate the feasibility of strategies for sustainable development in adult higher education at universities in Zhejiang Province.

The Variable

Independent Variable

1. Curriculum design for sustainable development of adult higher education: practical value, degree of depth of content, theoretical and practical programme arrangements.

2. Teaching and learning implementation of adult higher education for sustainable development: organisational management (teaching staff), teaching methods, interactive discussions.

3. Adult Education for Lifelong Learning SD learning process: learning attitude, learning method, learning habit.

4. Adult Education Lifelong Learning Sustainable Development Learning Effect: own work ability, service ability.

Dependent variable

Adult higher education lifelong learning sustainable development strategy.

Contents

1. Strategies were developed by SWOT, PEST, Analysis.

2. The components of lifelong learning development in adult education include curriculum design, teaching and learning implementation, learning processes, and learning effect.

3. Select 5 colleges and universities based on the regions of Zhejiang Province: Zhejiang Ocean University in the eastern part of Zhejiang, Wenzhou University College in the southern part, Lishui University in the western part, Zhejiang University of Science and Technology in the northern part, and Zhejiang Normal University in the central part.

4. To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province;

5. To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province;

6. To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

Time

The study period is from August 2024 to May 2025 and is divided into the following phases.

1. August 2024 Submission and defence of the first three chapters of the proposal.

2. September-October 2024. Designing research questionnaires and conducting surveys, reviewing literature and understanding the current situation at home and abroad regarding adult education in colleges and universities.

3. December 2024 to April 2025. Research and develop strategies to enhance the sustainability of lifelong learning in adult higher education, and invite experts and teachers to investigate the practicality and feasibility of these strategies.

4. Summarise the research results, complete the thesis, and in May 2025 publish the thesis.

Advantages

1. For the Adult Education Discipline System in China:

This study focuses on the sustainable development strategies for lifelong learning in adult higher education in Zhejiang Province. It aims to improve the learning conditions of adult learners through a series of optimization measures, thereby promoting the construction and development of the adult education discipline system. With the rapid changes in society and the accelerated pace of knowledge updates, adult education, as an essential component of lifelong learning, urgently needs to refine its discipline system to meet diverse learning needs and the ever-changing market environment.

First, the research will conduct an in-depth analysis of the current situation and challenges facing adult higher education in Zhejiang Province, identifying the key

factors affecting the learning effect of adult learners. Based on this analysis, practical strategies will be developed to optimize curriculum design, enhance teaching quality, and increase learners' engagement and sense of achievement. This will not only improve the learning efficiency of adult learners but also effectively stimulate their motivation to learn, thus achieving a higher level of self-actualization.

Secondly, this study will explore the further development of adult education theory, particularly in the context of discipline system construction. By integrating the latest educational concepts and practices, we will promote the innovation and updating of educational theory, making it better suited to meet actual teaching needs. Through interdisciplinary integration, we aim to enrich the theoretical framework of adult education, making it more scientific and systematic.

Finally, the goal of this research is not only to address the shortcomings in the construction of the adult education discipline system but also to provide a sustainable development model for adult education in Zhejiang Province and even across the country. Through this process, we hope to offer new ideas for the future development of adult education, promoting dual innovation in both theory and practice, and thereby better serving the broad community of learners and facilitating the realization of lifelong learning.

2. For adult higher education in universities of Zhejiang Province:

Enhancing the quality and level of adult higher education in Zhejiang Province is crucial. To achieve this, it is essential first to conduct a comprehensive and in-depth analysis of the current state of adult higher education in order to identify existing problems and shortcomings. This analysis will not only reveal the challenges faced by adult learners during their studies but also provide a solid basis for improving and optimizing education and teaching practices.

Building on this foundation, the research will focus on integrating sustainable development concepts into all aspects of education and teaching. This means considering long-term educational goals and societal needs in areas such as curriculum design, teaching and learning implementation, learning processes, and learning effect.

In addition, tailored learning plans and support systems will be developed to address the diverse needs of adult learners, enhancing the relevance and effectiveness of their education. By establishing a flexible learning environment that encourages learners to choose their own content and methods, we can enable them to progress at a pace that suits them.

Finally, improving the quality of adult higher education will not only enhance learners' educational outcomes and sense of achievement but will also cultivate more high-quality talent for the economic and social development of Zhejiang Province. The implementation of this series of measures will contribute to the sustainable and healthy development of adult higher education in Zhejiang, making it an effective educational model that truly adapts to the changes of modern society.

3. For Student:

First, it is essential to enhance students' lifelong learning abilities. To achieve this, students should adopt a correct attitude towards learning, recognizing that learning is not only for passing exams but also for adapting to the rapidly changing demands of society and the workplace. In this process, improving learning efficiency and updating learning methods are indispensable steps. It is crucial to ensure that students gain knowledge and skills, apply their learning effect in their work, and achieve the effect of "learning for application," thereby cultivating their lifelong learning capabilities.

Second, it is particularly important to focus on the characteristics of adult education. Adult learners often face the challenge of balancing work and study time, so flexible learning arrangements and adaptable learning strategies are vital. Schools can help students find a suitable learning rhythm amidst their busy lives by offering online courses, blended learning, and other flexible options. At the same time, teachers should design practical and targeted courses to meet the needs of adult learners, facilitating their achievement of tangible results in learning.

Finally, cultivating the ability for lifelong learning is a crucial component of students' personal development. With the continuous advancement of technology and the rapid changes in society, the pace of knowledge and skills updating is

accelerating. Only those who possess lifelong learning abilities can maintain a competitive edge in the future workplace. Through continuous learning, students can not only enhance their professional skills but also broaden their horizons and increase their overall competencies, laying a solid foundation for their future career development.

Definition of Terms

Sustainable Development refers to the concept in China's adult higher education where schools implement talent cultivation programs, and through diligent study, students contribute to society, thereby achieving sustainable development.

Strategy Formulation refers to the process by which students plan and take action to achieve long-term goals, involving the analysis and evaluation of external environments and internal resources, as well as the stages of goal setting, strategy selection, and implementation. Through strategic development, students can continuously enhance their abilities, thereby promoting the development of China's adult higher education.

Adult Higher Education refers to the Chinese adult education system, which is a type of education within the national education system. It is a form of national education that involves unified entrance examinations administered by local authorities, with provincial and municipal education departments overseeing the process and issuing nationally recognized adult education diplomas. Adults aged 18 or older are eligible to enroll in this educational program. The participating universities develop talent cultivation plans, design course content, determine the depth and scope of theoretical and practical course arrangements, and implement teaching methods to enhance students' skill levels.

Curriculum Design refers to the systematic process of developing and organizing learning content, objectives, activities, and assessment methods within the educational process. It involves selecting appropriate knowledge, skills, and attitudes to meet students' learning needs and educational goals. Effective curriculum design includes aspects such as curriculum structure, course scheduling, and course

offerings, and is tailored to the actual situations of adult learners to ensure the relevance and practicality of the content.

Teaching and learning implementation refers to the specific execution of curriculum design in teaching, encompassing aspects such as instructional organization and management, teachers' instructional abilities, teaching methods, overall teacher competency, and assessment methods. The key at this stage is how teachers effectively convey the curriculum content to students, stimulating their interest in learning and promoting engagement. Instructional implementation should emphasize interactivity and flexibility to accommodate the diverse needs of different learners.

Learning Process refers to the various stages students undergo while receiving education, including knowledge acquisition, understanding, application, and reflection. The learning process should encompass learning attitudes, methods, habits, and the adoption of different learning strategies, emphasizing students' active participation and self-direction. It encourages them to construct their knowledge system through exploration, collaboration, and practice.

Learning Effect refer to the changes and improvements in students' knowledge, skills, and attitudes after completing specific learning activities. It not only reflects the extent of students' mastery of the course content but also evaluates the effectiveness of the learning activities. The assessment of learning effect can focus on enhancing professional skills, overall competency, problem-solving abilities, and learning satisfaction, ensuring the achievement of learning objectives and the improvement of educational quality.

Lifelong learning refers to the process through which individuals continuously acquire knowledge, skills, and abilities throughout their entire life, through formal education, informal learning, and everyday experiences. This type of learning is not limited to a specific stage of life but spans across an individual's entire lifespan. Its purpose is to enhance personal development, social engagement, and career adaptability, improving personal qualities, social participation, and professional competitiveness.

Adults are individuals whose physical and mental development has matured, who are legally recognized by society, and who no longer regard learning as their primary task in life.

Adult learning refers to students in China who participate in and are admitted through the National Adult Higher Education Entrance Examination. These students engage in a blended learning format that combines both online and offline education, mastering learning methods, cultivating good study habits, and adopting a positive attitude towards learning. This enables them to enhance their abilities, achieve the desired learning effect, and realize lifelong learning.

This study aims to explore the current situation of sustainable development of lifelong learning in adult academic education in Zhejiang Province, and to formulate corresponding strategies through SWOT, PEST and other analytical methods. The study selected five colleges and universities in Zhejiang Province as samples to analyze in depth the status quo and challenges of adult academic education from the aspects of curriculum design, teaching and learning implementation, learning process and learning effect, and to propose targeted optimization measures. It aims to enhance the learning efficiency and sense of achievement of adult learners, promote the sustainable and healthy development of adult academic education in Zhejiang Province, provide new ideas for the construction of adult education discipline system, and at the same time, satisfy the diversified needs of adult learners, cultivate their lifelong learning ability, and cultivate more high-quality talents for the society.

Research Framework

The theoretical framework of this study is designed to guide the development of strategies for sustainable adult higher education, with the aim of enhancing the sustainable development of adult higher education in Zhejiang Province. This framework integrates theoretical foundations, empirical research findings, and expert insights to ensure that these strategies combine theoretical rigor with practical applicability. Throughout the research process, a review of literature related to the

quality and other characteristics of adult higher education was conducted. This step established the theoretical foundation and identified potential factors influencing the quality of adult higher education. Next, the study utilized data collection methods such as questionnaires and interviews to understand the current state and anticipated future of adult higher education, and conducted an effective analysis of expectations versus reality. Subsequently, SWOT analysis, TWOS, and PEST analysis were employed to analyze factors from both internal and external perspectives and derive results. These strategies were subjected to scientific and adaptability assessments by an expert panel. This step ensured the feasibility of these strategies prior to their potential implementation in the future. However, the scope of this study was limited to strategy formulation and expert validation. The framework diagram is as follows:
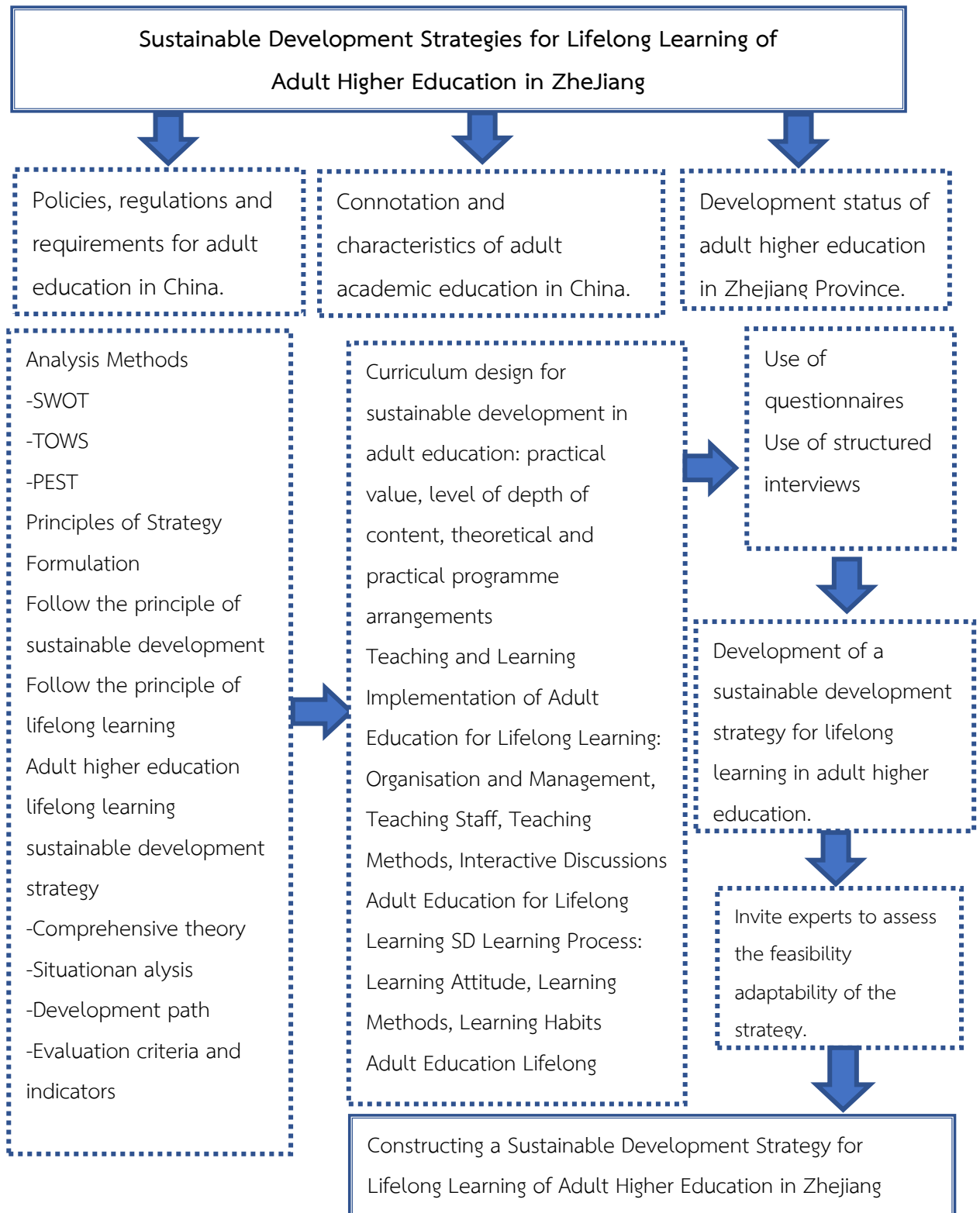
Figure 1.5 Research Framework

Chapter 2

Literature Review

In this study, the researcher referred to the theoretical and research results on ESD, adult higher education and guidelines (development strategies) at home and abroad, and then conducted a detailed review. On this basis, the researcher analyses the literature and related research results in the following aspects, as follows.

1. Concept and Theory of Lifelong Learning
2. Concept and Theory of Adult Higher Education
3. Concept of Sustainable Development
4. Sustainable Development Strategy
5. Related Research

Concept and Theory of Lifelong Learning

Lifelong learning, as advocated by Candy (1991), is the process of continuous learning and development of individuals throughout their lives. It encompasses various forms of formal and informal education as well as self-learning. Formal education refers to systematic learning acquired in recognised educational institutions such as primary, junior secondary, senior secondary and tertiary education. These forms of education usually have well-defined curricula, teaching programmes and assessment criteria. Adults may engage in the following forms of formal education as part of their lifelong learning process: Vocational training programmes: These programmes are offered by accredited educational institutions and are usually geared towards the upgrading of skills for specific occupations, such as IT certifications, business management degrees. Continuing Education: Continuing education programmes offered by higher education institutions that allow adults to continue their studies outside of work to earn a degree or certificate. Degree Enhancement Programmes: Degree enhancement programmes for adult learners, such as the Adult Higher Education Examination, evening classes and distance

learning. Informal education refers to learning activities that take place in an informal setting, which usually do not have a formal course structure or credit system, but are equally important for individual learning and development. Career development seminars: Workshops and seminars provided by business or industry organizations to enhance workplace skills and knowledg. Community Education: Courses and lectures provided by community centres or local organisations covering a variety of topics such as language learning, health management, etc. E-learning: Learning activities participated through online platforms, such as online lectures, forums and community discussions. Self-learning refers to an individual's own choice of what and how to learn, usually independent of formal teaching institutions or external guidance. Forms of self-study include: Independent research: Individuals independently research specific topics by reading books, academic articles, online resources, etc. Online Courses: Individuals study and acquire knowledge independently by using MOOCs (Massive Open Online Courses) platforms, such as Coursera and edX. Skill practice: mastering new skills through practice and repetition, such as programming, self-management or artistic creation. Core elements of lifelong learning: Autonomy: Individuals play an active role in the learning process, setting learning goals and choosing learning content and methods. Continuity: Learning is an ongoing process that continues throughout an individual's life, adapting to changing needs and circumstances. Diversity: Learning takes place in a variety of forms, including formal education, non-formal education and self-study.

Tough (1979) The enablers of lifelong learning include technological advances, changing occupational demands and personal development needs. Technological progress is an important driving factor for lifelong learning. With the rapid development of technology, especially the innovation of information technology, the way of learning and the content of learning have changed significantly. The development of information technology: the popularisation of the Internet and digital technology has made it easier to access information and learn. Online courses, e-books, educational apps, etc. have become important tools for learning. Technological advances have enabled learners to access learning resources

anytime and anywhere, thus supporting the continuity of lifelong learning. Application of emerging technologies: For example, the application of emerging technologies such as artificial intelligence, big data, and virtual reality, has provided new ways and tools for learning. These technologies not only enhance the learning experience, but also open up new areas of learning, such as smart education platforms and virtual laboratories. Changes in occupational needs are another key factor driving lifelong learning. As the economy and society evolve, so do the job market and the nature of work, requiring individuals to constantly update their knowledge and skills to adapt to these changes. Rising skill requirements: The modern workplace is increasingly demanding skills that require not only specialised skills, but also cross-disciplinary integration. For example, there is a growing demand for skills in emerging areas such as data analytics, digital marketing and soft skills. Career transition and development: As careers evolve and industries change, many people may need to transition or redirect their careers. Such career transitions require new knowledge and skills, driving individuals to engage in lifelong learning to remain competitive and adapt to change. Personal development needs are also an important driver of lifelong learning. Individuals continue to learn in order to achieve self-growth, improve quality of life, and fulfil personal goals. Self-improvement and interest-driven: Many individuals pursue personal interests and hobbies through learning, such as art, music or language learning. The need for self-improvement motivates individuals to continually explore new areas and enrich themselves. Quality of Life Enhancement: Lifelong learning not only contributes to career development, but also enhances one's quality of life. For example, by learning about health management or family education skills, individuals can take better care of themselves and their families and improve their quality of life. The combined impact of lifelong learning Tough (1979) argues that these enablers are intertwined and work together to influence the practice of lifelong learning. Technological advances provide new learning tools and platforms, changing occupational demands motivate individuals to continually update their skills, and personal development needs drive the continuation of learning. Taken together. As a result, lifelong learning has gained

widespread popularity and has been deeply integrated into modern educational frameworks.

Theoretical frameworks for lifelong learning include self-directed learning theory and motivation theory of learning (Candy, 1991). These theories provide an important theoretical foundation for understanding and supporting lifelong learning. The following is a detailed analysis of these two theories: Self-Directed Learning Theory, proposed and developed by scholars such as Malcolm Knowles, further explores its application to lifelong learning. The theory emphasises the learner's initiative and self-management ability in the learning process, and its main features include: Autonomy: Self-Directed Learning Theory believes that learners should play an active role in the learning process. Learners set their own learning goals, choose their own learning content, design their own learning strategies and evaluate their own learning effect. Self-directed learning emphasises learner autonomy and responsibility more than traditional teacher-led teaching. Self-management: Learners need to have self-management skills, including time management, resource management and learning progress control. Effective self-directed learning relies on learners' self-discipline and organisational skills. Feedback and adjustment: Learners need to receive continuous feedback during the learning process and adjust their learning strategies according to the feedback. This self-feedback mechanism helps to improve learning effectiveness and adaptability. Application to Lifelong Learning: In lifelong learning, self-directed learning theory is especially important because adult learners usually need to organise their learning time in their busy life and work. Through self-directed learning, adult learners are able to organise their learning activities flexibly to meet their personal and professional development needs. Motivation Theory was proposed by scholars such as Deci and Ryan (1985), and Candy (1991) applied it to the study of lifelong learning. The theory focuses on learners' intrinsic and extrinsic motivation, which mainly includes the following aspects: Intrinsic Motivation: Intrinsic motivation refers to the motivation to learn due to the interest and satisfaction in the learning content itself. Learners are motivated to learn because of their curiosity and enthusiasm for a topic or skill. (For example, a

learner may be motivated to learn about a new technology because of his or her interest in it). Extrinsic motivation: On the other hand, it refers to a learner's desire to learn in order to achieve specific external goals or rewards. These external goals may include career advancement, salary increase, or obtaining a degree certificate. For example, an adult learner may attend a training course because he or she wants to obtain a professional qualification. Factors Influencing Motivation: Motivation to learn is influenced by a variety of factors, including the learner's personal background, the learning environment, and the relevance of the course content. Understanding these motivational factors can help design effective lifelong learning programmes and enhance learner engagement and learning effect.

Field (2006) states that educational policies and planning provide the necessary institutional support and framework for lifelong learning. Effective policies can facilitate the widespread implementation of lifelong learning, and specific strategies include: policy formulation: governments and educational institutions should develop clear policies on lifelong learning and set long-term goals and priorities to promote the popularisation and development of lifelong learning (OECD, 2003). For example, OECD (2003) proposes a learning-centred policy framework, which emphasises the need for policies to support the learning needs and learning opportunities of different populations. Financial support: Financial support and scholarships are provided to alleviate the cost of learning and to motivate more people to participate in lifelong learning programmes. Funds can be used to support the development of learning resources, the construction of educational institutions and the financing of learners. Co-operation mechanism: establish a co-operation mechanism between the government, educational institutions and enterprises to integrate resources and jointly promote lifelong learning projects (Holford,2014). Such cooperation can promote the updating of learning content and the practical application of the curriculum.

Merriam & Bierema (2014) point out that the richness of learning resources and the optimisation of the learning environment are crucial to the implementation of lifelong learning. Specific strategies include: diversified learning resources: providing

rich learning resources, including books, online courses, video tutorials and learning platforms to meet the needs of different learners. For example, online learning platforms such as Coursera and edX provide a wide range of course choices, supporting individuals to select learning content according to their interests and needs. Optimisation of the learning environment: creating environments that support learning, such as learning centres, libraries and online learning platforms that provide convenient learning conditions. For example, modern learning centres can provide comfortable learning spaces and advanced technological facilities to enhance learners' learning experience. Personalised learning support: providing personalised learning support such as tutoring, feedback and career guidance to help learners set learning goals and track progress (Holford, 2014). Personalised support can help learners adapt their learning strategies and goals to their own needs.

Garrison (1997) argues that the application and innovation of technology has a significant impact on lifelong learning and can enhance learning efficiency and learning experience. Online learning platforms: online learning platforms are utilized to provide flexible learning options that enable learners to learn anytime, anywhere. Platforms such as Coursera and Udemy provide diverse courses and learning resources that support self-learning and interactive learning. Digital tools and apps: Digital tools and apps are used to enhance learning, such as learning management systems (LMS), smart recommendation systems and mobile learning apps. These tools help learners to manage their learning progress, access personalised recommendations and conduct effective learning assessments. Virtual reality and augmented reality: Virtual reality (VR) and augmented reality (AR) technologies are applied to provide immersive learning experiences that enhance hands-on and simulation exercises. For example, VR technology can be used to simulate work tasks in real environments and enhance the practical aspects of learning.

Deci & Ryan (1985) suggested that personal motivation and self-management skills are critical to the success of lifelong learning. Motivation: intrinsic motivation of learners is stimulated by setting clear learning goals and providing incentives. For example, setting learning rewards and certificates can enhance learners' motivation.

Self-management skills: Develop learners' self-management skills such as time management, goal setting and learning strategies (Candy, 1991). Learners need to have the ability to plan learning activities and adjust learning methods to cope with the challenges of the learning process. Support systems: establishing support systems such as study groups, tutors and mentors to provide social support and feedback (Holford,2014). Support systems can help learners get the necessary help and encouragement during the learning process.

The implementation of lifelong learning requires comprehensive consideration of various aspects such as educational policies, learning resources, technical support and personal motivation. The smooth implementation of lifelong learning can be facilitated by formulating effective policies, optimising the learning environment, applying technological tools and stimulating personal motivation. Future research should further explore the effectiveness of the implementation of these strategies and adjust and optimise them according to the actual situation.

Field (2006) The unequal distribution of educational resources is a major challenge to lifelong learning. There are significant differences in access to learning resources among people from different regions, social classes and economic backgrounds. Geographical disparities: The gap in educational resources between urban and rural areas, and between developed and less developed regions affects the equity of lifelong learning. For example, learning resources and infrastructures are often weaker in rural areas, limiting equality of learning opportunities. Socio-economic context: Barriers to accessing education and training opportunities for low-income households and socially marginalised groups exacerbate social inequalities. For example, individuals with limited financial means may not be able to afford the high cost of education, which affects their chances of participating in lifelong learning. Adult learners often face time management challenges, with difficulties in organising and adhering to their studies due to the distractions of work, family and other responsibilities. Time conflicts: Busy work schedules and family responsibilities make it difficult for adult learners to find time for learning. For example, time conflicts between work and study may lead to difficulties in executing study programmes.

Maintenance of motivation: Maintaining motivation for learning can be a challenge in the busy pace of life. Adult learners may interrupt their learning due to external pressures and declining internal motivation. Although technology offers many conveniences for lifelong learning, the issue of adapting to technology also becomes one of the challenges.

Differences in technological literacy: There are differences in technological literacy across age and social groups, which may limit their effective use of digital learning tools and platforms. For example, older learners may face difficulties in operating digital platforms. Technology dependency: Over-reliance on technology may bring about technical failures or security issues that affect the learning experience. For example, network outages or data breaches may lead to disruption of learning and loss of information.

Field (2006) argues that future lifelong learning developments will require policy and institutional innovations to support their widespread implementation. Comprehensive policy framework: Developing a comprehensive policy framework for lifelong learning to address inequalities in resources and inadequate learning opportunities. For example, the government can formulate policies to facilitate education financing and resourcing for low-income groups. Flexible learning modes: Promote flexible learning modes, such as online learning and blended learning, to suit the time schedules of adult learners. Flexible learning modes can help learners find suitable learning time in their busy schedules. Continuous innovations in technology provide new opportunities for lifelong learning, and future directions include: intelligent learning platforms: the development of intelligent learning platforms that use artificial intelligence and big data technologies to provide personalised learning experiences (Garrison, 1997). For example, intelligent recommendation systems can recommend relevant courses and resources based on learners' interests and needs. Virtual and augmented reality: virtual reality (VR) and augmented reality (AR) technologies are applied to provide an immersive learning experience that enhances hands-on and simulation exercises (Hoffman, 2018). For example, VR technology can be used to simulate complex work environments to

help learners with hands-on practice. Creating supportive learning environments is one of the important directions to promote lifelong learning (Merriam&Bierema, 2014). Learning communities: creating learning communities that provide social support and interactive opportunities to enhance learners' sense of participation and belonging (Candy, 1991). Learning communities can support learners' mutual support and co-operation through online forums, study groups, etc. Integrated support services: provide integrated learning support services including career guidance, counselling and skills training to help learners overcome challenges in learning Holford,2014). These support services can help learners get the necessary help and guidance in the learning process.

The development of lifelong learning faces multiple challenges such as resource inequality, time management and technological adaptation. The future direction of development should include policy and institutional innovation, technological innovation and application, and the creation of supportive learning environments. By adopting these strategies in an integrated manner, the widespread implementation and sustainable development of lifelong learning can be effectively promoted.

According to the Outline of China's Medium- and Long-Term Education Reform and Development Plan (2010-2020), China has proposed the goal of a lifelong education system, emphasising the need to form a learning system that covers all age groups to meet the needs of social and economic development (Ministry of Education of the People's Republic of China,2010). Overall goal of the lifelong education system. The Outline proposes that by 2020, China will have formed a lifelong education system covering all age groups at multiple levels, including basic education, vocational education, continuing education and adult education. This system is designed to achieve the following goals: universalization and systematization: to establish a comprehensive learning system from childhood to old age, and to ensure that every citizen has access to education and training opportunities throughout his or her life cycle. This includes full coverage from pre-school to old age, making learning an essential part of an individual's lifelong

development. Multi-level and multi-form learning opportunities: Creating diversified forms of learning, including formal education, non-formal education and self-study, to meet the learning needs of different groups of people. For example, setting up adult education centres, community learning institutions and online learning platforms to provide flexible learning options. Adapting to the needs of social and economic development: The lifelong education system should not only meet the needs of individual growth, but also buttress the requirements of social and economic development. Through the provision of training and skills upgrading courses related to career development, it helps workers adapt to the restructuring of the economy and changes in the industry. Major Measures and Strategies. The Outline proposes specific measures and strategies to achieve the goals of lifelong education, including: Improving policies and regulations: formulating and improving lifelong education-related laws, regulations and policy measures to ensure that the lifelong education system is standardised and systematic. This includes formulating specific implementation rules and evaluation standards, and clarifying the responsibilities of governments and educational institutions at all levels. Promoting a balanced allocation of educational resources: Increasing investment in educational resources, especially in the central and western parts of the country and in rural areas, to reduce the education gap between urban and rural areas and between regions. This includes building more educational facilities and providing more learning resources to ensure that people in all regions have equal access to educational opportunities. Support for continuing education and vocational training: Encourage and support higher education institutions, vocational training institutions and enterprises to provide continuing education and vocational training programmes. These programmes should be adapted to market needs and help adult learners improve their vocational skills and employability. Promoting technology application and innovation: utilising information technology and network platforms to promote online learning and distance education. By building online learning platforms and virtual learning environments, learners will be provided with flexible learning modes to facilitate their learning in between work and life. Establishing evaluation and

incentive mechanisms: Setting up an evaluation system for lifelong education, assessing learning effect and providing corresponding accreditation and rewards. These mechanisms can motivate learners to actively participate in lifelong learning and help them obtain professional qualifications and promotion opportunities. Effectiveness and evaluation of the implementation of lifelong education. The Outline also emphasises evaluation and feedback on the effectiveness of the implementation of lifelong education. Through the establishment of a monitoring and evaluation mechanism, the effectiveness of the implementation of lifelong education is analysed on a regular basis to assess the implementation of policies and the effectiveness of the use of educational resources. This process not only helps to improve policy measures, but also ensures that the lifelong education system can adapt to changing social and economic needs.

In 2015, China enacted the Law on the Promotion of Lifelong Education, signalling the importance attached to lifelong learning at the national level. The law clarifies the state's responsibility in the lifelong learning system and encourages the participation of local governments, enterprises and educational institutions. Local policies: local governments are also actively involved in the construction of lifelong learning systems. Li Hua (2017) Shanghai has formulated the Shanghai Lifelong Education Development Plan (2016-2025) to promote the integration of community education and vocational training.

Higher education institutions: many colleges and universities have set up continuing education colleges and adult education centres to provide a variety of non-degree education courses and vocational training. Zhang Wei, (2018) For example, the School of Continuing Education at Peking University and Tsinghua University offers diverse training programmes for adults, such as MBA courses and vocational certification training.

Liu Lei, (2019) The Chinese Society of Vocational and Adult Education released a report on the development of vocational and adult education, which summarises the role of vocational training centres. Vocational training centres are

mainly responsible for providing industry-related skills training to help the workforce adapt to market changes.

Chen & Zhang Hua, (2020) Online Learning Platforms: with the development of the Internet, online learning platforms such as Xuedang Online, NetEase Cloud Classroom and MOOC platforms provide flexible learning methods for lifelong learning. These platforms have greatly promoted the popularity of lifelong learning by providing rich course resources and convenient learning methods.

Yang Mei (2019) Inequality of educational resources: the unequal distribution of educational resources between urban and rural areas and among groups with different socio-economic backgrounds has led to unequal opportunities for lifelong learning. Educational facilities and resources are scarce in rural and remote areas, which affects the learning opportunities of residents in these areas.

Wang Qiang (2018) Learning motivation and engagement: adult learners' motivation and engagement are important issues facing lifelong learning. Many people find it difficult to persist in learning due to work pressure, family responsibilities and other reasons. In addition, the awareness of lifelong learning is still not strong among some people.

Huang Jie & Li Lei (2018) Disconnection between courses and market demand: the problem of disconnection between lifelong learning courses and the actual market demand is prominent, and the content of some courses does not match the needs of enterprises and industries, which affects the learning effect and practical application.

Li Hua (2017) Policy and institutional innovation: improve and innovate lifelong learning-related policies and systems to address the problems of unequal educational resources and insufficient learning opportunities. The government can promote the widespread implementation of lifelong learning by formulating more supportive policies and providing funding.

Yang, Mei (2019) Expanding the coverage of educational resources: strengthening investment in educational resources in rural and remote areas, building

more learning centres and providing more online learning opportunities to narrow the education gap between urban and rural areas and regions.

Chen & Zhang, H. (2020) Enhancing motivation and engagement: enhance adult learners' motivation and engagement by increasing the publicity of lifelong learning, setting up incentive mechanisms and providing personalised learning support. Learners' motivation can be enhanced by setting up incentive mechanisms and learning certification.

Huang Jie & Li Lei, (2018) Promoting the interface between education and employment: strengthening the cooperation between educational institutions and industries to ensure that lifelong learning programmes can be aligned with market demand. Measures such as enterprise cooperation, industry certification and career guidance can be used to improve the practicality and relevance of the programmes.

China has made remarkable progress in lifelong learning education, promoting the spread of lifelong learning through policy support, the efforts of educational institutions and the development of technology. However, problems such as inequality in educational resources, insufficient motivation to learn and a disconnect between curricula and market demand still exist. Future development should focus on policy innovation, coverage of educational resources, motivation to learn and the interface between education and employment in order to promote the further development of lifelong learning.

Table 2.1 Basic theories of lifelong learning

Item	Key concepts and theories	Representative figure
Theory of Lifelong Learning	Concept	Tough (1979)
	Driving factors	
	Theoretical framework	Candy (1991)
	Learning motivation theory	
	Institutional support	Deci and Ryan (1985)
	Resources and environment	Field (2006) and OECD (2003)
	Technological impact	Merriam and Bierema (2014)
	Individual capabilities	Garrison,1997/Hoffman,2018
	Cooperation mechanisms	Deci&Ryan (1985) and Candy (1991)
	Learning motivation research	and Holford (2014)
	Curriculum alignment issues	Wangqiang (2018)
		Huangjie and Lilei (2018)

Concept and Theory of Adult Higher Education

Li & Zhang (2020) pointed out that adult higher education refers to the form of higher education for adults who have been separated from full-time education, and its main goal is to improve the academic level and vocational ability of adults through various educational pathways. According to different education modes, adult higher education can include adult college entrance examination, self-study examination, network education, open university and other forms. All of these forms aim to provide flexible learning modes for working people, veterans, social workers, etc. to meet their needs for further education and career development.

Wang (2019) points out that adult higher education is highly flexible and can meet the time schedules and learning needs of different adult learners. Compared to full-time education, adult education is more relaxed in terms of time and place of study, allowing learners to study in between their work and life.

Chen (2018) points out that adult higher education embodies the concept of lifelong learning and encourages adults to continuously update their knowledge and improve their skills. Lifelong learning has become an important trend in modern society, and adult education is the embodiment of this trend.

Li&Wang (2021) pointed out that adult higher education tends to have a strong career orientation. Many adult education programmes are closely related to career development and aim to enhance learners' vocational skills and competitiveness. This mode of education emphasises practicality and vocational application to help learners better adapt to changes in the job market.

Liu, (2020) states that the main goal of adult higher education is to improve the overall quality of adults, including academic literacy and vocational competence. Through adult higher education, learners are able to obtain higher qualifications that enhance their employment competitiveness and career development opportunities. In addition, adult education also focuses on cultivating learners' lifelong learning ability and comprehensive quality, and promoting their all-round development.

Despite the remarkable progress of adult higher education in China, it still faces some challenges. Wang&Liu, (2019) pointed out the problem of imbalance of educational resources, especially in remote areas, where the infrastructure and faculty of adult education are relatively insufficient. Zhang (2020) pointed out that there is still a gap in the social recognition of adult education compared with that of full-time education, which may affect the attractiveness of adult education. Li&Wang (2021) argued that adult learners' motivation and self-management ability have an important impact on learning effect, but there are considerable challenges in practice.

Wang&Chen (2022) stated that adult higher education in China will further develop, especially driven by technological innovation and policy support. With the application of big data and artificial intelligence technology, adult education will become more personalised and intelligent. National policies will continue to promote the development of adult education and promote educational equity and optimal allocation of resources. Adult higher education will focus more on the

construction of a lifelong learning system and provide more comprehensive learning support and services.

Xin Shujie (2018) points out that early adult education broadly refers to all levels and types of education provided for adults. In 1987, China promulgated the Decision of the State Education Commission on the Reform and Development of Adult Education (hereinafter referred to as the 'Decision'), which points out that adult education is mainly for practitioners who have already embarked on a variety of production or work positions, and that its development of adult education is aimed at being able to directly and effectively The purpose of developing adult education is to directly and effectively improve the quality of labourers and workers, thereby directly increasing economic efficiency and work productivity. The Decision also specifies the main tasks of adult education in five areas, indicating that adult education should include job training, basic education, cultural and professional education, continuing education, and socio-cultural and life education. The adult education system was written into the Education Law of the People's Republic of China, which was first enacted in 1995.The second amendment in 2015 changed the words 'adult education system' in Article 19 to 'adult education system' in Article 19 of the Education Law. The second amendment in 2015 changed the phrase 'adult education system' in Article 19 to 'continuing education system' and newly included industrial organisations in the development of education subjects, and added a provision on the State's encouragement of the development of various forms of continuing education to promote the mutual recognition and articulation of the results of different types of learning, and the promotion of lifelong learning for all. At the same time, in the area of State encouragement of the development of various forms of continuing education, provisions were added to promote the mutual recognition and articulation of different types of learning achievements and to promote lifelong learning for all. From the wording of the Education Law of the People's Republic of China, it can be seen that the term 'continuing education' has replaced the general definition of adult education. And China's adult education has gradually formed its exclusive definition. China's adult education refers exclusively to

China's adult education series, is a national education series of a form of education. Adopted by the local unified enrollment examination, by the provincial and municipal education department in charge and issued by the national recognition of adult education unified diploma of a form of national education. There are four main forms of adult education qualifications, namely, higher education self-study examination (self-test), network education (distance education), adult college entrance examination (study forms are off-the-job, amateur, correspondence), open university (former radio and television university modern distance open education).

Wu Qing'er (2024) points out that China's adult higher education is divided into five stages: the creation stage (1949-1976), the development stage (1977-1985), the perfection stage (1986-1997), the innovation stage (1998-2009), and the transformation stage (2010-present), and that through the development, China's adult higher education Through the development, China's adult higher education has clearly proposed to build a system of higher academic continuing education, a standard system, a management system, an evaluation system, and a service system that are in line with the new stage of development, and to form a new pattern with a reasonable structure of schooling, quasi-perfect quality standards, standardised behaviour in schooling, effective supervisory measures, and a sound safeguard mechanism.

Table 2.2 Important documents on adult higher education released in China since 2020

Release time	File name
2010	Programme for Medium-and Long-Term Reform and Development Plan for National Education (2010-2020)
2016	Ministry of Education Issues Opinions of the Ministry of Education on Running a Good Open University
	The Ministry of Education issued the Measures for the Administration of Setting Up Specialities in Continuing Education for Higher Qualifications
2018	Notice on the Annual Report on the Development of Continuing Education in Higher Education Institutions
	Circular on the Work Related to Serving Lifelong Learning for All and Promoting the High-Quality Development of Modern Distance Education Pilot Network Education
2021	Circular of the General Office of the Ministry of Education and Other Five Departments on Strengthening the Management of Advertisements Released for Continuing Education with Higher Education Qualifications
	Circular of the General Office of the Ministry of Education on Strengthening the Work Related to the Setting and Management of Specialities in Continuing Education for Higher Degrees Circular of the General Office of the Ministry of Education on Strengthening the Construction and Management of Teaching Materials for Continuing Education with Higher Degrees.
2022	Ministry of Education Issues Circular of the General Office of the Ministry of Education on Strictly Regulating the Setting and Management of Off-Campus Teaching Sites for Continuing Education of Higher Education Degrees
	The Ministry of Education issued the Implementing Opinions on Promoting the Reform of higher Continuing Education in General Colleges and Universities in the New Era.

Mu Weijun (2021) points out that the Notice of the General Office of the Ministry of Education on Strengthening the Work Related to the Setting and Management of Higher-education Continuing Education Professions was issued at the end of 2021 to further strengthen the management of the setting of higher-education continuing education professions. As shown in Figure 1, the words "colleges and universities", "majors", "setting" and "filing" constitute the thematic framework of Strengthening the Setting and Management of Majors. The document makes it clear that colleges and universities should aim at the overall goal of national development strategy, industry talent demand and regional economic and social development needs, take the initiative to dock the new economy, new technologies, new business models and new occupations, and organise higher continuing education based on the higher strengths of the university. At the same time, the document specifies the elimination mechanism of higher continuing education.

The Opinions on the Implementation of the Reform make it clear that the main objective of this reform is to establish a sound system of higher continuing education that is compatible with the new stage of development, to vigorously enrich the supply of higher continuing education resources, to significantly improve the quality of teaching and learning, to substantially increase the capacity of service and social acceptance, and to provide more high-quality higher education opportunities and better services for the learners. At the same time, the Reform Implementation Opinions put forward requirements and made specific deployments for the reform of China's higher continuing education in the new era in six aspects, namely, general requirements, constructing a schooling system in line with the new stage of development, implementing the requirements for education and teaching, standardising and strengthening the management of schooling, promoting the development of digital transformation, and reinforcing the organisation and implementation. The content covers the positioning of higher continuing education and the optimisation of the form of education, the optimisation of the education and teaching process and the optimisation of teachers, the standardisation of the conditions for access to education and the improvement of the supervision and

evaluation mechanism, the construction of digital teaching resources and the construction of an online service management and monitoring platform, the strengthening of university leadership and the enhancement of financial security.

Concept of Sustainable Development

In 1987, the World Commission on Environment and Development (WCED), in its report 'Our Common Future', first introduced the concept of 'sustainable development', i.e., meeting the needs of the present without compromising the ability of future generations to meet their own needs. UNESCO's definition of Education for Sustainable Development (ESD) is that it enables individuals to make decisions and take action in a sustainable way to improve current and future environmental, economic and social well-being, while respecting cultural diversity. UNESCO's (official website) ESD aims to achieve the following core objectives: Raise Awareness: to develop an awareness of the importance of sustainable development and an understanding of global challenges such as climate change, poverty, inequality, etc. Developing competencies: helping learners to acquire the knowledge, skills, attitudes and values necessary to respond to and solve problems related to sustainable development. Promote behavioural change: to encourage and guide individuals and communities to take practical actions to achieve the goals of sustainable development.

It is widely recognised by scholars that ESD is more than just an environmental education and that it involves wider social, economic and cultural dimensions. Sterling (2001) states that ESD is an interdisciplinary educational process designed to motivate learners to recognise the interconnectedness of global issues and to develop an integrated capacity to solve complex problems.

Tilbury (2011) further emphasises that ESD not only develops knowledge but also focuses on action, critical thinking, ethical concepts and global citizenship.

Jickling & Wals, (2008) point out that the theoretical basis of ESD is constructivist learning theory: Piaget and Vygotsky's constructivist theory is widely used in ESD, which emphasises the internalisation of concepts of sustainable

development through learners' active construction of knowledge, collaborative learning and reflective practice.

Bowers (2002) points out that Critical Education Theory: Freire's critical pedagogy emphasises that education is an important means of promoting social change. From this perspective, ESD encourages students to think critically about existing social, economic and environmental systems and to explore more inclusive and just solutions.

Systems thinking theory: Sterling (2003) states that ESD should help learners to understand the interdependence of social, environmental and economic systems. Systems thinking is particularly important in ESD because sustainable development issues are often complex and cross-cutting, requiring a holistic and multidimensional mindset to understand and address.

Mogrenetal. (2019) Interdisciplinary Teaching and Learning in Practice Models of ESD: As sustainable development issues cut across multiple fields, many schools and universities have begun to promote interdisciplinary teaching and learning. For example, disciplines such as environmental science, economics, and sociology are merging together to address issues such as resource management, climate change, and social equity.

Brundiers & Wiek (2017) Participatory Learning: the ESD emphasises learners' active participation and community interaction. In recent years, many educational programmes have integrated the SDGs into their curricula through service learning, project learning, field trips, etc., so that students can apply what they have learnt in practice.

Global Citizenship Education: global citizenship education is an important component of ESD that aims to develop learners' global awareness, responsibility and respect for diverse cultures. O'FlahertyandLiddy (2018) emphasise that by exploring global issues, such as poverty, climate change, and human rights, educators can inspire a sense of global responsibility in their students.

The development history of ESD in China. It has gradually unfolded with the rise of global environmental education and sustainable development issues. At the

end of the 20th century, Environmental Education (EE) became an initial attempt to promote ESD. With the introduction of the concept of sustainable development, China gradually shifted from traditional EE to a broader ESD.

Early Stage (1990s): ESD in China began with the promotion of environmental education. in 1996, China released the Environmental Education Action Plan, which emphasised raising citizens' awareness of environmental protection through a variety of means, including school education and public awareness. During this period, the core content of ESD was mainly focused on environmental protection and resource conservation.

Mid-term development (2000s): In 2001, China issued the Guidelines on Education for Sustainable Development, which clearly set out the tasks of ESD. Since then, ESD has gradually expanded from school education to social education, especially in primary and secondary schools, where sustainable development-related content has been gradually added to the curriculum reform.

Deepening Stage (2010-present): With the promotion of the UN Decade of Education for Sustainable Development, China has further strengthened the promotion of ESD at all levels of education. 2015, the Ministry of Education issued the Green Campus Action Plan, which promotes the development of students' sustainable development literacy in all types of schools through the construction of curricula, campus cultures, and practical activities. to cultivate students' sustainable development literacy.

Theory and Practice of ESD in China. The theoretical foundations of ESD in China are similar to those around the world, emphasising systems thinking, interdisciplinary learning, critical thinking and global citizenship. Below are several key models of educational practice:

Zhao (2017) points out that green campus programmes have become an important practice model for ESD in China. Schools allow students to experience and practice the concept of sustainable development on campus by conducting environmental activities, building green school buildings, and promoting energy conservation and emission reduction. For example, many schools in Beijing and

Shanghai have integrated sustainable development into their daily educational life through activities such as 'rubbish classification' and 'energy saving and environmental protection promotion'.

Zhou (2019) points out that China's curriculum reform has incorporated ESD into several subjects, especially in the natural and social sciences curricula of primary and secondary schools, which are often taught in conjunction with themes such as environmental protection, energy conservation and emission reduction, and ecological civilisation. The advantage of this model is that students can gradually penetrate the knowledge system and practical skills of sustainable development in their daily learning.

Promotion of ESD in higher education: At the higher education level, many universities have set up sustainable development-related courses and research institutes, such as the School of Environment at Tsinghua University and the Centre for Global Sustainability Studies at Peking University. Through interdisciplinary research, international cooperation and practical projects, universities are gradually becoming the core force for ESD research and promotion in China.

Challenges facing ESD in China. Liu & Wang (2015) pointed out the insufficient implementation and execution of policies: although several policies have been issued at the national level to promote the development of ESD, there are regional differences in the actual implementation. In some less developed regions, due to insufficient resources and teachers, the implementation of ESD is slow and lacks systematic and coherent.

Zhang & Zhan (2018) emphasise the weak capacity building of teachers: ESD places high demands on teachers' professionalism and competence. Many teachers lack sufficient knowledge related to ESD, especially insufficient training in interdisciplinary teaching and systems thinking. Therefore, teacher training has become a key bottleneck in the development of ESD.

Wang (2020) points out the lack of public awareness and participation: despite the increased promotion of ESD in China, awareness and action on the concept of sustainable development at the social level are still not deep enough.

Many members of the public have a weak awareness of environmental issues and lack concrete practical ability and motivation, which limits the social impact of ESD.

Future development directions and suggestions. Li & Chen (2016) pointed out to strengthen policy support and financial input: the implementation of policies should be strengthened at the national and local levels, especially to provide more financial and resource support for less developed regions to ensure the equitable popularisation of ESD. Strengthen the participation of local governments to develop ESD implementation programmes that meet regional characteristics.

Zhou (2019) Deepen the teacher training system: enhance teachers' ESD literacy and establish a regular teacher training mechanism. Through co-operation with universities and research institutes, more ESD thematic training and seminars will be carried out to enhance teachers' interdisciplinary teaching ability and innovation.

UNESCO (2017) points out that international cooperation and experience sharing should be strengthened: sustainable development is a global issue, and China can share the successful experience of ESD by strengthening cooperation with international organisations and other countries, as well as learning from international advanced education models and practice methods.

Xu & Zhang (2019) pointed out to promote the participation of the whole society: public awareness of sustainable development should be further raised through various media, community activities and social organisations, and more social forces should be promoted to participate in the promotion of ESD. Through co-operation with enterprises and NGOs, an ESD promotion mechanism combining education and social practice should be formed.

Wang (2019) pointed out that China's adult higher education has developed rapidly since the reform and opening up, and its main features and development status: policy support: in recent years, China has introduced a series of policies to support the development of adult higher education. The Outline of the National Medium- and Long-Term Educational Reform and Development Plan (2010-2020) clearly states that a lifelong education system should be established and the

development of adult higher education should be promoted. These policy measures have laid the foundation for the sustainable development of adult higher education.

Liu&Huang (2018) pointed out diversified learning modes: with the development of information technology, the learning modes of adult higher education have become increasingly diversified. Forms such as network education and open universities enable adults to complete their qualification upgrading through distance learning and online education. This flexibility and convenience helps to expand the coverage and participation of adult higher education.

Zhang (2017) emphasises the close integration of academic enhancement and career development: adult higher education not only helps to improve one's academic level, but is also closely related to the needs of career development. Many adult learners enhance their competitiveness in the workplace through higher education, especially in the fast-changing labour market, and adult higher education has become an important pathway for re-employment and skills upgrading.

Sun (2020) identifies challenges to the sustainable development of adult higher education. There are obvious regional and social class differences: in economically developed areas, the development of adult higher education is relatively mature, while in rural and less developed areas, there are insufficient educational resources and fewer learning opportunities. Such imbalances have led to the widening of the gap between urban and rural areas and between regions in terms of qualification upgrading, affecting the fairness of education.

Li & Zhang (2019) pointed out the problem of quality control and standardisation: as the scale of adult higher education expands, the quality of education becomes an urgent issue. Some educational institutions are overly commercialised, the quality of education is uneven, and some learners obtain diplomas by simplifying the process or even buying degrees. This phenomenon undermines the credibility and social influence of adult higher education.

Chen (2016) points out that learners' time pressure and learning motivation are insufficient: many adult learners have difficulty in sustaining their commitment to learning due to the dual pressure of work and family. In addition, some adult higher

education programmes are too outdated and difficult to match the rapidly changing market demand, which leads to insufficient learning motivation of learners and difficulty in completing their studies.

Liu&Wang (2017) pointed out that the promotion of the concept of lifelong learning is insufficient: although lifelong learning is advocated at the national level, in practice, there is insufficient awareness of the importance of lifelong learning among all sectors of society. Many enterprises and individuals have limited support for higher education, and the learning atmosphere has not yet been fully formed.

Countermeasures to promote the sustainable development of adult higher education. Wang (2019) proposes to strengthen policy guidance and financial support: national and local governments should further strengthen policy support and financial investment in adult higher education, especially in less-developed areas, and provide more learning opportunities for rural and low-income groups. More adults should be encouraged to participate in higher education through policies such as increased scholarships, subsidies and tax incentives.

Li & Zhang (2019) proposed to improve the quality of education and regulate teaching standards: in order to improve the quality of adult higher education, the government and educational institutions should strengthen the supervision of educational institutions to ensure that the curriculum matches the market demand. A third-party assessment agency can be introduced to regularly assess the teaching quality of adult education and guarantee its standardisation and normalisation.

Liu&Huang (2018) pointed out that the innovative education mode optimises the learning experience: with the development of information technology, the teaching mode of adult higher education can be further innovated. Educational institutions can make use of big data, artificial intelligence and other technologies to optimize course design and personalised learning support, provide more flexible and diversified learning modes, and enhance learners' experience and satisfaction.

Zhang (2017) points out to promote the participation of enterprises to form a cooperative and win-win education model: the sustainable development of adult higher education requires the participation of enterprises. Enterprises should take

social responsibility and support their employees to improve their qualifications. Through the guidance of the government, we can establish a tripartite cooperation model of 'government, enterprise and school', combining the needs of enterprises, school education and government policies, and implement 'order-type' cultivation, so as to improve the degree of compatibility between academic education and the employment market.

Sun (2020) Strengthening the promotion of the concept of lifelong learning and social publicity: The State and society should strengthen the publicity of the concept of lifelong learning through a variety of channels to raise the importance of academic education for all. Organisations such as communities and trade unions can regularly organise relevant activities to help adults better understand and integrate into the lifelong learning system.

Zhang (2001) believes that the sustainable development of higher education plays an important role in optimising the structure of talents, maintaining political stability, promoting scientific and technological innovation, and fostering economic development; at the same time, the sustainable development of the economy and the society influences the educational direction, policy orientation, social environment, and economic guarantee of the sustainable development of higher education, and the two are mutually reinforcing and inseparable. The definition of this type of viewpoint has a very significant guiding significance for better coordinating the relationship between higher education and social development.

Fan Xiaowei (2022) points out that ESD is a difficult concept to define. He believes that ESD as an 'educational philosophy' is a concept that faces the current global development crisis and the dilemma of human development, and establishes a new direction for education and learning for all. ESD as an 'educational mindset' calls for a comprehensive change in the way people think, 'rethinking the interrelationships between people and how we interact with the ecosystems that support our lives'. ESD as an 'educational approach' employs innovative learner-centred pedagogical approaches that empower learners to become agents of education from early childhood to old age, and promotes learning and educational

transformation across educational institutions. ESD as an 'educational goal' is a solemn commitment made by the United Nations General Assembly to 'ensure that, by 2030, all who learn acquire the knowledge and skills needed for sustainable development'. ESD, as an 'educational transformation', adopts ESD methodologies (holistic approaches to education and learning), disseminates ESD concepts (inclusion, equity, justice, responsibility), trains ESD mindsets (systems thinking, critical thinking), and develops ESD competencies (cross-cutting competencies) in order to build sustainable development for all. competencies) to build a better future for all.

Yue Wei (2023) believes that in the context of the era of increasing global crises, ESD will become the core of education, adhere to the long-term vision of being responsible for the future of the planet, promote its own structural changes with technological innovations as an opportunity, and promote the realisation of on-the-ground implementation with the help of the normative promotion of multi-centred subjective modes of action.

Yue Wei and Wang Xiaoyun (2023) pointed out that Finland has made full use of natural resources to realise education for sustainable development in the environment, carried out education for sustainable development throughout the process of teachers' professional development, and actively developed tools and platforms for education for sustainable development in the offline world, so as to form an all-embracing, all-encompassing and all-process education for sustainable development. Drawing on Finland's experience, China should accelerate the improvement of top-level design to promote the construction of an ecological civilisation education system, carry out multi-thematic and multi-type outdoor education based on ecological civilisation education bases, incorporate ecological civilisation education into pre-service and in-service training for teachers, and vigorously promote the global development of ecological civilisation education in the context of information technology.

Education for global citizenship and education for sustainable development has a wide impact worldwide. The concept of the Anthropocene mainly refers to the current state of the world, where human activities are global and almost no region is

free from human influence. Compared with similar concepts, the Anthropocene concept includes many impacts caused by the overall actions of human beings in the current generation, and it is a comprehensive concept used to describe the relationship between human beings and the world.

Zhu Zhu and Yuan Dayong (2023) argue that the most important way in which the concept of ESD has proliferated in Chinese policy is through policy texts. Among the documents at the national level, the Guidelines for the Implementation of Environmental Education in Primary and Secondary Schools, issued in 2003, was the first time that a programme document on environmental education was issued in a systematic way in China, giving guidance on environmental education in terms of overall objectives, learning content, implementation suggestions, and evaluation. The Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020) proposes that emphasis be placed on education for sustainable development. The Twelfth Five-Year Plan for the Development of National Education Programme points out that education on resource conservation, environmental protection and sustainable development should be carried out. The Thirteenth Five-Year Plan for the Development of National Education Programmes states that education on ecological civilisation should be strengthened, the concept of ecological civilisation should be integrated into the whole process of education, and schools should be encouraged to develop curricula related to ecological civilisation, strengthen education on the national and world conditions of resources and the environment, and popularise laws and regulations on ecological civilisation, as well as scientific knowledge. The Overall Plan for Deepening Education Evaluation Reform in the New Era proposes to participate in the monitoring and evaluation of the implementation of the education goals of the United Nations 2030 Agenda for Sustainable Development, so as to manifest China's ideas and contribute to China's proposals.

Zhu Min (2023) pointed out that promoting education for sustainable development is an important matter for Chinese education at present. The National Programme for Medium-and Long-Term Educational Reform and Development (2010-

2020) explicitly states that 'importance should be attached to the development of education for sustainable development'. 'The 13th Five-Year Plan for Education Development calls for the development of ecological civilisation education and education for sustainable development. However, to date, China has not yet put forward a framework policy proposal for the implementation of ESD at the national level. Based on our understanding of China's existing practices and the specific requirements of the 14th Five-Year Plan to promote the implementation of ESD, and taking into account the insights of the ESD 2030 action framework, we propose specific recommendations in four areas: policy support, organisational leadership, teacher capacity and local action. Specific recommendations are put forward in four areas: policy support, organisational leadership, teacher capacity and local action. Policy support: Formulate various educational policies to further promote ESD; encourage non-educational government departments to embed ESD in their policies as appropriate. Organisational leadership: Establish national ESD networks. ESD in the social sector can be implemented by public interest organisations, but often requires the professional assistance of universities and research institutes. ESD in schools often requires interaction with communities and parents. The implementation of ESD in community education is often faced with a lack of specialised teachers, and there is a real need to seek the help of relevant professionals in universities. Therefore, it is recommended that the relevant national departments take the lead in forming a national working network on ESD to promote the exchange and cooperation of information, resources, human and material resources, and so on. Teachers' capacity: Increase ESD competency requirements in teacher education and training. According to UNESCO's recommendations, raising the awareness and capacity of the teacher community in ESD requires focusing on two aspects: firstly, adding an ESD competency module to pre-service teacher education and post-service teacher training, and embedding it in the subject and curriculum standards; and secondly, arousing the awareness and capacity of education institutions, such as vocational, higher education, adult and community education, and so on. The second is to raise the awareness of ESD among educators in vocational education, higher education,

adult and community education, etc., and develop their professional capacity to implement ESD. Local action: Accelerate the promotion of ESD action at the community level, which in China mostly refers to the geographic division of the administrative units of villages and neighbourhoods. As a form of social governance, community education promotes educational equity to a certain extent, but does not show better social effectiveness in general. Therefore, there is a need to strengthen the promotion of education for sustainable development in communities.

Zhang Li (2013) points out the inspiration of Singapore's ESD practice for China. The government needs to play the role of policy supply, further accelerate the top-level policy design and strategic layout, formulate and introduce the implementation programmes for ESD in schools at all levels and in all types of schools, clarify the specific goals and development direction of ESD, and emphasize the strategic position of ESD through laws, national initiatives and planning. Tapping into the resources around us and reforming teaching contents and methods, in order to make ESD more in line with the requirements of students' development, schools should focus on talent cultivation programmes and educational and teaching tasks, and clearly define the goals and positioning of ESD. Through school-based curriculum, quality classroom and other ways to explore the available resources, combined with the school characteristics and existing conditions to speed up the construction of the corresponding curriculum, improve the ESD curriculum system, and effectively carry out teaching. Meanwhile, the concept and content of ESD should be fully integrated with society, economy, environment, politics, culture and life. This requires the penetration of ESD concepts in humanities and social sciences, biology, engineering and technology, and other related disciplines to improve the previous situation of thin teaching content. Increase extracurricular activities to enrich students 'experience of sustainability. In addition to reforming the content and methods of school teaching and improving campus facilities, increasing extracurricular activities and practices is also an effective way to enhance students' sense of experience. Schools can create a series of extracurricular activities related to sustainable development, so as to encourage students to develop the daily habit of

saving resources and utilising waste in practice. Schools can also make full use of curriculum support activities, extra-curricular study tours and cross-curricular learning projects to enrich students' environmental experience and raise their awareness of sustainable development. The content of ESD should not only permeate formal education in schools, but also be reflected in all kinds of non-formal education and informal learning, so as to explore the construction of a localised ESD practice model, thereby expanding the depth and breadth of ESD.

Julia Zhang (2022) identifies global pathways for ESD. Firstly, national-level initiatives to implement the Roadmap should have or potentially have a national impact and should be based on SDG 4 (SDG 4); secondly, to ensure consistency of action at the national level, the Roadmap should be integrated into national SDG frameworks as well as education frameworks; thirdly, the Roadmap should be implemented through a variety of activities covering one or more priority areas of action and promoting multi-sectoral partnerships; fourthly, communication and advocacy should be strengthened to mobilise communities beyond SDG regions or communities. Thirdly, multisectoral partnerships will be enhanced through a variety of activities covering one or more priority areas for action; fourthly, communication on the SDGs will be strengthened to mobilise people outside the SDG regions or communities; and fifthly, the progress of national initiatives will be monitored and evaluated with a clear system of targets as far as possible. Knowledge and action, communication for action, firstly, by carrying out activities at the national level, and secondly, by UNESCO. Conducting assessments, tracking issues and responding appropriately, firstly by encouraging the consideration of the 17 SDGs at local, national and regional scales in the context of education as part of ESD activities, in order to identify relevant issues, trends and problems for further examination and discussion; secondly, by undertaking a major thematic study on ESD and the SDGs, focusing on the five key areas for action Thirdly, higher education and research institutions should play a key role in these types of research activities, especially in addressing the interlinkages and divergences between the different SDGs, and in focusing on emerging issues and trends in sustainable development and ESD-related

issues between countries, in order to find appropriate educational responses. Mobilizing resources for shared and common endeavours One is to further strengthen partnerships with other sectors, in particular the Culture and Science Sectors, to integrate the implementation of the Roadmap into relevant research programmes, such as in situ World Heritage sites, intangible cultural heritage, networks of biosphere reserves, geoparks, and sustainable development of Small Island Developing States (SIDS). Secondly, partnerships with other key players, such as multilateral financial institutions, national development agencies, the private sector, civil society and community actors. In developing partnerships, the use of innovative financing mechanisms will deserve special attention. Monitoring progress and focusing on priority areas of implementation, global Member State actions will include, inter alia, the development of national indicators to monitor the progress of national initiatives dedicated to the Roadmap and to assist in the development of meaningful programmes to monitor ESD outcomes; and the regular assessment of national progress on ESD, with a particular focus on surveys of priority areas. Include reporting on ESD as a key component of global and regional SDG monitoring (including SDG 4.7 monitoring).

Sustainable Development Strategy

LiYang&WangJie (2021) argued that the sustainable development of adult higher education provision usually refers to the comprehensive level of educational services provided by adult education institutions, including the quality of teaching content, teaching methods, faculty, learning resources, student support services and other aspects. The quality of schooling has a direct impact on the effectiveness of education and the satisfaction of learners. High-quality adult higher education should be able to meet the learning needs of learners and help them effectively improve their vocational skills and academic abilities.

WangXin & LiuJie (2019) pointed out that teacher quality is one of the core factors affecting the quality of schooling. High-quality teachers not only have rich professional knowledge, but also have good teaching ability and communication

skills. Teachers' academic qualifications, teaching experience, research ability, and their understanding and adaptability to adult education all directly affect the quality of education.

LiXiao & ZhangHua (2020) believe that teaching content and curriculum design are also important factors affecting the quality of education. The curriculum design of adult education needs to be combined with practical needs, focusing on practicality and cutting-edge. The course content should be combined with industry development trends and vocational skills requirements to ensure that learners can obtain practical career enhancement.

ChenYong (2018) pointed out that the richness of learning resources and the modernisation of teaching facilities also have a significant impact on the quality of schooling. This includes the quality of teaching materials, the functionality of online learning platforms, and the availability of learning tools. Modernised teaching facilities and resources can improve learning effect and enhance learners' learning experience.

LiYang & WangJie (2021) emphasised that student support services include academic guidance, career counselling, study support and psychological counselling. High-quality support services can help students better overcome difficulties in learning and enhance their motivation and success in learning.

WangLi (2019) argued that teaching evaluation is an important method of assessing the quality of schooling. It includes students' course feedback, examination results, and teaching quality assessment. Through regular teaching evaluation, problems in teaching can be found and solved in time to improve the quality of teaching.

ZhangMin (2020) pointed out that student satisfaction is one of the important indicators of school quality. Collecting students' feedback on teaching content, teaching methods, faculty, learning environment and other aspects through questionnaires and interviews can assess the quality of schooling.

LiuSan (2020) believes that the quality of adult higher education can also be assessed by the employment rate and career development of students. High-quality

adult education should be able to effectively enhance students' employability and career development opportunities.

ZhangMin (2020) points out that the imbalance of educational resources is one of the main challenges affecting the quality of schooling. Especially in remote areas, adult education institutions have a relative lack of infrastructure and teaching resources, making it difficult to provide high-quality education services.

ChenYong (2018) argues that insufficient training and professional development of teachers is also an important issue. Teachers need to

LiYang & WangJie (2021) pointed out that the degree of matching between the course content of adult higher education and the market demand also needs attention. Some of the courses may fail to keep pace with the development of the industry in a timely manner, resulting in a disconnect between the teaching content and the actual needs.

WangLi & ChenHao (2022) believe that technological innovation will have a positive impact on the quality of adult higher education. Technologies such as big data and artificial intelligence can help educational institutions better understand student needs and provide personalised learning support.

LiYang & WangJie (2021) believe that national policies will continue to support the development of adult higher education and promote the standardisation of the quality of provision. The policy support helps to improve the allocation efficiency of educational resources and promote educational equity.

LiuSan (2020) points out that the internationalisation and cooperation of adult higher education is also the future development direction. The quality of schooling can be further improved through the introduction of international advanced education concepts and teaching modes.

Zhang Lichun (1988) pointed out that the quality standard of adult higher education should be adhered to, the talent training programme should be revised, the teaching plan should be adjusted, and a scientific curriculum system and a perfect course structure should be established according to the requirements of schooling and the characteristics of adults. Strict management and standardisation of

schooling should be carried out to strengthen the management of teachers, improve the ability and level of the teaching team, and in terms of teaching management, all teaching aspects should be well controlled.

Smith (2020) summarised the main results of the research on the quality of education and concluded that improving the level of teachers and optimising educational resources are the keys to improving the quality of education.

Wu Qing'er (2024) points out that the quality path of adult higher education can be achieved through five aspects, firstly, reforming the teaching methods, including the aspects of using modern educational technology, introducing practical teaching, improving interactivity, and establishing a feedback mechanism; secondly, optimising the curriculum, including the aspects of combining the social needs and industry trends, balancing theoretical knowledge and practical skills, and providing personalised and diversified learning paths; thirdly Strengthening the development of the teaching force, including the aspects of upgrading teachers' professional knowledge and teaching skills, providing opportunities for continuous professional development, and establishing an effective teacher evaluation mechanism; Fourth, improving the management system, including the aspects of establishing a clear system of responsibility and authority, formulating a comprehensive teaching policy, and establishing an effective information management system; Fifth, enriching the learning resources, including expanding the resources of libraries and laboratories, and making use of digital technology .

Lai Cuifang (2024) pointed out that the teaching quality improvement path of adult higher education continuing sustainable development education mainly includes the following parts: the use of teaching content and form to adapt to the characteristics of the adult learning situation, in which the curriculum design of the teaching content is very critical, through the 'combination of science and practice' to deepen the students' understanding of the existing knowledge. Through the 'combination of science and practice', students can deepen their understanding of the existing knowledge and explain the complex and abstract theoretical knowledge with students' practical experience; strengthen the construction of teaching staff,

teachers are the key elements to improve the quality of teaching. Adult education colleges and universities need to build a stable teaching team based on their own schools, with the right profession, the right age, the right number, and the stable structure, so as to ensure the quality of continuing education and the normal achievement of the training objectives in accordance with the teaching plan; Innovative network teaching system construction, innovation through the construction of resources, the construction of the independent learning mechanism, and the innovation of the student evaluation system and other aspects.

Lv Wangshu, Wang Liqun and Zhang Xiaodong think (2023) that adult higher education should deepen the teaching reform. By reforming the syllabus, teaching process, subject content, curriculum system, practical teaching and other aspects, we can improve the quality of continuing education in a deep, multi-faceted and all-round way, highlight the characteristics of adult education, and promote the healthy development of the cause of adult higher degree continuing education.

Xie Lisan (1998) believes that controlling the scale of schooling is a need to improve the quality of education and enhance social benefits. The purpose of controlling the scale is not to limit the development of the correspondence education cause of party schools, but to better, healthier and sustainable to push this great cause to a new stage of development, and to cultivate more and better high-quality talents for the party and the country.

The theoretical foundations of adult education provide a framework for the development of schooling strategies.Knowles' (1980) theory of adult learning (Andragogy) emphasises the autonomy of the adult learner and the utilisation of experience.Mezirow's (1991) theory of transformational learning suggests that adult learning is not only about the accumulation of knowledge, but also involves a shift in the mode of thinking. These theories provide theoretical support for the development of learner-centred educational strategies.

Adult education delivery strategies can be categorised along a number of dimensions, including pedagogical approaches, curriculum design and assessment mechanisms, etc. Garrison & Vaughan's (2008) study suggests that adult education

should adopt flexible pedagogical approaches in order to adapt to the needs of adult learners. For example, combining online learning and face-to-face classroom instruction can effectively increase learner engagement. In addition, Kolb (1984) states that case-based instruction and project-oriented learning are also considered effective strategies for improving adult learning effect.

Biggs (1999) advocates that curriculum design should focus on the practical needs and career development goals of adult learners. Courses should be practical and relevant and able to solve practical problems. At the same time, the course should give full consideration to the time schedule of adult learners and provide flexible learning options.

Black & Wiliam (1998) usually use a combination of formative and summative assessment when evaluating the effectiveness of adult education programmes. Formative assessment provides timely feedback on learner progress and adjusts instructional strategies. Summative assessment, on the other hand, is used to evaluate the effectiveness of the entire educational programme and to guide future improvements.

Luo (2023) argues that there is an inherent logical connection between population development and the popularisation of higher education. The popularisation of higher education should not only meet the needs of economic and social development, but also adapt to the demographic development. China's population development trend in recent years has the following characteristics: the natural population growth rate continues to be low, and the population growth rate shows a downward trend; the age structure of the population shows an aging trend as it enters into the era of 'paedophilia'; the rural population continues to migrate, and urbanisation shows an accelerating trend. From the three aspects of population size and higher education popularisation level, population migration and higher education spatial layout, population forecast and higher education development planning, we discuss the internal logical relationship between population development and higher education development, and then put forward the strategy of interactive coupling between the popularisation of higher education and

population development: further expanding the scale of higher education to satisfy the rigid demand of the population growth of the popularisation of enrolment in higher education; Implementing diversified school-running strategies to meet the learning needs of students with different academic levels and career aspirations; reducing education costs, enhancing education equity and stimulating family fertility; and complementing urbanisation with the layout of colleges and universities to achieve scientific population mobility.

Fang Lianqian (2023) believes that in the analysis of quality regression strategy of adult higher education, it is pointed out that the curriculum system and curriculum focus are determined scientifically. To achieve the goal of talent cultivation, there must be a scientific and reasonable curriculum system and course content. Adult higher education aims at the cultivation of applied talents, so the curriculum system and course content of general colleges and universities with corresponding engineering-type, technology-type and skill-type talents as the cultivation goal should be used as reference. The problem of the number of courses, the biggest problem on the current curriculum is that it is almost the same as that of general colleges and universities, with a complete curriculum system and a large number of courses. Due to the large number of courses, the teaching time of each course is short, students are tired of coping with it, and the teaching effect is poor. Adult higher education should focus on students 'learning needs and talent cultivation objectives, taking into account students' learning ability and on-the-job learning characteristics, focusing on the necessary professional foundation courses, core professional courses, professional experimental and practical courses and the necessary ideological and political courses, deleting a large number of unrelated to the profession as well as the courses with little relevance, significantly reducing the number of courses, improving the pertinence of teaching and ensuring that the core professional courses and the important courses have sufficient teaching time. teaching time for core courses and important courses.

Li Wei (2023) pointed out that to improve the practical teaching curriculum academic continuing education should focus on the practical orientation and

problem-solving ability of adult undergraduate education. The number of practical courses should be appropriately increased and the proportion of practical courses should be raised in the curriculum. Increase the number of practical courses for the characteristics of academic continuing education, especially for cutting-edge majors such as computer, environmental engineering, biopharmaceuticals, etc. Understand the technical requirements of talents needed by the industry through the mode of university-enterprise collaboration, and improve the practicality of practical teaching by combining with the concrete problem orientation. In particular, it is necessary to learn advanced experience and methods from the Open University, to understand the structure and ideas of actual work problems or project products through the establishment of additional practice bases, the introduction of enterprise lecture halls, and the expansion of off-campus practice space, so as to help students exercise their core competitiveness in the workplace, and to enhance the requirements of specialisation of the school's cultivation objectives while serving the characteristics of the vocationalization of the students.

Feng Xiuying (2015) pointed out that the development strategy of adult non-degree education in colleges and universities is categorised management, and it is necessary to increase the investment in adult higher education faculty to ensure the healthy and sustainable development of adult higher education.

Xu Donghong (2019) pointed out that the establishment of a high-quality professional teaching and management team and the scientific and effective implementation of management services for students are the key to ensuring the quality of adult higher continuing education. To improve the quality of education and teaching, the teaching level of the teaching team is the core factor. At the same time, teaching services focus on practical teaching.

Yang Lijun Zhang Liang (2015) pointed out that the teaching reform to build a blended teaching model will dominate the higher degree of continuing education The rapid development of information technology has given rise to profound changes in the field of education, online learning, mobile learning, ubiquitous learning, MOOCs, O2O and other learning methods based on the Internet and

multimedia technology are emerging in an endless stream, which significantly expands the reach of education, promotes the sharing of quality educational resources and The efficiency of learning has been improved. Continuing education for higher education is mainly in the form of online education and takes in-service practitioners as the education target, and determined by these two factors, the blended teaching mode that can integrate the advantages of online and offline learning will become the dominant teaching mode.

Xing Weirong (2013) believes that the creation of universities with local characteristics must be based on the actual situation of the place and the school, calmly analyse its own functional positioning and internal rules; rely on the school's background, strengthen the recognition and condensation of the university characteristics; based on its own traditions, 'cultural self-consciousness'; and make full use of all the main stakeholders to form a synergy, which is a must for the creation of universities with local characteristics. the way to create a university with local characteristics.

Guo Xiaomin (2012) pointed out that the practice of internationalization in Chinese universities still has some problems that need to be solved in terms of concept, thinking and connotation. It is necessary to understand the significance of internationalization from a strategic height, and the strategy is to change the concept, strengthen strategic research, enhance the strength of school running, give full play to the comparative advantages, enrich the connotation of school running, and seize the historical opportunity of the leapfrog development of Chinese colleges and universities.

Wei Yiyi (2020) pointed out that the core elements and strategies of university education based on the cultivation of first-class talents are to highlight the connotation development, adhere to the social demand orientation of talent cultivation, improve the quality of teaching and learning, and run a special character.

Zhang Weiyuan (2011) pointed out that the status, concept and strategy of China's open university is to design and develop a powerful, one-stop service network platform system, to the third generation of network teaching and other aspects.

The theoretical underpinnings of Barney's (1991) SWOT analysis method are largely derived from organisational behaviour and strategic management theory. At the heart of the method is the identification of important factors in an organisation's internal and external environments and the incorporation of these factors into a framework for strategic decision-making (Pickton & Wright, 1998). Theoretically, SWOT analysis integrates the assessment of internal resources and capabilities (e.g. strengths and weaknesses) with the analysis of external market opportunities and competitive threats (Valentin, 2001). The roots of this methodology derive from the Resource Based View (RBV), which emphasises the contribution of resource heterogeneity and uniqueness to an organisation's competitive advantage.

(Robbins & Judge (2019) Organizational Behavior (OB) is the systematic study of individuals, groups, and organisational structures, with the goal of improving organisational efficiency and effectiveness.The foundations of OB theory can be traced back to psychology, sociology, and anthropology, and involve aspects of motivation, leadership, team dynamics, and organisational culture. OB focuses on the nuances of individual behaviours and the impact of these behaviours on overall organisational effectiveness. For example, Herzberg's two-factor theory and McGregor's X-Y theory provide important perspectives for understanding employee motivation.

Colquitt, LePine, & Wesson (2019) Organisational Behaviour also emphasises the impact of emotions, work attitudes, job satisfaction and leadership on organisational effectiveness. Modern OB research not only focuses on traditional management issues, but also addresses more complex phenomena such as social responsibility within organisations and organisational citizenship behaviour.

Barney (1991) Strategic Management (SM) focuses on how firms formulate, implement, and adapt strategies in competitive environments to achieve long-term competitive advantage. Traditional strategic management theories such as Porter's Five Forces Model and the Resource Based View (RBV) provide the basic framework for understanding market competition and resource allocation.

Wernerfelt's (1984) five forces model helps organisations to make more effective choices in developing strategies by assessing the competitive structure within an industry. The resource base view, on the other hand, emphasises the unique resources and capabilities within a firm as the key to its competitive advantage.

Grant (1996) The central question of strategic management theory is how to maintain and enhance the competitiveness of an organisation through strategic adjustments in a dynamic environment. In recent years, strategic management research has shifted from a traditional competition-oriented perspective to a greater focus on corporate social responsibility and sustainable development (Wheelen, Hunger, Hoffman, & Bamford, 2017). This has led strategic management to go beyond maximising economic performance to encompass consideration of social and environmental impacts.

Hrebiniak, (2006) Organisational behaviour intersects with strategic management theory in a number of ways. Firstly, Organisational Behaviour provides an important behavioural basis for strategy implementation through the in-depth study of individual and group behaviours. Schein, (2010) The success of strategy depends not only on the strategic direction set by the top management of an organisation, but also on the understanding, support and implementation by middle managers and employees. Therefore, understanding factors such as organisational culture, leadership and motivation is key to ensuring effective strategy execution. Secondly, organisational behaviour provides theoretical support for change management in strategic management. In rapidly changing market environments, firms often need to adapt to new situations through organisational change. Kotter's model of change management (1996) and Lewin's theory of change (1951) provide clear frameworks for the change

process in strategic management, helping organisations to successfully implement strategic transformation (Kotter, 1996; Lewin, 1951). The success of change management often relies on leadership, adaptation of organisational culture, and employee acceptance (Armenakis, Harris, & Mossholder, 1993).

Pfeffer (1997) Although Organisational Behaviour and Strategic Management Theory each provide a wealth of insights, they also have certain limitations. Organisational Behaviour focuses primarily on the behavioural patterns of individuals and groups and may sometimes overlook the impact of broader macro-environmental and economic factors on organisations.

Hitt et al. (2016) Strategic management theory, on the other hand, focuses too much on organisational-level competition and resource issues, and tends to overlook the impact of micro factors such as internal interpersonal relationships and employee psychology, which are crucial in actual strategy implementation.

Figure 2.1 SWOT analysis

Humphrey (2005) SWOT analysis was first proposed by Albert S. Humphrey, a professor at Harvard Business School, in the 1960s as a strategic planning tool to help organisations conduct a comprehensive analysis of their internal and external environments by evaluating their strengths, weaknesses, opportunities and threats. The origins of SWOT analysis can be traced back to the 1960s, when a team led by Harvard Business School professor Albert S. Humphrey conducted a study at the

Stanford Research Institute (SRI International) called the Long Range Planning Program (LRP). Long Range Planning Project' at Stanford Research Institute (SRI International). The main goal of this research was to develop an effective strategic planning tool for US companies at the time to help them cope with the changing business environment and competitive marketplace (Humphrey, 2005). The study, which included US Fortune 500 companies, aimed to provide executives with a more systematic way of analysing the strengths and weaknesses within their companies, as well as the opportunities and threats from the external environment. Against this backdrop, Humphrey proposed the SWOT analysis methodology, which starts from both internal and external dimensions and comprehensively assesses the organisation's internal and external environmental factors. The flexibility and practicality of this analytical framework has quickly made it a widely used tool in strategic management and business decision-making.

The core components of SWOT analysis: Strengths: Favourable factors that are internal to the organisation that can give it a competitive advantage. For example, a strong brand, advanced technology, excellent management team or unique resources. The key to identifying strengths is to understand what advantages a company has over other companies in the competition. Weaknesses: Limitations or deficiencies within a business that may affect its competitiveness. Common weaknesses include insufficient resources, poor management, limited market presence or weak innovation. The assessment of disadvantages requires the enterprise to recognise where deficiencies may be slowing down its growth. Opportunities: Factors in the external environment that may have a positive impact on the business. Opportunities may arise from changes in market demand, policy adjustments, the emergence of new technologies, or the mistakes of competitors. By seizing these opportunities, enterprises can enhance their market position. Threats: Factors in the external environment that may have a negative impact on the business, such as increased competition in the market, changes in customer preferences, economic fluctuations or regulatory changes. The process of identifying

threats requires firms to be able to anticipate changes in the external environment and develop strategies to deal with them.

Humphrey (2005) emphasises that the core of SWOT analysis is to help firms assess their strategic environment from a holistic perspective and develop a sound strategic plan by integrating internal and external factors. By identifying these four elements, firms are able to make more informed decisions based on leveraging their strengths, compensating for weaknesses, exploiting opportunities and avoiding threats.

Practical application of SWOT analysis: since it was proposed in the 1960s, SWOT analysis has gradually become a common tool in many fields such as strategic management, marketing, project management and so on. Its application value is reflected in the following aspects:Kotler & Keller, (2016) Corporate strategic planning:SWOT analysis helps companies start from internal and external factors to assess their competitive position in the industry. (Through a comprehensive SWOT analysis, companies are able to strategically plan for future growth, prioritise resource allocation, and identify areas that need to be upgraded). Innovation and product development: SWOT analysis can help companies identify market opportunities and formulate product development strategies. For example, by analysing changes in market demand, firms can identify potential opportunities and respond to market demand through technological innovation or product differentiation strategies. Pickton & Wright (1998) Marketing strategy: Firms can use SWOT analysis to assess their competitive position in a particular market, to help decide whether to enter or exit a particular market, and to adjust their market opportunities and threats based on positioning and promotion strategies for a product or service.

Andrews (1971) states that the theoretical basis of the tool is derived from early research in strategic management, emphasising the combination of environmental scanning and resource analysis to support firms in formulating growth strategies.

SWOT analysis has been widely used in a number of fields, including corporate strategic planning, marketing, project management and public policy

making: Corporate strategic planning: In the field of corporate strategic management, SWOT is widely used to assess a company's position in the market and its future direction. For example, Hill and Westbrook (1997) point out in their study that SWOT can help companies to fully understand the impact of internal resources and external environment, and develop suitable competitive strategies. Marketing: in marketing, SWOT is used to analyse market opportunities and competitive environments to help firms with brand positioning, product strategy development and marketing. According to Kotler and Keller (2016), by identifying market opportunities and threats, firms are able to adjust their marketing strategies in a more targeted manner to maintain a competitive advantage in the market. Project management: in project management, SWOT analysis is used to assess the risks and potentials of a project and to provide decision support for project planning and execution. Dyson (2004) studied that SWOT can provide a global perspective in project evaluation and help project managers to identify potential risk factors. Public Policy and Social Development: SWOT analysis has also been applied in social sciences and public policy making, particularly in the areas of evaluating government projects, urban planning and social development. Pickton and Wright (1998) point out that SWOT can help government departments to identify key challenges and potential opportunities in policy implementation, and to promote scientific and rational policy making.

Limitations of SWOT analysis Although SWOT analysis tools are widely used in strategic planning, there are certain limitations. Subjectivity: as SWOT analysis relies on the analyst's subjective judgement of the environment, the experience and background of different analysts can lead to variations in the results, thus affecting the accuracy of the decision (Hill & Westbrook, 1997). This subjectivity may lead to unclear perceptions or inaccurate assessments of strengths and weaknesses. Static analysis: SWOT analysis has been criticised for being too static to adequately reflect rapidly changing market conditions or technological advances. For example, Coman and Ronald (2009) state that the static nature of SWOT may make it difficult for firms to adapt to a dynamic competitive environment. Lack of quantitative analysis: SWOT

is usually regarded as a qualitative analysis tool and lacks the support of quantitative assessment. Houben, Lenie and Vanhoof (1999) suggested in their study that qualitative analysis of SWOT lacks the precise assessment indexes to allow quantitative comparisons of different strategic options. In order to overcome the above limitations, in recent years, scholars have proposed some directions for improvement: Combined with other tools: In recent years, SWOT analysis is often used in combination with other analytical tools (e.g., PEST analysis, Porter's Five Forces Model) to make up for the shortcomings of a single tool. Houben et al. (1999) pointed out that combining with the PEST analysis can further enrich the understanding of the external environment and help companies to grasp market changes more comprehensively. Quantitative analysis: In order to enhance the scientific and operability of SWOT analysis, scholars have proposed quantitative SWOT analysis methods. For example, the Ansoff matrix combined with quantitative SWOT analysis can help enterprises make more accurate assessments when formulating strategies (Morrison & Wilson, 1996). Dynamic analysis model: In order to cope with the rapidly changing market environment, Coman and Ronald (2009) proposed a dynamic SWOT analysis model, which advocates that enterprises should continuously update their understanding of the internal and external environments in the process of strategy formulation, and adjust their strategies in a timely manner.

Related Research

Zhu, M., & Gao, C.-M. (2014) suggests that the global development of lifelong education, lifelong learning and learning society retrospectively shows that these concepts have become an important part of the modern education system and are increasingly valued with the advancement of science and technology and the advancement of globalization. Looking ahead, they will continue to lead the direction of educational development and promote the transformation of society into a more open, inclusive and intelligent learning society.

Cha, S. Y., Zhang, Y. M., & Zhao, D. (2023) proposed that with the deepening of the technological revolution and globalization, the concept of lifelong learning innovates the learning mode of future talents, emphasizes the wholeness and whole process of education and learning, and requires learners to pay attention to the articulation of the various stages of learning in their lives; the cultivation of future talents under the concept should pay attention to the younger age groups, focus on the design of innovative learning tools, the research of innovative learning modes, and the practice of interdisciplinary learning activities in order to cultivate future talents with the concept of lifelong learning. Under this concept, the training of future talents should focus on younger age groups and emphasize the design of innovative learning tools, the research of innovative learning modes and the practice of interdisciplinary learning activities, so as to cultivate future talents with the concept of lifelong learning.

Yang, Hui Yang, Jiaqi Fan, & Bingnan Yu. (2024) emphasized that under the guidance of the concept of lifelong learning, the reform of adult education teaching should pay attention to the diversity of adult learners, and strengthen learning motivation through the deep integration of modern technology to enhance the teaching interaction, improve the learning experience, and promote independent learning, and at the same time, set up a comprehensive assessment system to ensure the quality of teaching and to optimize the teaching objectives, so as to meet the diversified and personalized learning needs of adult learners and promote the innovative development of adult education. It also promotes the innovative development of adult education.

Xu, Ying. (2024). Under the concept of lifelong learning, adult higher education is faced with many challenges, which need to be explored in depth in five aspects: updating the concept of education, establishing a management system, strengthening quality assessment, promoting the reform of the "Three Teachings" (i.e., the reform of teachers, teaching materials and teaching methods) and clarifying the responsibilities of the government, so that the reform of adult higher education can be deepened, the quality of education can be improved, and the needs of adult

learners in the information age and knowledge economy era can be met better. In order to deepen the reform of adult higher education, improve the quality of education, better meet the learning needs of adult learners in the information age and knowledge economy, and promote the construction of a learning society.

Cui, Luyao. (2022). It is believed that the concept of lifelong learning has put forward new requirements for adult higher education in colleges and universities, and in order to better serve lifelong learning for all people and build a learning society, adult higher education needs to provide institutional safeguards, deepen reforms, and incorporate the concept of lifelong learning in many aspects such as educational philosophy, professional curriculum, evaluation mode, and faculty, so as to promote the transformation of adult higher education from episodic development to connotative development, in order to give full play to its role and value in the system of lifelong education. The role and value of adult higher education in the lifelong education system is fully utilized.

Li Lin. (2022) argues that the current higher-education continuing education exists problems such as the solidification of the education model, the lack of precise resources, the utilitarian education process and the insufficient power of the supply of online course resources. Empowering higher-education continuing education through big data can develop educational alliances, establish big data thinking, deeply explore the value of big data, and construct learner profiles, thus helping to solve the contradiction between supply and demand imbalance in higher-education continuing education, cracking the problem of education quality improvement, and accelerating the pace of curriculum design reform to promote higher-education continuing education to develop in the direction of higher quality and more personalization.

Practical value is a key factor in the design of adult degree programs for program success. According to Knowles' (1980) theory of adult learning (Andragogy), adult learners usually pay more attention to the relevance of the learning content to their real lives and careers. Therefore, course design should emphasize the following aspects:

LI YAN (2024) pointed out that in the fast-changing market environment, professionals and job seekers need to continuously improve themselves through lifelong learning to remain competitive. He emphasized that integrating lifelong learning strategies into career planning teaching can help students build sustainable careers. Specifically, Li Yan suggests improving the current teaching methods of career planning, incorporating lifelong learning strategies, and giving full play to the advantages of combining the two to help students develop effective career plans. In addition, he pointed out that lifelong learning can help solve the contradiction between scientific and technological innovation and knowledge aging, and help individuals maintain competitiveness in the ever-changing career environment. He also mentioned that lifelong learning can resolve the contradiction between organizational restructuring and career advancement, prompting individuals to adapt to new career challenges and achieve sustainable career development through continuous learning. Overall, Li Yan's main point is that by integrating lifelong learning strategies into career planning instruction, individuals can remain competitive in a rapidly changing market environment and build sustainable careers.

Wang Lizhong. (2024) pointed out that with the rapid development and popularization of Internet technology, Massive Online Open Courses (MOOCs) have gradually become a popular form of education, which provides new development opportunities for adult higher education. The article discusses the feasibility and effectiveness of adult higher education based on massive online open courses, analyzes its unique advantages, such as the richness of resources, the flexibility of learning, and the wide range of audiences, etc., and at the same time points out the possible problems, such as the insufficiency of learning support services, and the challenge of learning self-regulation. To solve these problems, the article puts forward corresponding solutions and suggestions, aiming to promote the development of adult higher education, improve the popularity of education and meet the diversified learning needs of adult learners through the effective use of massive online open courses.

By visualizing and analyzing the literature related to lifelong learning in the CNKI database from 2007-2019, Chenbing Wu (2020) found that the research in this field continues to grow and focuses on the "Internet + Continuing Education", the lifelong learning policies of the EU and Japan, mobile learning, self-directed education, learning cities and community education, and other The research emphasizes the importance of lifelong learning in building a learning society. The study emphasizes the importance of lifelong learning in building a learning society and suggests deepening the research on "Internet + Lifelong Learning", promoting integrated urban and rural learning, drawing on international experience and strengthening localized research to enhance the effectiveness of China's lifelong learning system.

Stella Vosniadu, Michael Lawson and Helen Stephenson (2021), in their book Teaching Students How to Learn: Preparing for Lifelong Learning, discuss strategies for developing students' lifelong learning abilities. They emphasize that Self-Regulated Learning (SRL) is key, asserting that educators should help students develop self-regulation so that they can set learning goals, monitor progress, and adapt strategies to different learning situations. In addition, the authors recommend that teachers incorporate SRL theories into their instruction, create supportive learning environments, and encourage students to reflect and learn independently, thereby laying the foundation for lifelong learning.

Merriam & Bierema (2014) point out the breadth of content: breadth in curriculum design is then reflected in covering multiple related topics to help learners build a comprehensive knowledge structure. Adult learners particularly value the integration of interdisciplinary content; for example, in vocational education, content design that combines economics with management and marketing with technology can better support the diverse needs of learners in their future careers.

Curricula for adult qualifications must find the right balance between theory and practice. Theoretical programmes help learners to build a basic knowledge structure, while practical programmes enhance their ability to apply their skills.

Jarvis (2010) suggests the design of theoretical courses: adult learners' needs for theoretical courses are reflected in how abstract theoretical concepts are integrated with real problems in practice. Theoretical course design should make theoretical knowledge more tangible through example analysis and case studies. For example, theories in social science programmes should be interpreted through real-life cases to enhance learners' understanding and application of theories.

Garrison & Vaughan (2008) suggest the design of practical courses: practical courses are particularly important in adult education, especially in more vocationally orientated areas. (The literature suggests that practical courses can be delivered through simulated work scenarios, project-based learning, field trips, etc.). For example, in engineering courses, learners can be helped to better apply the theories learnt to practical work by providing real work projects or internships with companies.

The design behind adult higher education programmes relies on the support of several adult learning theories, including Knowles' Principles of Adult Learning (1980) and Merriam's Self-Directed Learning Theory (2001), which emphasise the autonomy of the adult learner in learning, the driving force of motivation, and the practical relevance of the content of learning.

Adult educator Lindeman (1926) believes that 'experience' occupies an important position in adult learning, and thus puts forward a series of learning modes such as problem-based learning, participatory learning, contextualised learning, cooperative learning, and so on, and in the process of teaching and learning practice, makes use of the existing experience of adult learners to carry out the curriculum design of adult education to meet the personalised needs of adult students. curriculum design to meet adult students' individualised learning needs and motivation.

Hu Minghua (2015) points out that reforming the curriculum and optimising the teaching content. Curriculum reform should be based on the premise of adapting to the overall goal of economic construction and social development and the requirements of vocational quality and skills of each position, and should be based

on the reality of social life and production of enterprises, and should clearly define the cultivation objectives of each level and each type of talents, and should be guided by the cultivation objectives of the curriculum. Strengthen the construction of local courses and speciality courses; pay attention to the hierarchical nature of the curriculum; strengthen the links between courses, between courses and learners, between realistic courses and forward-looking courses, and between skill courses and theoretical courses; set up and select course modules according to the cultivation objectives; establish a platform for the management of learning areas, courses and modular courses; and enhance the flexibility and practicability of the curriculum.

Yin, Changhong, Kaiyun Ye, & Yibing Zhang. (2024) noted that a new model of university curriculum system design is proposed from the perspective of knowledge construction, emphasizing the importance of facilitating knowledge creation through interaction and socialization among learners and their learning communities rather than focusing solely on knowledge acquisition or participation, and suggesting that such a model may involve innovative features such as networking, modularization, and dynamism to meet the needs of the digital age.

Ma Xinying (2023) points out that the curriculum design should be strengthened, and in the setting of teaching objectives and the arrangement of teaching activities, it should reflect hierarchy and individualisation to meet the different needs of students of different ages and genders; in terms of the curriculum content, it should accurately refine the practical knowledge in the teaching materials, focus on the cultivation of vocational competence, and appropriately increase the new knowledge and general knowledge, so as to enhance the working situation and the subjective value of the adult students; in terms of the teaching method. Change the way of classroom control by teachers and passive learning by students, and give students more opportunities to make choices under the premise of giving full play to the role of teachers' guidance; in the form of teaching organisation, avoid the use of a single form of teaching organisation for a long period of time, and in the event of completing the face-to-face teaching hours required by the Ministry of Education, the remaining hours of the class can provide students with the opportunity to choose

their own form of learning, such as face-to-face teaching opportunities, mobile learning, online learning by forming study groups, etc., to meet the needs of young and single students who expect to increase face-to-face teaching, but also to give full play to the advantages of ubiquitous learning to meet the needs of learners in enterprises and organisations to learn independently and individually at any time and any place.

Wu Qing'er (2024) points out that the curriculum should be optimised to provide personalised and diversified learning paths; different students have different learning needs and interests, so the curriculum should provide a variety of choices to meet diversified needs. For example, different specialisations are set up to provide courses at different levels and depths; elective courses can also be provided to allow students to make choices according to their interests and goals.

Teachers of adult qualifications should have rich practical experience and teaching ability. Merriam and Brockett (2007) pointed out that the needs of adult learners are often different from those of traditional student groups, and they expect teachers to provide instruction that combines theory and practice. Teachers should design targeted course content based on students' occupational backgrounds and life experiences to enhance learning. Boud and Hager (2012) further point out that the professional development of the faculty is crucial to enhancing the quality of teaching in adult education. Teachers not only need to possess deep academic skills, but also special skills in instructing adult learners, such as the ability to encourage students to engage in self-reflection and self-directed learning.

Effective teaching delivery also depends on sound organisation and management. Jarvis (2010) emphasises that the organisation and management of adult learning needs to be more flexible to accommodate learners' work and life schedules. For example, course schedules should try to avoid conflicts with adult learners' work, and the integration of online and offline teaching formats should be coordinated through rational management. Knowles (1984) points out that adult learners have a high demand for autonomy in the learning environment, and that

educational institutions should provide personalised support for learners through rational organisation and management.

In terms of teaching methods, Boud and Molloy (2013) pointed out that traditional indoctrination methods have limited effectiveness in adult education. On the contrary, interactive, problem-based learning (PBL) is more likely to stimulate adult learners' sense of engagement and motivation. For example, teachers can guide students to apply theoretical knowledge to real-world problem solving through case analyses, project-based learning, etc. Brookfield (1995) emphasised that adult learners are more inclined to task-oriented learning, and that they want to be able to rapidly improve their ability to solve real-world problems through learning.

Garrison and Vaughan (2008) proposed blended learning (blended learning) as a suitable teaching method for adult higher education. It combines the advantages of online and offline teaching, which not only provides flexible learning arrangements, but also provides students with rich learning resources through online platforms. This teaching method can help adult learners better balance work, study and life.

In adult learning, interactive discussion is an effective means to enhance student engagement and promote knowledge construction Brookfield (1987) argues that adult learners can gain different perspectives and experiences in mutual exchanges through participation in group discussions, case studies, and other forms of communication, thus deepening their understanding of the learning content. Interactive discussions help promote students' critical thinking skills and can enhance the depth and breadth of learning. In addition, Merriam and Caffarella (1999) emphasise that teachers should play the role of facilitator in interactive discussions, helping learners to explore relevant topics in depth through open-ended questions and guided feedback, thereby enhancing learning.

Shi, Mengran, Zhang, Siliang, Liu, Qian, & Wang, Yun. (2024) argued that in the context of the new era of education evaluation reform emphasizing comprehensive education, strengthening the construction of Civics teachers in adult colleges and universities is of great significance. Adult colleges and universities have problems such as weak strength and insufficient attention in the construction of Civic and

Political Teachers. Therefore, the article argues that clarifying the professional characteristics of Civics teachers in adult colleges and universities, analyzing the multidimensional dilemmas they face, and exploring effective paths of team building are crucial to improving the quality of Civics education and perfecting the function of educating people in adult colleges and universities. The importance of teachers in this process is emphasized, highlighting their key role in guiding students to establish correct values and enhance their moral qualities.

Song, Chao, & Fu, Jiaqing. (2024) pointed out that in view of the lagging problem of traditional academic burnout intervention for adult education college students, new media and new technologies are used to explore the new ideas of accurate identification and intervention of academic burnout problems of adult education college students in the digital-driven perspective, and big data technology, group portrait technology, and clustering analysis are used to construct the portrait of academic burnout of adult education college students and put forward the corresponding categorized help measures and intervention It also proposes the corresponding classification support measures and intervention system.

Zhang, Lei, Jiang, & Chen, Tao. (2024). Under the background of artificial intelligence era, adult higher education teaching should make full use of artificial intelligence technology, and strive to realize the long-lasting education content, panoramic education evaluation, modernization of teacher training and personalization of teaching mode, so as to promote the change of traditional teaching methods, meet different learning needs, promote the balanced allocation of educational resources, and inject new kinetic energy for the development of adult higher education teaching.

Zhang Xiuyu. (2024) argues that under the guidance of the concept of lifelong learning, non-academic education, as an important way to meet people's diversified learning needs and enhance personal competitiveness, should focus on the stimulation and maintenance of learning motivation in the construction of its quality assurance system. The article argues that by building a perfect quality assurance system for non-academic education, including optimizing teaching conditions,

strengthening the construction of teaching staff, and implementing effective quality control measures, a better learning environment can be created for students to stimulate their intrinsic motivation to learn, so as to promote the sustained and healthy development of non-academic education, and to satisfy people's learning needs for new knowledge and new skills at different stages and in different fields.

Hu Minghua (2015) pointed out that reforming teaching methods and means and promoting teaching innovation. Formulate a reasonable teaching plan and syllabus. The teaching plan and syllabus should fully reflect the different professional characteristics of adult education to meet the needs of adult learning. To improve the adults' ability to analyze and solve problems as the focus of the syllabus to ensure that the teaching plan and syllabus not only meet the dual needs of society and the market, but also to adapt to the characteristics of adult education. Change the traditional blackboard and chalk teaching methods using digital information technology and the integration of the traditional classroom to make full use of modern teaching technology to make the teaching process more intuitive, image and interesting so that the students experience in the interest of learning in learning to experience interest. So that the teachers from the simple mechanical labor to free more energy on the teaching process planning, organization and monitoring. In turn, the use of modern information technology means of evaluation, summarization and information feedback to the students.

Knowles' (1980) theory of adult learning (Andragogy) suggests that adult learners are more autonomous and goal-oriented, their motivation to learn is usually closely related to career advancement and personal development, and that attitudes toward learning in adult academic education are one of the key factors affecting learning effectiveness.

Brookfield (1986) further pointed out that adult learners tend to regulate their learning attitudes according to their personal needs and have a stronger sense of independent learning. Therefore, curriculum design needs to focus on stimulating learners' intrinsic motivation to maintain a positive attitude towards learning in order to facilitate an effective learning process.

Effective learning methods are crucial to adult higher education. The self-directed learning theory (self-directed learning) proposed by Tough (1979) emphasises that adult learners tend to achieve their learning goals by designing their own learning plans and selecting learning resources. Research has shown that adult learners tend to prefer practice-oriented learning methods, especially those content that can be integrated with real work.

Wang, Baoqin, & Wang, Hui. (2016) Adult higher education needs to innovate in talent cultivation mode to meet the needs of modern society. In view of the characteristics of adult learners' limited time, the article emphasizes that the traditional teaching mode should be reformed by drawing on the successful experiences of developed countries. Among them, in terms of learning methods, the article advocates the use of distance education and advanced information technology and multimedia technology to carry out online teaching and provide adult learners with flexible and diversified learning methods. Schools can set up learning websites and upload relevant teaching resources for learners to study independently in their spare time. In addition, the article also points out that most of the adult learners already have certain working experience and social experience, so the teaching should focus on the expansion of their existing knowledge structure and the enhancement of practical application ability to meet their deep learning needs. These ideas are of great significance in promoting the development of adult higher education and improving the learning effect of adult learners.

Nguyen Di Nhu. (2014) pointed out that in the face of the informationization, networking and digitalization era, adult higher education learners' learning modes present diversified choices. Therefore, enhancing classroom vitality and creating "quality classroom" have become the transformation needs and direction of adult higher education institutions. A "quality classroom" is a form of teaching organization that promotes learners to achieve the best learning results through high-quality teaching support services. Focusing on the learning method, the article proposes that the construction of "quality classroom" needs to start from the construction of a complex faculty, the development of refined curriculum design, the creation of

"online and offline" diversified classrooms, the construction of two-way interactive intelligent learning management platform, the provision of high-quality video and text teaching resources, and so on, in order to achieve the best learning results. In order to satisfy the diversified choices of learners' learning methods, enhance the learning effectiveness and ensure the quality of adult higher education, we have started from the aspects of building compound teaching staff, launching fine course design, creating "online and offline" diversified classroom, building two-way interactive intelligent learning management platform, providing high-quality video and text teaching resources.

Gong, L., & Huang, T.. (2014) In adult higher education, we should actively explore and practice the "independent learning, multi-dimensional interaction" teaching mode. This model emphasizes the independent learning of students as the center, through the modern network environment, providing rich and diverse teaching resources, so that adult learners can carry out flexible and independent learning according to their own actual situation and time schedule. The authors believe that independent learning is not only a key way for adult learners to self-improvement, but also an effective means to solve the work-study conflict in adult higher education. Through the online platform, learners can access teaching resources anytime and anywhere, and have multi-dimensional interactive communication with teachers and classmates, so as to enhance the learning effect and improve the quality of learning.

Yang Chengli. (2016) argues that the teaching mode of adult higher education under the new normal should adhere to the value orientation of sustainable development and inclusive development, and make a multifaceted turn, including the transformation from three-dimensional to multidimensional, from triangular scaffolding to circular scaffolding, and from monolithic to interactive. In order to promote the fit between the teaching mode of adult higher education and the development of the new normal, and to effectively improve the quality and level of teaching, it should be done as follows: taking inclusive development as the purpose, pursuing the relative fairness of the teaching concept; taking talent cultivation goal as

the guidance, driving the diversified development of the teaching mode; taking the concept of sustainable development as the foundation, promoting the dynamic updating of the curriculum system; taking the "human teacher The development direction of "human teacher" is to promote the professional optimization of the teaching team; the change of teaching mode is the base point to promote the matching and integration of teaching technology.

Sun, Gangcheng, & Qu, Ge. (2014). Lifelong education, as a brand new form of education, emphasizes that education should be continuous and systematic throughout the whole process of an individual's life. Taking into account the current situation of higher education in China, the authors analyze the limitations of traditional education in terms of time and space, and argue that it adversely affects the development of students' autonomous learning habits. The article further infers that in order to adapt to the development of the concept of lifelong education, China's higher education needs to transform itself towards emphasizing the cultivation of learners' competence, focusing on the formation of students' autonomous learnability and providing more universal personalized cultivation opportunities, so as to gradually realize the upgrading of higher education. In addition, the article also mentions that in order to build a learning society in every corner, China's education needs to adapt to this change, and higher education should play a leading role in reforming and popularizing the concept.

Learning habits in adult higher education are closely related to the long-term effects of the learning process, Knowles (1984) points out that adult learners gradually develop systematic learning habits through continuous learning practice, which in turn improves the efficiency of learning, and Brookfield (1995) emphasises that good learning habits can help adult learners to find the rhythm and way of learning in busy work and life, so that they can learn more effectively. rhythms and ways to manage time and energy more effectively. Research has shown that developing adult learners' time management skills, self-monitoring and self-motivation are crucial to their long-term learning success.

Ma Xinying (2023) pointed out that strengthening the guidance of students' learning process, further improving the teaching management, teaching management should reflect the human nature, creating personalised support services, and providing guidance and consulting services for the whole process of students' learning.

Zhao Yanli (2021) believes that strengthening the learning process management of adult college students and improving the quality level of the whole service and management of learning. The learning process focuses on improving teachers' service awareness and ability, increasing the number of contacts between teachers and students, and broadening communication channels. Effective learning support services are realised through innovative services and management, increased supervision, assistance and feedback of the learning process.

The learning process of adult lifelong learning is influenced by learning attitudes, learning methods and learning habits. Positive learning attitudes can enhance learners' intrinsic motivation, reasonable learning methods can help realise the application of knowledge, and good learning habits ensure the long-term sustainability of learning. Educational institutions should support adult learners to develop good learning attitudes, methods and habits through scientific curriculum design and flexible teaching methods, so as to promote the sustainable development of lifelong learning.

Adult higher education helps learners to improve their working ability by providing systematic theoretical knowledge and practical skills. According to Knowles' (1980) adult learning theory (Andragogy), adult learners usually have clear learning objectives and they prefer to apply the learning content in practical work. Therefore, the vocational relevance of course content is particularly important.

Zhang, Guohai, & Liu, Xing. (2015) proposed that adult higher education correspondence education is the main form of adult higher education in China's general colleges and universities, and its quality problems mainly involve two aspects of the host universities and correspondence stations, three groups of face-to-face teachers, administrators and students, as well as a number of links such as the

curriculum design, the implementation of the teaching plan, the provision of teaching resources, the questioning of the students' self-study, the teachers' face-to-face counseling and the evaluation of the learning effect.

Liu, Chaoyang, & Pi, Jianhua. (2016) argued that as China's higher education enters the post-massification era, adult higher education is facing multiple dilemmas such as a sharp decline in the student population, irrational structure of the teaching force, and worrisome quality of schooling. The article points out that adult higher education is an important part of China's education, and its good development is conducive to the construction of lifelong education and learning society in China. However, due to the influence of factors such as the expansion of colleges and universities, the enrollment situation of adult higher education is getting more and more severe, the overall quality of the teaching team needs to be improved, and there are some problems in the quality assurance system. In response to these challenges, the article proposes effective ways to improve the number of student sources, optimize the structure of the teaching team, and improve the quality assurance system. Specifically, it includes measures such as increasing enrollment publicity, reforming the recruitment and examination system, improving the quality of the teaching force, and strengthening the construction of quality standards and evaluation system. Through these ways, it can effectively promote the healthy development of adult higher education and better serve the construction of lifelong education and learning society in China.

Luo Meiling. (2019) pointed out that it is necessary to combine the characteristics of adult independent learning as the main feature, from the perspective of students' independent learning, to investigate the S school as a case study, and to put forward the strategies to improve the current situation of students' independent learning in order to improve the quality of adult higher academic education. The study found that the independent learning of students in adult higher education degree education has the problems of weak motivation for independent learning, inefficient learning strategies, lack of self-planning, and low quality of learning. The reasons for these problems include low social acceptance, serious

"generalization" of school teaching, insufficient teachers, weak cultural foundation of students, and prominent work-study conflicts. To address these problems, the paper proposes targeted strategies: at the social level, the government should advocate the concept of lifelong education system and improve the laws and regulations of adult higher education; at the school level, it should strive to create a campus culture with characteristics of higher education for human beings, improve the teaching system, and optimize the structure of teaching staff; and at the level of individual students, it should stimulate the motivation of self-learning, improve the level of quality assessment, and make use of the strategies to optimize the learning resources.

Ma Xinying (2023) pointed out that the lack of attractiveness of adult education itself, insufficient investment in teaching, aging facilities and equipment, old and boring teaching content, stereotypical teaching methods, a single form of teaching, and the absence of a regular teacher lead to poor student learning and lowered expectations of adult learning effect.

Liu Yanwei and Tang Zhenya (2024) pointed out the enhancement of interdisciplinary education. Reasonable integration of interdisciplinary content in the curriculum of higher continuing education focuses on cultivating students' comprehensive thinking and problem-solving ability, and students are able to learn different types of knowledge and methods, broaden their horizons, and learn to solve complex real-world problems in a more rational way. Cultivate students' interdisciplinary thinking and abilities. The process of interdisciplinary integration is promoted by stimulating students' enthusiasm and interest in learning and fostering their critical thinking and creative abilities. Through project-based learning and research-based learning, students will be able to cross disciplinary boundaries and integrate knowledge and skills from different disciplines.

Yang Lijun Zhang Liang (2015) pointed out that to adapt to the requirements of the cultivation objectives, higher education continuing must accurately grasp the characteristics of adult students, face the needs of the industry and positions, promote the reform of the curriculum system and teaching content in accordance

with the principle of learning to use, learning to use, and focus on cultivating the ability of the incumbent's ability to perform their duties, their ability to learn and their ability to innovate, and promote the integration of continuing education and vocational education.

Wei Cailian (2017) pointed out that adult students' investment in both time and energy is very limited, and their foundation is highly differentiated, so the importance of adult learning should be strengthened, and measures should be taken to enable students to acquire both knowledge and corresponding qualifications in adult higher education.

Zhang Yixuan, Zhang Junsheng, and Yuan Shuwen (2023) argued that the continuing education of adult qualifications needs to provide adult students with a platform for communication and exchange while transferring knowledge, so as to enable them to discover opportunities and strengthen the accumulation of personal connections in their learning.

The effects of lifelong learning in adult degree education are reflected in multiple aspects, especially in improving learners' work skills and service capabilities. The literature shows that through self-directed learning, practice-oriented curriculum design, and reflective learning, adult learners can improve their professional skills and enhance their ability to serve society. At the same time, lifelong learning provides learners with ongoing motivation for career development and personal growth. Educational institutions should, through scientific curriculum design and teaching methods, help adult learners maximize the benefits of lifelong learning.

In conclusion, improving the quality of adult degree education requires schools to strengthen management, design scientific curricula, and ensure comprehensive teaching and learning implementation. Additionally, students need to maintain a positive learning attitude, adopt effective learning methods, and develop good study habits. By doing so, they can improve their learning abilities, master necessary skills, and ultimately achieve the desired learning effect.

Chapter 3
Research Methodology

Regarding the strategic research on the sustainable development of lifelong learning in adult higher education in Zhejiang Province, the researchers have the following procedures.

Stage 1: To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province;

Stage 2: To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province;

Stage 3: To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

The details of the research methodology are as follows:

Phase 1: To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province.

The specific contents of the current situation of the sustainable development of lifelong learning of adult higher education in Zhejiang Province are as follows:

The population/ Sample Group

The population

As of 2023, Zhejiang Province had 411,700 registered adult students across 84 higher education institutions offering adult education programs.

Table 3.1 Sampling distribution table

Number	Regional orientation	Name of the university	Trainees enrolled (persons)	Sample size	Number of interviews
1	Eastern Zhejiang	Zhejiang Ocean University	15000	56	2
2	Southern Zhejiang	Wenzhou University	18000	67	2
3	Western Zhejiang	Lishui University	33000	123	2
4	Northern Zhejiang	Zhejiang University of Science and Technology	20000	75	2
5	Central Zhejiang	Zhejiang Normal University	17000	63	2
		Total	103000	384	10

Sample Group

The researcher determined the sample size according to Krejcie and Morgans table (1970). Using random sampling method, the student sample of 384 people was selected; through the questionnaire survey to study the current situation of sustainable development of lifelong learning of adult higher education in Zhejiang Province.

By means of interviews, 10 excellent administrators or experts from five universities in Zhejiang Province were selected to study the strategies for promoting the sustainable development of lifelong learning in adult higher education in Zhejiang Province. The selection criteria of these 10 experts are :

1. Engaged in specific managers of adult higher education with certain influence.

2. More than 5 years of rich management experience in adult higher education.

Research Instrument

The researcher used a questionnaire consisting of three parts.

Part I: general information of the respondents, totaling 2 items;

Part II: variables of sustainable development of lifelong learning in adult higher education in Zhejiang Province (five-point scale), with 27 items;

Part III: suggestions and additional comments (open-ended). The instrument presents the sustainable development of lifelong learning in adult higher education in Zhejiang Province and asks respondents to judge the extent to which each statement reflects the components of validity. Each statement was measured using a 5-point Likert scale (1932): 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree, as shown in Table 3.2.

Table 3.2 Measurement scale of questionnaire survey on sustainable development of adult higher education in Zhejiang Province

Perception level	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

The higher the scale score, the higher the positive level of sustainable development of lifelong learning of adult higher education in Zhejiang Province. In terms of the measurement items, the sustainable development of lifelong learning in adult education in Zhejiang Province is proposed to be considered as the average

score of the answers from four aspects. The mean scores were calculated using Best's (1977) evaluation criteria in five levels.

Therefore, the range of scores and the mean value of the measurements of the Zhejiang Province Adult higher Education Lifelong Learning Sustainable Development Scale were classified into the four cognitive levels of the mountain Zhejiang Province Adult Higher Education Lifelong Learning Sustainable Development proposal.

For the interpretation criteria to classify the mean score, the researcher used the measurement criteria according to the concept of Best (Best, 1997). Mean scores were 1.00-1.49, 1.50-2.49, 2.50-3.49, 3.50-4.49, 4.5-5.00's level.

Score 4.50 - 5.00 means "highest"

Score 3.50 - 4.49 means "high"

Score 2.50 - 3.49 means "moderate"

Score 1.50 - 2.49 means "low"

Score 1.00 - 1.49 means "lowest"

For the calculation of the current condition and expected condition, the Priority Needs Index Modified (PNI Modified) is used, with the following calculation formula:

PNI modified = (I − D) /D

I (Important) means the actual/current state of being.

D (Degree of success) means the condition that should be.

PNI modified = (I − D) /D

Quality of the research instrument

The research instrument was a questionnaire developed on the basis of Phase 1. The quality of the questionnaire was assessed through content validity and reliability. In terms of content validity, it was checked by five experts and analysed through item-objective congruence (IOC).

Content validity of the questionnaire

The content validity of the questionnaire of this study was relatively checked by 5 experts to check the correctness and appropriateness of language, content

coverage and content relevance of the study dimensions. Based on the experts' recommendations, the instrumental items were passively checked, validated, and the item-objective congruence (IOC) results were finalised. According to the IOC assessment, the result of the IOC assessment value for this study was 1.0.

Data collection

The content validity of the questionnaire for this study was relatively reviewed by five experts to check the correctness and appropriateness of language, content coverage, and content relevance of the study dimensions. Based on the recommendations of the experts, the instrumental items were passively checked, validated, and the item-object consistency (IOC) results were finalised.

1) The researcher applied for permission to continue the study from the university and carried out the study in accordance with the guiding procedures and the research plan.

2) The sample was directly informed of the topics covered in the study and the objectives of the study and received a formal permission letter from the school to the administrator allowing them to conduct the study and collect data from the instructors in accordance with the approval letter issued by the appropriate department.

3) With the permission and confirmation from the administrator, the researcher agreed with the instructors or university coordinator to distribute the questionnaires both online and on-site. The questionnaires were accompanied by the research guidelines, criteria, participation information sheet and a summary of the research project in each response section. The questionnaires were sent via WeChat, internet, email, and to the researcher.

4) The questionnaire was completed within 6 weeks. The data collection period was one and a half months.

Data Analysis

Data on demographic variables were analysed using descriptive statistics, frequencies and percentages. Adult higher education lifelong learning sustainability

variables in Zhejiang Province were analysed using descriptive statistics, mean (x-) and standard deviation (S.D.).

Phase 2: To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province.

Survey Respondents

1) Key informants consisted of 10 key informants (teaching vice presidents, directors of qualification departments from different institutions, and other experienced managers of the sustainable development of lifelong learning in adult higher education in Zhejiang Province, with qualifications of more than 5 years of work experience.

2) Professionals who have suggested management guidelines for the sustainable development of lifelong learning in adult higher education in Zhejiang Province or who work with relevant training experiences.

3) Have some experience or achievements in developing guidelines for the sustainable development of lifelong learning of adult higher education in Zhejiang Province.

Research Instruments

Structured Interview

Structured interviews, also known as standardised interviews, are formal interviews in which the interviewer asks the respondent questions in sequence according to a uniform design and prescribed interview content, and requires the respondent to answer the questions according to a prescribed standard. This type of interview is usually accompanied by an interview guide that explains where misunderstandings may occur in the questionnaire. The advantages of structured interviews are as follows 1) The greatest advantage of structured interviews is that the results are easy to quantify and can be used for statistical analysis. It is a kind of statistical survey which can control the reliability of the findings. 2) Structured interviews have a high recall rate. 3) Structured interviews have a wider range of applicability, allowing for more complex questions to be asked, and allowing for

selective and in-depth investigations into specific issues. 4) In addition to answering the questions, structured interviews allow for the observation of attitudes and behaviours of the respondents. 5) Structured interviews can be used for a variety of purposes. The interview was conducted both online and offline.

Focus Group Discussion

Focus Group (FG) is a qualitative research method that consists of 10 participants who engage in an in-depth discussion around a specific research topic. The focus group was facilitated by a research-trained investigator (moderator) and was semi-structured, i.e., some of the interview questions were predetermined while participants were encouraged to express their opinions freely.

Data collection

Step 1: Contact the key informant, indicating the identity and willingness of the researcher.

Step 2: Conduct a survey using the Wenjuanxing app.

Step 3: Summarise the discussion and specific data.

Data Analysis

The content collected from the structured interviews was analysed using TOWS. The data collected will be analysed after completion of the data collection. The topic of discussion is the strategy of sustainable development of lifelong learning of adult higher education in Zhejiang Province.

Phase 3: To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

Study Population

Evaluating the sustainable development strategy of lifelong learning of adult education in Zhejiang Province were 5 administrators from 5 universities in Zhejiang Province. The qualifications of the experts are as follows: 1) more than 5 years of work experience as top administrators in public colleges and universities; 2) rich

experience in education management; 3) master's or doctoral degree; 4) associate professor or above.

Sample group

Assessment Strategy. The key informants were 10 experts from five universities in Zhejiang Province. The criteria for selecting key informants using purposive sampling method are as follows: more than 5 years of work experience in the relevant field. These key informants will play a role in the steps of the study variables.

Research Instruments

Evaluation Form

The data collection instrument for Objective 3 was to evaluate the adaptability and feasibility of the strategy for sustainable development of lifelong learning in adult education in Zhejiang Province. Data interpretation was based on the mean values of Rensis Likert (1932).

Data collection

Data collection for Objective 3: To assess the adaptability and feasibility of sustainable development strategies for lifelong learning in adult education in Zhejiang Province.

Phase 1 The researcher requested a letter of demand from the Graduate School of Bansomdejchaopraya Rajabhat University to collect data from 10 administrators from 5 universities in Zhejiang Province.

Phase 2: The researcher distributed assessment forms to the 10 administrators.

Data Analysis

The evaluation of the adaptability and feasibility of the strategy of sustainable development of lifelong learning of adult higher education in Zhejiang Province was analysed using analytical method.

Summary of the study

This study used both quantitative and qualitative research. The study was divided into three processes, namely, preparation of the research plan, research procedures and the research report. The research procedure consists of three stages:

Phase 1: To study the current situation of sustainable development of lifelong learning in adult higher education in Zhejiang Province.

Phase 2: To develop strategies for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

Phase 3: To assess the feasibility of strategies for the sustainable development of adult lifelong learning in Zhejiang Province.

Phase I provides the evidence base for Objective 1, Phase II for Objective 2, and Phase III for Objective 3.

Stage 1: Obj.1: To study the current situation of the sustainable development of lifelong learning in adult education in Zhejiang Province.	Stage 2: Obj.2 : To developing a strategy for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.	Stage 3: Obj.3 To evaluating the feasibility of lifelong learning sustainable development strategies for adult higher education in Zhejiang Province.
1. Sample Group: 384 students 2. Research Instruments: Questionnaire 3. Data Collection : Through We-chat, Internet, mail, researchers 4. Data Analysis: Mean, S.D	1. Sample Group: 10 key informants 2. Research Instruments: Structure interview and focus group discussions 3. Data Collection: Email or other means 4. Data Analysis: Content Analysis	1. Sample Group: 5 experts 2. Research Instruments: Evaluation Form 3. Data Collection: Requirement letter 4. Data Analysis: Mean, S.D.
Result: As a result of the questionnaire survey, the following issues were identified	**Result:** After the structured interviews, sustainable development strategies were summarised and sorted out.	**Result:** A thorough evaluation of the strategy is conducted.

Figure 3.1 Research Methodology Chart

Chapter 4

Result of Analysis

The research objectives of the Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang Province: 1) To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province. 2) To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province. 3) To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province. The sample consists of 384 student questionnaires and interviews with 10 administrative personnel, using random sampling techniques. A questionnaire survey was conducted to investigate the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province. The Relevant research data were divided into three sections as follows:

1. Research results on the current and expected situation of the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

      1.1 Analysis of demographic information of adult higher education students in Zhejiang Province, including gender, grade level, field of study, and employment status.

      1.2 Analysis of questionnaire data on the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province:

      1.2.1 General Analysis: curriculum design, teaching and learning implementation, learning process, and learning effect.

      1.2.2 Curriculum Design Analysis.

      1.2.3 Teaching and Learning Implementation Analysis.

      1.2.4 Learning Process Analysis.

      1.2.5 Learning Effect Analysis.

2. Research results on sustainable development strategies for lifelong learning in adult higher education in Zhejiang Province.

2.1 Formulation of strategies based on the analysis of the current status of sustainable development for lifelong learning in adult higher education:

2.1.1 SWOT and TOWS Matrix for curriculum design.

2.1.2 SWOT and TOWS Matrix for teaching and learning implementation.

2.1.3 SWOT and TOWS Matrix for the learning process.

2.1.4 SWOT and TOWS Matrix for learning effect.

2.1.5 Comprehensive SWOT and PEST analysis of curriculum design, teaching and learning implementation, learning process, and learning effect.

2.1.6 Overall SWOT and PEST analysis across curriculum design, teaching and learning implementation, learning process, and learning effect.

2.2 Expert interviews to validate proposed strategies:

2.2.1 Analysis and tabulation of interview results.

2.3 Formation of developmental strategies.

3. Results of the Adaptability and Feasibility Assessment of Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang Province.

3.1 Evaluation of the adaptability and feasibility of the proposed sustainable development strategies for lifelong learning in adult higher education in Zhejiang Province.

Research results on the current and expected situation of the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

1. Investigating the current status and expectations of the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

1.1 Analyze the demographic information of adult higher education students in Zhejiang Province, including gender, grade level, field of study, and employment status. Data is presented in the form of frequencies and percentages.

Table 4.1 Personal information, Number and percentage of respondents

(n=384)

Personal Information		Number of people	Percentage(%)
Gender	Male	170	44.30
	Female	214	55.70
	Total	**384**	**100.00**
Grade	First grade	207	53.90
	Second grade	177	46.10
	Total	**384**	**100.00**
Subject classification	Liberal Arts	204	53.10
	Science	180	46.90
	Total	**384**	**100.00**
Employment status	Employed	359	93.50
	Unemployed	25	6.50
	Total	**384**	**100.00**

According to Table 4.1, this study involved a total of 384 valid participants. Among the respondents, 170 were male (44.3%) and 214 were female (55.7%). There were 207 first-year students (53.9%) and 177 second-year students (46.1%). In terms of field of study, 204 students were in the humanities (53.1%), while 180 students were in the sciences (46.9%). Regarding employment status, 359 students were employed (93.5%), and 25 students were not yet employed (6.5%). The demographic, subject classification, and employment status distributions in this survey were relatively even.

1.2 Analysing questionnaire data on the status and expectations of sustainable development of lifelong learning in adult higher education in Zhejiang Province.

1.2.1 This section investigates the current and expected situation of the sustainable development of lifelong learning in adult higher education in

Zhejiang Province. To achieve this objective, the researchers designed a survey questionnaire. Based on the questionnaire, the data related to curriculum design, teaching and learning implementation, learning process, and learning effect were analyzed to assess the sustainable development of lifelong learning in adult higher education in Zhejiang Province. The data is presented in terms of means and standard deviations. Through exploratory factor analysis and reliability and validity tests of the questionnaire, it was demonstrated that the survey designed by the researchers meets the requirements of measurement science.

Table 4.2 Analysis of the Current Situation and Demand for Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Research on the Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province	Current Situation (D)			Expected Situation (I)			$PNI_{modified}$ (I – D)/D	Rank
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result		
1.Curriculum design	3.23	0.97	moderate	4.11	0.89	high	0.214	4
2.Teaching and learning implementation	3.32	0.93	moderate	4.31	0.91	high	0.230	1
3.Learning process	3.18	0.90	moderate	4.06	0.93	high	0.217	3
4.Learning effect	3.31	0.94	moderate	4.24	0.88	high	0.219	2
Total	3.26	0.94	moderate	4.18	0.90	high	0.220	

According to Table 4.2, the data shows that, based on the average values of the four aspects, the respondents rated the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province at a moderate level ($\overline{X}$=3.26, S.D.=0.94). All aspects were at a moderate level, with average values ranked from high to low as follows: teaching and learning

implementation ($\bar{X}$=3.32, S.D.=0.93), learning effect ($\bar{X}$=3.31, S.D.=0.94), curriculum design ($\bar{X}$=3.23, S.D.=0.97), and learning process ($\bar{X}$=3.18, S.D.=0.90). The surveyed students' expectations of the sustainable development of lifelong learning in adult higher education in Zhejiang Province are generally at a high level ($\bar{X}$=4.13, S.D.=0.90). From the highest to the lowest mean level, they are: teaching and learning implementation ($\bar{X}$=4.23, S.D.=0.91), learning effect ($\bar{X}$=4.18, S.D.=0.88), curriculum design ($\bar{X}$=4.10, S.D.=0.89) and learning process ($\bar{X}$=4.01, S.D.=0.93). Currently, there is a gap between the current status of sustainable development of lifelong learning in adult higher education and the expected situation in Zhejiang Province. This indicates that further efforts are required to enhance adult higher education. This can be reflected in the overall PNI value (PNI=0.22), which, in descending order, is: teaching and learning implementation (PNI=0.230), learning effect (PNI=0.219), learning process (PNI=0.217), and curriculum design (PNI=0.214). This indicates that the development of adult higher education needs to be improved in all four areas.

  1.2.2 Analysis of the current status and needs of curriculum design.

  This research mainly used Mean, Standard Deviations and PNI modified to analyze the situation of each variable.

Table 4.3 Analysis of the Current Situation and Expectation of Lifelong Learning
Sustainable Development Curriculum Design for Adult Higher Education in
Zhejiang Province.

(n=384)

Curriculum Design	Current Situation (D)			Expected Situation (I)			PNI$_{modified}$ (I – D)/D	Rank
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result		
1.You think the curriculum design of your major is reasonable (including the ratio of required courses, elective courses, and practical skills courses) is reasonable.	3.24	0.96	moderate	4.04	0.89	high	0.198	4
2.You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable	3.10	0.99	moderate	4.11	0.91	high	0.246	1
3.You think the course schedule is reasonable	3.35	0.97	moderate	4.13	0.92	high	0.189	5
4.You think the course content aligns with actual work requirements	3.21	0.98	moderate	4.07	0.91	high	0.211	2
5.Whether you found the course content helpful in influencing future personal lifelong learning	3.27	0.96	moderate	4.08	0.95	high	0.199	3
Total	3.23	0.97	moderate	4.08	0.91	high	0.208	

According to Table 4.3, the data indicates that among the surveyed students, the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province is at a moderate level in terms of curriculum design ($\overline{X}$=3.23, S.D.=0.97). All aspects are at a moderate level, with the average values ranked from highest to lowest as follows: You think the course schedule is reasonable ($\overline{X}$=3.35, S.D=0.97). Whether you found the course content helpful in influencing future personal lifelong learning ($\overline{X}$=3.27, S.D.=0.96). You think the curriculum design of your major is reasonable (including the ratio of required courses, elective courses, and practical skills courses) is reasonable ($\overline{X}$=3.24, S.D.=0.96). You think the course content aligns with actual work requirements ($\overline{X}$=3.21, S.D.=0.98). You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable ($\overline{X}$=3.10, S.D.=0.99) This suggests that the sustainable development of lifelong learning in adult higher education in Zhejiang Province requires improvement in all five aspects of curriculum design.

In terms of surveying students' expectations for curriculum design, the overall level is still high ($\overline{X}$=4.08, S.D.=0.91). The mean values for each level from highest to lowest are: you think the course schedule is reasonable ($\overline{X}$=4.13, S.D.=0.92), you think the course structure (i.e., theoretical, social practice, and combination of theoretical and social practice) is reasonable ($\overline{X}$=4.11, S.D.=0.91), you think that the content of the course affects the future lifelong learning of the individual in a helpful way ($\overline{X}$=4.08, S.D.=0.95) ,you think that the course content and the actual work demand is consistent ($\overline{X}$=4.07, S.D.=0.91), you think that the curriculum of your major (including the ratio between the compulsory courses, elective courses, practical skills courses of the major) is reasonable ($\overline{X}$=4.04, S.D.=0.89). There is a gap between the current situation of strengthening the sustainable development of lifelong learning of adult higher education in Zhejiang Province and the expected situation in terms of curriculum design. This suggests that there is still a need to work on the curriculum design of adult higher education lifelong learning education in Zhejiang Province. This can be reflected in the total PNI value (PNI=0.208), in descending order: you think

that the course structure (i.e., theoretical courses, social practice courses, and the combination of theoretical courses and social practice courses) is combined (PNI=0.246), you think that the content of the course is in line with the needs of the actual work (PNI=0.211), and you think that the content of the course affects the future lifelong learning of the individual in a helpful way (PNI=0.199), you think that the curriculum of your major (including the ratio between compulsory courses, elective courses and practical skills courses) is reasonable (PNI=0.198), and you think that the schedule of the courses is reasonable (PNI=0.189). This suggests that all five aspects of curriculum design require improvement to enhance the sustainable development of lifelong learning in adult higher education in Zhejiang.

        1.2.3 Analyse the current status and expectation of teaching and learning implementation.

        This research mainly use Mean, Standard Deviations and PNI modified to analyzed the situation of each variable.

Table 4.4 Analysis of the Current Situation and Expectation of Lifelong Learning
      Sustainable Development teaching and learning implementation for Adult
      Higher Education in Zhejiang Province.

(n=384)

Teaching and Learning Implementation	Current Situation (D)			Expected Situation (I)			$PNI_{modified}$ (I − D)/D	Rank
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result		
1.How satisfied are you with the school's teaching organization and management	3.43	1.06	moderate	4.03	0.99	high	0.149	7
2.You think the teachers teaching abilities (including practical experience and guidance skills) are good	3.23	0.94	moderate	4.08	0.87	high	0.208	4

Table 4.4 (Continued)

Teaching and Learning Implementation	Current Situation (D)			Expected Situation (I)			$PNI_{modified}$ (I – D)/D	Rank
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result		
3.You think the teachers' instructional methods are reasonable	3.35	0.89	moderate	4.13	0.92	high	0.189	5
4.You think the teachers' overall competence is good	3.72	0.98	high	4.10	0.93	high	0.093	8
5.You think the assessment methods for the course are reasonable	3.36	0.96	moderate	4.04	0.95	high	0.168	6
6.You think the interactive discussions in class led by the teacher are reasonable	3.11	0.96	moderate	4.12	0.92	high	0.247	2
7.You think the learning objectives of the tasks are clear	3.17	0.94	moderate	4.02	0.90	high	0.211	3
8.Are you satisfied with the learning support and guidance	3.20	0.82	moderate	4.26	0.88	high	0.249	1
Total	3.32	0.94	moderate	4.10	0.92	high	0.189	

According to Table 4.4, the data shows that among the surveyed students, the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province is at a moderate level in terms of teaching and learning implementation ($\bar{X}$=3.32, S.D.=0.93). All aspects are at a moderate level, with the average values ranked from highest to lowest as follows:You think the teachers' overall competence is good ($\bar{X}$=3.72, S.D.=0.98). How satisfied are you with the school's teaching organization and management ($\bar{X}$=3.43, S.D.=1.06). You think the assessment methods for the course are reasonable ($\bar{X}$=3.36 S.D.=0.96). You think the teachers' instructional methods are reasonable ($\bar{X}$=3.35 S.D.=0.89). You think the teachers' teaching abilities (including practical experience and guidance skills) are good ($\bar{X}$=3.23 S.D.=0.94). Are you satisfied with the learning support and guidance ($\bar{X}$=3.20 S.D.=0.82). You think the learning objectives of the tasks are clear ($\bar{X}$=3.17 S.D.=0.94). You think the interactive discussions in class led by the teacher are reasonable ($\bar{X}$=3.11 S.D.=0.96).

Based on the above data, it can be concluded that the sustainable development of lifelong learning in adult higher education in Zhejiang Province requires enhancement in all eight aspects of teaching and learning implementation.In terms of surveying students' expectations for teaching and learning implementation, the overall level is still high ($\bar{X}$=4.10, S.D.=0.92). The means for each level from highest to lowest are: you are satisfied with the learning support tutoring ($\bar{X}$=4.26, S.D.=0.88), you think the instructor's teaching methods are reasonable ($\bar{X}$=4.13, S.D.=0.92), you think the instructor's interactive discussions in class are reasonable ($\bar{X}$=4.12, S.D.=0.92), you think the instructor's general quality is good ($\bar{X}$=4.10, S.D.=0.93), you think that teachers' teaching ability (including practical experience and instructional skills) is good ($\bar{X}$=4.08, S.D.=0.87), you think that the way of course assessment is reasonable ($\bar{X}$=4.03, S.D.=0.99), and you think that the objectives of task teaching are clear ($\bar{X}$=4.02, S.D.=0.90).

There is a gap between the current situation and the expected situation in terms of teaching and learning implementation to strengthen the sustainable development of lifelong learning in adult higher education in Zhejiang Province. This

indicates that Zhejiang adult academic education lifelong learning education in teaching and learning implementation still needs to work. This can be reflected in the total PNI value (PNI=0.189), which, in descending order, is as follows: you are satisfied with the learning support tutoring (PNI=0.249), you think that the teachers' interactive discussion in the class is reasonable (PNI=0.247), you think that the task teaching objectives are clear (PNI=0.211), and you think that the teachers' teaching competence (including practical experience and instructional skills) is good (PNI=0.208), you think that teachers' teaching methods are reasonable (PNI=0.189), you think that the way of course assessment is reasonable (PNI=0.168), you are satisfied with the situation of the school's teaching organization and management (PNI=0.149), and you think that the teachers' comprehensive quality is good (PNI=0.093). This suggests that the sustainable development of lifelong learning in adult higher education in Zhejiang needs to be improved in all eight areas in terms of teaching and learning implementation.

      1.2.4 Analyse the current status and expectation of the Learning Process. This research mainly used Mean, Standard Deviations and PNI modified to analyzed the situation of each variable.

Table 4.5 Analysis of the Current Status and Expectation of Sustainable Development

for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Learning Process	Current Situation (D)			Expected Situation (I)			PNI$_{modified}$ (I − D)/D	Rank
	$\overline{\text{X}}$	S.D.	result	$\overline{\text{X}}$	S.D.	result		
1.Are you satisfied with your own learning attitude	3.30	0.82	moderate	4.21	0.91	high	0.216	5
2.You think the learning methods you use are reasonable	3.20	0.94	moderate	4.15	0.89	high	0.229	2
3.Are you satisfied with your own study habits	3.22	0.93	moderate	4.17	0.92	high	0.228	3
4.You have frequent communication with your teachers	3.18	0.94	moderate	4.05	0.98	high	0.215	6
5.Do you actively seek help when you encounter difficulties in your studies	3.10	0.85	moderate	4.01	0.95	high	0.227	4
6.You primarily self-regulate your learning and do not need others to apply pressure	3.09	0.91	moderate	4.02	0.96	high	0.231	1
Total	3.18	0.90	moderate	4.09	0.94	high	0.224	

According to Table 4.5, the data shows that among the surveyed students, the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province is at a moderate level in terms of the learning process

($\bar{X}$=3.18 S.D.=0.90). All aspects are at a moderate level, with the average values ranked from highest to lowest as follows:Are you satisfied with your own learning attitude ($\bar{X}$=3.30 S.D.=0.82). Are you satisfied with your own study habits ($\bar{X}$=3.22 S.D.=0.93). You think the learning methods you use are reasonable ($\bar{X}$=3.20 S.D.=0.94). You have frequent communication with your teachers ($\bar{X}$=3.18 S.D.=0.94). Do you actively seek help when you encounter difficulties in your studies ($\bar{X}$=3.10 S.D.=0.85). You primarily self-regulate your learning and do not need others to apply pressure ($\bar{X}$=3.09 S.D.=0.91).

Based on the above data, it can be concluded that the sustainable development of lifelong learning in adult higher education in Zhejiang Province requires enhancement in all six aspects of the learning process.In the survey students' expectations of the learning process were generally at a high level ($\bar{X}$=4.09, S.D.=0.94). The mean value of each level from the highest to the lowest is: you are satisfied with your learning attitude ($\bar{X}$=4.21, S.D.=0.91), you are satisfied with your learning habits ($\bar{X}$=4.17, S.D.=0.92), you think that it is reasonable to adopt a learning method ($\bar{X}$=4.15, S.D.=0.89), you communicate with your teachers ($\bar{X}$=4.05, S.D.=0.98), you in the main process of learning is their own discipline themselves, do not need others to exert pressure ($\bar{X}$=4.02, S.D.=0.96), you in the process of learning do not understand the place will not take the initiative to take action to look for relevant help ($\bar{X}$=4.01, S.D.=0.95).

There is a gap between the current situation and the expectation of strengthening the sustainable development of lifelong learning of adult education in Zhejiang Province in terms of learning process. This indicates that the lifelong learning education of adult higher education in Zhejiang Province still needs to work on the learning process. This can be reflected in the total PNI value (PNI=0.224), in descending order: you discipline yourself in the main process of learning without pressure from others (PNI=0.231), you think it is reasonable to adopt a learning method (PNI=0.229). You are satisfied with your study habits (PNI=0.228), you do not take the initiative to look for help when you do not understand something during your study (PNI=0.227), you are satisfied with your study attitude (PNI=0.216), and

you communicate with your teachers a lot (PNI=0.215). This suggests that sustainable development of lifelong learning of adult higher education in Zhejiang needs to be improved in all six areas in terms of learning process.

        1.2.5 Analysis of the current status and expectation of Learning Effect

        This research mainly used Mean, Standard Deviations and PNI modified to analyzed the situation of each variable.

Table 4.6 Analysis of the Current Status and Expectation of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Learning Effect	Current Situation (D)			Expected Situation (I)			PNI$_{modified}$ (I – D)/D	Rank
	$\overline{\text{X}}$	S.D.	result	$\overline{\text{X}}$	S.D.	result		
1.You enhance your problem-solving skills through learning	3.19	0.95	moderate	4.04	0.96	high	0.210	4
2.You improve your professional skills through learning	3.27	0.98	moderate	4.13	0.89	high	0.208	5
3.You enhance your overall competence through learning	3.25	0.92	moderate	4.14	0.97	high	0.215	3
4.You achieve your set learning goals through studying	3.23	0.94	moderate	4.21	1.02	high	0.233	2
5.You enhance your engagement and initiative in learning through studying	3.39	0.96	moderate	4.03	0.91	high	0.161	8

Table 4.6 (Continued)

Learning Effect	Current Situation (D)			Expected Situation (I)			PNI$_{modified}$ (I − D)/D	Rank
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result		
6.Your satisfaction with your own learning effect	3.21	0.98	moderate	4.20	0.94	high	0.236	1
7.You think lifelong lea-rning is very important	3.47	0.99	moderate	4.30	0.93	high	0.193	7
8.You are generally satisfied with your overall learning	3.45	0.84	moderate	4.32	0.90	high	0.201	6
Total	3.31	0.95	moderate	4.17	0.93	high	0.207	

According to Table 4.6, the data shows that among the surveyed students, the current status of sustainable development for lifelong learning in adult higher education in Zhejiang Province is at a moderate level in terms of learning effect ($\overline{X}$=3.31, S.D.=0.94). All aspects are at a moderate level, with the average values ranked from highest to lowest as follows:You think lifelong learning is very important ($\overline{X}$=3.47, S.D.=0.99). You are generally satisfied with your overall learning ($\overline{X}$=3.45, S.D.=0.84). You enhance your engagement and initiative in learning through studying ($\overline{X}$=3.39, S.D.=0.96). You improve your professional skills through learning ($\overline{X}$=3.27, S.D.=0.98). You enhance your overall competence through learning ($\overline{X}$=3.25, S.D.=0.92). You achieve your set learning goals through studying ($\overline{X}$=3.23, S.D.=0.94). Your satisfaction with your own learning effect ($\overline{X}$=3.21, S.D.=0.98). You enhance your problem-solving skills through learning ($\overline{X}$=3.19, S.D.=0.95).

Based on the above data, it can be concluded that the sustainable development of lifelong learning in adult higher education in Zhejiang Province requires enhancement in all eight aspects of learning effect.In terms of the survey students' expectations for learning effect, the overall level is still high ($\overline{X}$=4.17,

S.D.=0.93). The mean of each level from the highest to the lowest is as follows: you are satisfied with the whole study in general ($\bar{X}$=4.32, S.D.=0.90), you think that lifelong learning is very important ($\bar{X}$=4.30, S.D.=0.93), you achieve the predetermined learning goals through learning ($\bar{X}$=4.21, S.D.=1.02), you are satisfied with your own learning results ($\bar{X}$=4.20, S.D.=0.94), you improve your comprehensive quality ability through learning ($\bar{X}$=4.20, S.D.=0.94), you improve your comprehensive quality ability after learning ($\bar{X}$=4.14, S.D.=0.97), you improve your occupational skills after learning ($\bar{X}$=4.13, S.D.=0.89), you improve your problem solving ability through learning ($\bar{X}$=4.04, S.D.=0.96), you improve your learning participation and initiative through learning ($\bar{X}$=4.03, S.D.=0.91).

There are some gaps between the current situation of strengthening the sustainable development of lifelong learning of adult higher education in Zhejiang Province and the expected situation in terms of learning effects. This indicates that the lifelong learning education of adult higher education in Zhejiang Province still needs to work hard in learning effectiveness. This can be reflected in the total PNI value (PNI=0.207), which in descending order is: your satisfaction with your own learning effect (PNI=0.236), your achievement of predetermined learning goals through learning (PNI=0.233), your improvement of your comprehensive quality ability after learning (PNI=0.232), your improvement of problem-solving ability through learning (PNI=0.210), you improve your professional skills after learning (PNI=0.208), you are generally satisfied with the whole learning (PNI=0.201), you think that lifelong learning is very important (PNI=0.193), and you improve your learning participation and initiative through learning (PNI=0.161). This suggests that the sustainability of lifelong learning in Zhejiang Adult Degree Education needs to be improved in all eight areas in terms of learning effectiveness.

Research results on sustainable development strategies for lifelong learning in adult higher education in Zhejiang Province.

    2.1 Based on the analysis of the current status, strategies are proposed to strengthen the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

      2.1.1 Results of the SWOT and TOWS Matrix Analysis for Curriculum Design Aspect.

Table 4.7 SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis:

        Curriculum Design Aspect

S	W
S1 The course is well organized S2 Reasonable curriculum (including the ratio between compulsory courses, elective courses and practical skills courses in the major)	W1 Theoretical and practical lessons of the curriculum need to be strengthened W2 The correspondence between course content and expectation to be improved W3 Impact on future individual lifelong learning assistance needs to be strengthened
O	T
O1 Improved matching of course content to actual needs O2 Enhancing curriculum support for lifelong learning	T1 Rising student expectations T2 Changes in the external educational environment and needs

According to Table 4.7, the SWOT analysis of curriculum design highlights several key points: 1) Strengths include a well-structured course schedule and curriculum, which show that these aspects are in line with expectations; 2) Weaknesses include the need to strengthen the course's theoretical and practical lessons, the need to improve the correspondence of the course's content with

actual needs, and the need to strengthen the impact of the course's help for future individual lifelong learning; 3) Opportunities include the need to improve the needs and enhancing the program's support for lifelong learning; 4) Threats include rising student expectations and changes in the external educational environment and needs. and the changing external educational environment and needs. In summary, while the education system has a solid foundation, targeted efforts are needed to fill the gaps and effectively utilize the opportunities.

Based on the TOWS matrix provided according to Table 4.7, the following is an analysis of the curriculum design aspects using its suggested strategies:

SO Strategies (Capitalize on Strengths and Opportunities):

Utilize the existing reasonable course schedule (S1) to further improve the curriculum (S2) to better meet the actual needs (O1). Strengthen the match between course content and actual needs, while maintaining a reasonable course schedule and settings to enhance student satisfaction with the course and raise expectations (O1, T1). The relevance of the course and student satisfaction can be further enhanced by optimizing the pace and setting of the course to make it more relevant to actual needs. This not only reinforces existing strengths, but also capitalizes on the opportunity to use the curriculum to match actual needs.

ST Strategy (Leveraging Strengths to Address Threats):

Increase student satisfaction with the curriculum by keeping the scheduling and setting of the curriculum reasonable (S1, S2), thereby increasing student expectations (T1). Illustrate the role of the curriculum in supporting lifelong learning (O2) to alleviate students' concerns about future learning and increase their confidence in personal lifelong learning. By maintaining and capitalizing on the strengths of the current course arrangement and curriculum, students' satisfaction with the course can be effectively enhanced, thereby raising their expectations and mitigating the possible negative impacts of higher expectations.

WO strategy (Overcoming disadvantages to seize opportunities):

In response to the shortcomings of the theoretical and practical courses of the course (W1), students can be better able to apply theories to practice by

strengthening the practical courses and teaching sessions (W1). Improving the correspondence between course content and practical needs (W2) to meet changes in the external educational environment and needs (T2) can enhance the practicality and attractiveness of the course. Adding practical courses can help overcome the disadvantage of strong theoretical courses in the curriculum so as to better develop students' practical skills. At the same time, keeping the course content close to the changes in practical needs can help to enhance the practicality and attractiveness of the courses and avoid being disadvantaged in future educational competition.

WT Strategy (Overcoming Disadvantages to Cope with Threats):

Strengthen the curriculum content that will be useful for future lifelong learning of individuals (W3), and ensure that the curriculum content not only meets current needs but also adapts to changes in the future educational environment (T2). Improve the match in response to the lack of correspondence between course content and actual needs (W2) in order to avoid the negative impact of changes in the external educational environment and needs (T2). Mitigate the threat posed by changes in external needs by enhancing the design of curricula that will be useful for future lifelong learning and ensuring that they are not only currently useful but also provide a foundation for future changes. In addition, enhancing the match between curricula and actual needs can also effectively respond to future changes in the educational environment and needs.

2.1.2 SWOT and TOWS Matrix Analysis Results in Teaching and Learning Implementation

Table 4.8 SWOT Analysis: Teaching and Learning Implementation

S	W
S1 Satisfaction with the management of the teaching organization	W1 Teachers' teaching skills need to be improved
S2 Teachers are well rounded	W2 Insufficient rationalization of course assessment methods
	W3 Interactive discussions are less reasonable

O	T
O1 Opportunities to enhance teachers' pedagogical skills	T1 Lower satisfaction with instructional support counseling
O2 Improvement of course assessment methods	T2 Insufficient clarity of mission teaching objectives
O3 Enhanced classroom interaction	

According to Table 4.8, the SWOT analysis of teaching and learning implementation highlights several key points: 1) Strengths include high satisfaction with the organization and management of teaching: although there is still room for improvement, students are generally satisfied with the organization and management of teaching in the school. Teachers' good overall quality: this indicates that teachers have high overall quality, which provides a solid foundation for the school's teaching and learning implementation. 2) Weaknesses include teachers' teaching ability needs to be improved: there is still obvious room for teachers to improve their skills in guiding practical experience. Insufficient rationality of course assessment methods: there is still room for improvement in the assessment methods to better reflect the learning effect of students. Low reasonableness of interactive discussions: it indicates that interactive discussions in the classroom are not yet sufficient and need to be further strengthened. 3) Opportunities include opportunities to enhance teachers' teaching ability: teachers' practical experience and instructional skills can be

significantly enhanced through training and continuing education, thus improving the overall quality of teaching. Improvement of course assessment methods: Introducing more diversified and reasonable assessment methods can improve their fairness and student satisfaction. Enhanced classroom interaction: the adoption of more interactive teaching methods, such as group discussion and project research, can improve student engagement and learning effect. 4) Low satisfaction with threats including teaching support tutorials: this may affect students' learning effect and teachers' reputation, and needs to be focused on and improved. Insufficient clarity of task teaching objectives: may lead to unclear learning objectives for students, affecting learning effect, and requires improvement in the way teaching objectives are set and communicated.

Based on the TOWS matrix provided according to Table 4.8, the following is an analysis of the use of its suggested strategies in terms of instructional implementation:

SO Strategies (Utilizing Strengths and Opportunities):

Leveraging on the strengths of good overall teacher literacy, seizing opportunities to enhance teachers' teaching skills and further improving them through training and development programs.

With the advantage of higher satisfaction of teaching organization and management, improve the course assessment methods to make them more reasonable, so as to enhance students' satisfaction with the course.

ST Strategy (Utilizing Strengths to Counter Threats):

Enhance classroom interaction by improving teachers' teaching ability and utilizing their rich knowledge and experience, thus increasing students' participation and satisfaction with the course and avoiding the negative effects of less rational interactive discussions. Clarify the task teaching objectives and take advantage of the teachers' good general literacy to ensure that the teaching objectives are clear and unambiguous, thus improving teaching effectiveness and avoiding the problems associated with the lack of clarity of the task teaching objectives.

WO strategy (overcoming disadvantages and seizing opportunities):

To address the problem that teachers' teaching ability needs to be improved, seize the opportunity to improve teachers' teaching ability, and through systematic training and counseling, improve teachers' teaching ability, so as to improve the overall teaching quality.

Improve the course assessment methods to make them more reasonable in order to overcome the current problem of insufficient reasonableness of the assessment methods, so as to enhance students' satisfaction with the course.

Enhance classroom interaction to overcome the problem of low rationality of interactive discussion through innovative teaching methods and tools, so as to improve students' learning interest and participation.

WT strategy (Overcoming disadvantages to cope with threats):

Enhance teacher training to improve teachers' teaching ability to avoid affecting teaching effectiveness and satisfaction due to insufficient teaching ability.

Improve course assessment methods to make them more reasonable and avoid negative impacts caused by unreasonable assessment methods.

Overcome the problem of low rationality of interactive discussion by increasing interaction and innovative classroom design to avoid low participation and satisfaction as a result.

2.1.3 SWOT and TOWS Matrix Analysis Results in the Learning Process Aspect

Table 4.9: SWOT Analysis - Learning Process Aspect

S	W
S1 Satisfactory learning attitude	W1 Study habits
S2 Reasonable learning methods	W2 Don't know how to handle the place
S3 Exchanges are plentiful	W3 Self-restraint
O	T
O1 Enhancing Study Habits	T1 Outside interference
O2 Enhancement of initiative	T2 Learning fatigue
O3 Increased self-restraint	

According to Table 4.9, the SWOT analysis of the learning process emphasizes several key points: 1) Strengths include a satisfactory attitude towards learning, indicating that learners are still satisfied with their attitude towards learning, a reasonable approach to learning, indicating that learners believe that their approach to learning is more reasonable, and a high level of communication, with better-than-expected communication between the learner and the teacher. 2) Weaknesses include a satisfactory study habits, indicating that there is still room for improvement in the study habits There is still room for improvement in terms of Dealing with areas of incomprehension, learners do not always act on their own initiative when they encounter areas they do not understand, and self-binding, indicating that there is a lack of self-binding in the learning process. 3) Opportunities include improving study habits, which can be improved by setting specific goals and plans to improve study habits and increase the efficiency of learning. Enhancement of Initiative: Develop the habit of actively seeking help and solving problems to enhance learning. Increase self-discipline: Increase self-discipline by setting clear learning goals and incentives. 4) Threats include external interference, which may affect learning through various distractions in life, such as social media, recreational activities, and so on. Learning

fatigue, if learning is not effective for a long time, it may lead to loss of confidence and fatigue.

Based on the TOWS matrix provided according to Table 4.9, the following is an analysis of the learning process aspects using their suggested strategies:

SO Strategies (Utilizing Strengths and Opportunities)

O1 Enhance learning habits. Utilizing external resources and learning activities to enhance learning habits can further consolidate the status quo of satisfactory learning attitudes. For example, attending study habit development courses, using quality study apps, etc.

O2 Enhance initiative. Enhancing the initiative of learning can respond more effectively to the advantage that the learning method is reasonable and make it work more efficiently. For example, taking the initiative to pre-study and review, and participating in class discussions.

O3 Increased self-discipline. Increased self-restraint can better utilize the advantage and improve the sustainability of learning results. For example, making a detailed study plan and executing it rigorously.

ST Strategies (Utilizing Strengths to Counter Threats)

S1 Satisfactory learning attitude. A positive attitude toward learning can reduce the impact of external distractions (T1) on learning. For example, staying focused through a positive attitude towards learning improves resistance to interference.

S2 Reasonable learning methods. Reasonable learning methods can help cope with the threat of learning exhaustion (T2). For example, scheduling rest and relaxation time to avoid overexertion through a sensible approach to learning.

S3 More communication situations. Making full use of communication opportunities can obtain more help and resources to mitigate external threats. For example, join study groups and communicate more with classmates and teachers.

WO strategies (Overcoming disadvantages to seize opportunities)

W1 Study habit satisfaction. Improving study habits can better seize opportunities. For example, develop the habit of making study plans to improve study efficiency.

W2 Dealing with areas of incomprehension. Improving the ability to deal with areas of incomprehension allows for a better response to challenges and opportunities in learning. For example, by asking more questions of teachers and classmates and using online resources to solve problems.

W3 Self-discipline. Improving self-discipline allows you to better cope with external opportunities and not miss out on opportunities to improve yourself. For example, increase self-discipline by using incentives and self-monitoring methods.

WT Strategies (Overcoming Disadvantages to Cope with Threats)

W1 Study habit satisfaction. Improving study habits reduces the impact of external distractions (T1). For example, developing the habit of studying at a fixed time and place reduces distractions.

W2 Unintelligible place handling. Improving the ability to deal with areas of incomprehension can effectively counter the threat of learning exhaustion (T2). For example, solving learning challenges in a timely manner to avoid accumulation leading to exhaustion.

W3 Self-discipline. Improving self-restraint can mitigate external threats. For example, enhancing self-management skills by making concrete and feasible plans to avoid learning exhaustion and external interference.

2.1.4 Results of SWOT and TOWS matrix analysis in terms of learning effect

Table 4.10 Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis: learning
effect aspects

S	W
S1 Strong sense of lifelong learning	W1 Practical problem-solving skills
S2 High level of participation and initiative	W2 Comprehensive Quality Enhancement
S3 Clear learning objectives	W3 Overall learning satisfaction

O	T
O1 Further enhancement of capacities	T1 Challenges to capacity enhancement
O2 Increase learner engagement and initiative	T2 Difficulty in improving satisfaction
O3 Strengthening the culture of lifelong learning	T3 External factors of change

According to Table 4.10, the SWOT analysis of learning effect emphasizes
several key points:

1) Strengths include significant improvement in the learner's competencies,
indicating that there is potential for significant improvement in these competencies.
Clear learning objectives: indicating that learners have clear learning objectives and
are able to achieve them. High engagement and initiative: indicates that learners are
better motivated and engaged in learning. High awareness of lifelong learning:
indicates that the learner has a positive conceptual recognition of lifelong learning.

2) Weaknesses include the need to improve problem-solving skills, indicating
that learners are weak in "improving problem-solving skills" and need to be
strengthened. There is still room for improvement in overall quality, which shows
that there is still room for improvement in this area. Overall learning satisfaction

could be higher, indicating that there is still room for improvement in this aspect of learner satisfaction.

3) Opportunities include further enhancement of various competencies: the difference between the expected and current scores shows that there are many competencies that can be significantly enhanced through appropriate interventions, such as problem solving, vocational skills, and general quality. Increasing learner engagement and initiative: Learning engagement and initiative can be further enhanced by improving the richness of learning resources and the diversity of learning methods. Strengthening the culture of lifelong learning: by promoting and reinforcing the importance and advantages of lifelong learning, learners' recognition and practice in this area can be further enhanced.4) Threats include the challenge of competency enhancement, where certain competencies, such as problem solving competencies, have low status quo scores despite significant expected enhancement, and may face greater challenges to enhance. Difficulty of satisfaction improvement, learners' satisfaction with overall learning, despite high expectations, the status quo indicates that there are still some areas of dissatisfaction that need to be carefully analyzed and improved. External change factors, external changes such as educational policies and economic environment may also have an uncertain impact on learning effect and competency enhancement.

Based on the TOWS matrix provided according to Table 4.10, the following is an analysis of the use of its suggested strategies in terms of learning effect:

SO strategies (capitalizing on strengths and opportunities):

Utilizing high level of engagement and initiative (S2, S3) and strong awareness of lifelong learning (S1) to enhance learning effect and further enhance various competencies (O1).

Combined with comprehensive quality enhancement (W2) and practical problem solving ability (W1), theoretical knowledge can be better applied in practice and learners' coping ability when facing practical problems can be improved.

ST Strategy (Utilizing Strengths to Cope with Threats):

Utilizing high engagement and initiative (S2, S3) and a strong sense of lifelong learning (S1) to cope with the challenge of competence enhancement (T1) and the difficulty of satisfaction enhancement (T2).

Overcome the impact of external change factors (T3) on learning effect by reinforcing a culture of lifelong learning (O3) to keep learners engaged and motivated for a long time.

WO strategy (Overcoming disadvantages to seize opportunities):

In response to the disadvantages of comprehensive quality improvement (W2) and overall learning satisfaction (W3), the comprehensive quality and learning satisfaction can be improved by providing more training in practical problem solving skills (W1) so that learners can apply the knowledge and skills they have learned in practice.

Seize the opportunity to further enhance each competency (O1) and promote the overall enhancement of learners' competencies by increasing participation and initiative (O2) and conducting more interactive learning activities.

WT strategy (Overcoming disadvantages to cope with threats):

In order to overcome the disadvantages of comprehensive quality improvement (W2) and overall learning satisfaction (W3), measures can be taken to reduce the challenge of competence improvement (T1) and the difficulty of satisfaction improvement (T2), for example, by providing more opportunities for practice and feedback mechanisms, so that learners can improve their competence in practice and make timely adjustments and improvements to improve satisfaction.

In response to external change factors (T3), learners are equipped with the ability to adapt to change by strengthening the awareness (S1) and culture (O3) of lifelong learning, so as to minimize the negative impact of external changes on learning effect.

2.1.5 Based on the above SWOT and TOWS matrix analysis regarding the four aspects of curriculum design, instructional delivery, learning process, and learning effect, the results are as follows:

Table 4.11 Results of SWOT and TOWS matrix analysis for all strategies

S	W
S1 Curriculum design S2 learning process	W1 Teaching and learning implementation W2 Learning Effect
O	T
O1 Initiatives to strengthen instructional delivery O2 Reinforcement of learning effect.	T1 Problems in the implementation of teaching and learning T2 Enhancement of learning satisfaction and intended goals

According to Table 4.11, the SWOT analysis of the sustainable development of lifelong learning in adult higher education in Zhejiang Province shows that there are strengths in the aspects of curriculum design and learning process, which are in line with current expectations. However, the aspects of teaching and learning implementation and learning effect are weaknesses that need attention in order to effectively cultivate the quality of sustainable development personnel training. Opportunities lie in strengthening instructional delivery and enhancing learning effect. Meanwhile, threats include problems with the current teaching and learning implementation process and how to enhance learning effectiveness. Solving these problems is the key to the sustainable development of lifelong learning in adult academic education in Zhejiang Province.

Based on the TOWS matrix provided according to Table 4.11, the following is an analysis of the four areas using their suggested strategies:

(**WO**) Utilizing opportunities (Opportunities) to compensate for disadvantages (Weaknesses) :

W1 Instructional Implementation

Opportunities (O) : initiatives to strengthen instructional implementation.

Strategy : improve the quality of teaching and learning through initiatives to strengthen teaching and learning implementation, thereby improving the effectiveness of teaching and learning and compensating for weaknesses in teaching and learning implementation.

W2 Learning Effectiveness

Opportunity (O) : Enhance learning satisfaction and intended goals.

Strategies: Improve learning effect and overcome the disadvantages of poor learning effect by enhancing learning satisfaction and achieving predetermined learning objectives.

(**SO**)Utilize Opportunities (O) to enhance Strengths (S):

S1 curriculum design

Opportunities (O) : initiatives to strengthen instructional delivery.

Strategy : Improve the overall effectiveness of teaching and learning by continually ptimizing curriculum design and incorporating instructional implementation enhancements to make it more consistent with instructional goals.

S2 Learning Process

Opportunity (O): Enhance learning satisfaction and intended goals.

Strategies: Optimize the learning process, combined with measures to enhance learning satisfaction, make the learning process more efficient, achieve the intended goals, and further strengthen the advantages of the learning process.

(**ST**) Overcoming Threats and Utilizing Strengths:

Problems in the implementation of T1 teaching and learning

Strengths (S) : Curriculum design.

Strategy : Reduce the problems that occur during the implementation of teaching and ensure the smooth running of teaching by optimizing the curriculum design and strengthening the implementation of teaching.

T2 Enhancement of learning satisfaction and intended goals

Strength (S): Learning process.

Strategy : Optimize the curriculum design and learning process to ensure that the learning content is attractive and practical, so as to enhance learning satisfaction and achieve the intended goals.

(WT) Overcoming Threats and Compensating for Weaknesses:

Problems in the implementation of T1

Weaknesses (W) : Instructional implementation.

Strategies: To address the problems in the process of teaching and learning implementation, take improvement measures, strengthen teacher training, optimize teaching facilities, and ensure smooth and efficient teaching.

T2 Enhancement of learning satisfaction and intended goals

Weakness (W) : Learning effect.

Strategy: Improve the learning effect by improving the teaching methods, so as to enhance the learning satisfaction and achieve the intended goals.

2.1.6 Overall SWOT and PEST analysis: curriculum design, teaching and learning implementation, learning process, and learning effect.

SWOT analysis is a strategic tool primarily used to evaluate an organization's internal strengths and weaknesses, along with external opportunities and threats. Through this method, an enterprise can clearly identify its own resource strengths and weaknesses, as well as the opportunities and challenges it faces, so as to make adjustments at the strategic and tactical levels.

PEST analysis is a macro-environmental analysis method, which is mainly used to assess the external factors in four aspects: political, economic, social and technological. Through this method, companies can better understand the macro-environment in which they operate and how these factors affect their strategic objectives and strategy formulation.

Both SWOT and PEST analyses play an important role in strategic management, but they have slightly different emphases; SWOT analysis focuses more on the internal resources and capabilities of the firm, as well as the external opportunities and threats, while PEST analysis focuses more on the macro environment.

2.1.6 Overall SWOT and PEST analysis: curriculum design, instructional delivery, learning process, and learning effect.

SWOT is an analytical method used to analyze an organization's internal environment and summarize its strengths and weaknesses; at the same time, conduct an analysis of the organization's external environment, opportunities and threats, and use it as a basis for developing strategies.PEST is a method used to analyze the external environment of a company, mainly through the analysis of the four major categories of factors, namely, political (Political), economic (Economic), social (Social) and technology (technology). Economic), Social), and Technology), which are the four major categories of factors, in order to assess the impact of these external factors on the research topic. The details are as follows:

Table 4.12 PEST analysis of sustainable development of lifelong learning in adult
higher education in Zhejiang province

SWOT	PEST factor	Impact statement
S1 Curriculum design	Political, economic, social	Educational policies, level of economic development, social needs influence curriculum design
S2 learning process	Economic, social	Distribution of economic resources, socio-educational perceptions influence the learning process
W1 Teaching and learning implementation	Political, Technology	Political stability and technical support affect the implementation of teaching and learning
W2 Learning Effect	Political, Technology	Economic status, technology adoption affect learning effect
O1 Initiatives to strengthen instructional delivery	Societies	Initiatives to influence the implementation of teaching and learning due to the importance and involvement of society in education
O2 Reinforcement of learning effect.	Technology	Technology applications play a key role in enhancing learning effect
T1 Problems in the implementation of teaching and learning	Social, Technology	Socio-cultural context, problems in the application of technology affect the process of teaching and learning implementation
T2 Enhancement of learning satisfaction and intended goals	Technology	Technology advances affect learning

Table 4.13 Results of SWOT and TOWS matrix analysis for all strategies

S	W
S1 Providing institutional safeguards and introducing policies for the sustainable development of adult higher education	W1 Improvement of management system
	W2 Further enhancement of teachers' pedagogical skills through training and development programs
S2 Clarifying the goal of cultivating human resources that are in demand by society	W3 Sound teaching organization and management system
S3 Strengthening the match between course content and actual needs	W4 Focusing on teachers' moral education
S4 Enhancement of student satisfaction with the curriculum by maintaining a rational schedule and curriculum of courses	W5 Enhance classroom interaction, thereby increasing student engagement and satisfaction with the program
S5 Utilize outside resources and learning activities to enhance study habits	W6 Strengthening teachers' information technology skills
S6 Improved motivation to learn and increased self-discipline can be better utilized to your advantage	W7 Improving the assessment and incentive mechanism for teachers
S7 Integration of lifelong learning in the curriculum	W8 Promoting teacher exchange and cooperation
S8 Strengthen your own concept of time management for learning	W9 Setting standards for skills that students should master
S9 Strengthening financial security	

Table 4.13 (Continued)

O	T
O1 Optimization of professional talent training programs	T1 Enhancement of course content that contributes to future individual lifelong learning
O2 Enhancement of practical courses and teaching sessions	T2 Improve the course assessment methods to make them more reasonable and avoid the negative impacts caused by unreasonable assessment methods.
O3 Improvement of teachers' pedagogical skills through systematic training and coaching	
O4 Improvement of study habits	T3 Proper study methods can help cope with study fatigue
O5 Solve problems by asking more questions of teachers and classmates and using online resources.	T4 Establishment of a scientific teaching quality assessment system
O6 Establishment of a quality assessment platform using Internet technology	T5 Conducting a survey on learning satisfaction
O7 Establishment of student scholarships	T6 Continuous attention to the overall development of students

According to Tables 4.12 and 4.13, to integrate the information in the images to have analyzed the sustainable development of lifelong learning in adult higher education in Zhejiang Province, combining the data provided with the four dimensions of the list of strategies (i.e., Strengths, Weaknesses, Opportunities and Barriers). The details are as follows:

1) Strengths

Providing institutional guarantee: including strategies in 6 areas including the introduction of policies for the sustainable development of adult academic education, clarifying the goal of cultivating talents that are in demand by the society, optimizing the professional training programs, strengthening the practical needs of

the curriculum design, integrating the concept of lifelong learning into the curriculum, and strengthening the guarantee of funding.

Enhancement of learning motivation: through 7 measures, including establishing a positive concept of learning, actively participating in activities, lectures and forums organized by the university, setting up clear learning goals, actively participating in subject interactions, communicating more with teachers, interacting more with classmates, searching for learning methods suitable for oneself, and strengthening one's own concept of time management of learning, etc.

2) Weaknesses

Weak Organizational Mechanisms: The Pipeline has taken 8 measures aimed at optimizing organizational mechanisms and improving the management system, but it still faces challenges in effectively implementing these strategies, which suggests that more targeted efforts are needed to streamline management practices.

Inadequate assessment system: despite 5 measures to strengthen the assessment system, there are still gaps in the integrated assessment of teaching performance and student effect, suggesting that this is an area that needs further improvement and development.

3) Opportunities

Teacher training and development: the main focus is to improve the quality of teaching and learning by improving teachers' ability to cooperate and communicate with each other, teacher ethics education, teachers' information technology level competence and teaching methodology competence.

Improvement of students' learning habits: including learning methods, learning communication, and learning habits

4) Threats

Individual lifelong learning: Integrate lifelong learning into the curriculum, improve assessment methods, and pay continuous attention to the growth and development of learning.

Assessment system: improve the assessment system.

2.1.7 Incorporating the results of all factors (SWOT, PEST, TOWS) By integrating SWOT, TOWS and PEST analyses, it is possible to formulate a comprehensive strategy to promote the sustainable development of lifelong learning in adult academic education in Zhejiang Province. The strategy includes capitalizing on strengths, addressing weaknesses, seizing opportunities and responding to threats through targeted interventions and strategic partnerships. It emphasizes the importance of continuous improvement, adaptability and a supportive environment for those who are important. Based on the combined results of SWOT, TOWS and PEST analyses, comprehensive strategies to enhance the sustainable development of adult academic education in Zhejiang Province are developed.

1) Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis to determine:

a. Strengths : improve the level of institutional security to support the learning process smoothly.

b. Weaknesses : uneven instructional implementation and unsatisfactory learning effect.

c. Opportunities : teaching delivery and learning process can be improved effectively

d. Threats : Inadequate assessment systems lead to gaps in teaching quality and individual lifelong learning effect.

2) The TOWS matrix suggests strategies to capitalize on strengths and opportunities while addressing weaknesses and threats:

a. SO strategy : improve the institutional system, optimize the talent training program, and update the curriculum to strengthen the learning effect.

b. ST Strategy: Strengthen the construction of teaching management system and update the teaching methods so as to promote the smooth learning process of students.

c. WT strategy : focusing on teachers' moral education and teachers' communication and cooperation to solve the problem of students' learning effect.

d. WO strategy : develop a comprehensive talent development program to ensure the level of teaching and learning implementation process.

3) PEST analysis provides external factors that influence strategic planning:

a. Political : policy support. The government has introduced a series of policies to promote the development of adult academic education, such as providing incentives such as tuition fee waivers and scholarships, which provide a favorable policy environment for adult academic education. The improvement of education regulations provides legal protection for adult academic education and promotes education fairness and quality improvement. Policy changes: Policy adjustments such as the reduction of enrollment specialties and stricter review of information have put forward higher requirements for adult academic education, but have also prompted educational institutions to continuously improve the quality of teaching and service level.

b. Economic aspects : economic development: with the continuous development of the economy and the adjustment of industrial structure, the social demand for high-quality talents is increasing, which provides a broad market space for adult academic education. The improvement of residents' income level makes more people have the ability to bear the cost of adult academic education, which promotes the prosperity of the education market. Economic pressure: Adult academic education is often accompanied by higher tuition fees and living costs, which constitutes a certain pressure on the less well-off students. Improvement of teachers' remuneration.

Economic fluctuations may affect the employment and income of learners, which in turn affects their ability and willingness to continue learning.

c. Social aspects : Social demand. Society attaches increasing importance to lifelong learning, and adult education, as an important part of the lifelong learning system, is receiving more and more attention and recognition. Employers' requirements for employees' academic qualifications and skills are constantly rising, prompting more people to choose to participate in adult academic education to improve their competitiveness. Social Concept: The traditional concept that adult

education belongs to the "second degree" has affected the social recognition of adult education to a certain extent. The expectation of the society on adult education is increasing, which requires schools to provide better teaching and service.

d. Technology : technological progress. The rapid development of the Internet, big data, artificial intelligence and other technologies has provided adult academic education with richer and more convenient teaching means and resources. The rise of online education platforms allows students to receive education anytime and anywhere, improving the flexibility and efficiency of learning. Application of technology: Educational institutions should make full use of modern technological means, innovate teaching methods and approaches, and improve teaching effectiveness and student satisfaction. At the same time, they also need to pay attention to the challenges brought by technological updates, such as network security and data privacy.

By synthesizing these analyses, a strategic plan can be developed to improve the current status of sustainable development of lifelong learning in adult credential education in Zhejiang Province and ensure a balanced, supportive and forward-looking environment.

In conclusion, a comprehensive analysis using the SWOT, TOWS and PEST frameworks provides a holistic strategy for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.The SWOT analysis identifies key strengths, such as institutional safeguards, and enhancing learning motivation. Weaknesses were also identified, such as unsatisfactory teaching delivery and learning effect. the TOWS analysis recommended strategic actions to capitalize on the strengths and opportunities, such as optimizing talent development programmes, while addressing weaknesses and mitigating threats through targeted improvements and proactive measures. In addition, the PEST analysis provides insight into external factors, including political, economic, social, and technological influences, that can guide the development of effective management systems, ensure that policies are in place to implement them, facilitate the growth of learning into achievement, and

incorporate innovative pedagogical approaches. Combined with the analysis, the strategy enhances the school's teaching capacity and learning effect.

2.2 In this section, 10 experts were interviewed (for the first time) by adopting strategies in order to obtain suggestions on strategy development.

According to the interview outline designed by the researcher, 10 experts, who are administrators and experts in the field of adult higher education from Zhejiang Province, were selected for this study to study the sustainable development support factors for promoting lifelong learning in adult higher education in Zhejiang Province through interviews. These 10 experts were selected based on the following criteria: 1. They have certain academic ability in adult academic education in Zhejiang Province and have published academic papers or set up projects on quality improvement of adult academic education. 2. They have certain years of management experience and management experience.

Table 4.14 Personal Information of Interviewees

Interviewees	Position	Exper-ience	University
Interviewees 1	Administrator/AssociateProfessor	15	Zhejiang Ocean University
Interviewees 2	Administrator/Associate professor	11	Zhejiang Ocean University
Interviewees 3	Administrator/Associate professor	13	Wenzhou University
Interviewees 4	Full-timeteacher	14	Wenzhou University
Interviewees 5	Administrator/Associate professor	8	Lishui University
Interviewees 6	Administrator/AssociateProfessor	17	Lishui University

Table 4.14 (Continued)

Interviewees	Position	Exper-ience	University
Interviewees 7	Full-timeteacher	19	Zhejiang University of Science and Technology
Interviewees 8	Administrator/Associate professor	9	Zhejiang University of Science and Technology
Interviewees 9	Administrator/Professor	20	Zhejiang Normal University
Interviewees 10	Administrator/AssociateProfessor	18	Zhejiang Normal University

2.2.1 The results of the content analysis of the interviews on the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province.

The researcher recorded the content of the interviews. Each interview lasted about 30 minutes. The total interview time for all interviewees was 300 minutes.The interview records of 10 interviewees are shown in Appendix C.

Based on the organization and statistics of the interview materials, the data are presented in the form of frequencies. As shown in Table 4.15.

Table 4.15 Statistics of Interview Content

Questions	Suggestions	Interviewees 1	Interviewees 2	Interviewees 3	Interviewees 4	Interviewees 5	Interviewees 6	Interviewees 7	Interviewees 8	Interviewees 9	Interviewees 10	Frequency	Percentage
	Establish institutional safeguards												
1	1.1 Introduce policies for the sustainable development of adult education.	√	√	√	√	√	√	√	√	√	√	10	100.00%
	1.2 Define talent development goals aligned with societal needs.		√	√	√	√	√	√		√	√	8	80.00%
	1.3 Optimize professional talent development plans.	√	√	√	√		√	√	√	√	√	9	90.00%
	1.4 Strengthen the practical requirements of curriculum design.		√	√	√	√	√		√	√		7	70.00%
	1.5 Integrate the concept of lifelong learning into the curriculum.	√	√		√	√	√	√	√	√	√	9	90.00%
	Enhance the management system												
2	2.1 Establish a robust teaching organization and management system.	√	√	√	√	√	√	√	√	√	√	10	100.00%
	2.2 Enhance teacher training.		√	√	√	√	√	√	√	√	√	9	90.00%
	2.3 Promote teacher exchanges and cooperation	√	√		√		√	√		√	√	7	70.00%
	2.4 Focus on teacher ethics education.	√		√		√	√	√	√		√	7	70.00%
	2.5 Improve the teacher evaluation and incentive system.	√	√	√	√	√		√	√	√	√	9	90.00%

Table 4.15 (Continued)

Questions	Suggestions	Interviewees 1	Interviewees 2	Interviewees 3	Interviewees 4	Interviewees 5	Interviewees 6	Interviewees 7	Interviewees 8	Interviewees 9	Interviewees 10	Frequency	Percentage
	2.6 Strengthen teacher training through experience in enterprises.		√	√	√		√	√	√		√	7	70.00%
	2.7 Enhance teachers' information technology skills.	√			√	√	√	√	√	√		7	70.00%
	2.8 Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.	√	√	√	√	√	√	√	√		√	9	90.00%
	Enhance learning motivation												
3	3.1 Developing the concept of lifelong learning	√	√	√	√	√	√	√	√	√	√	10	100.00%
	3.2 Actively participate in school-organized activities, lectures, and forums.			√	√	√	√	√	√	√		7	60.00%
	3.3 Set clear learning goals.	√	√	√		√		√	√	√	√	8	80.00%
	3.4 Communicate more with teachers and actively participate in classroom interactions.	√	√		√	√	√	√	√	√	√	9	90.00%
	3.5 Interact more with classmates and find study methods that work best for you.	√		√	√	√	√		√	√	√	8	80.00%
	3.6 Enhance your time management skills for studying.	√	√		√	√	√	√	√	√	√	9	90.00%
	3.7 Establish student scholarships.		√	√	√	√	√	√			√	7	70.00%

Table 4.15 (Continued)

Questions	Suggestions	Interviewees 1	Interviewees 2	Interviewees 3	Interviewees 4	Interviewees 5	Interviewees 6	Interviewees 7	Interviewees 8	Interviewees 9	Interviewees 10	Frequency	Percentage
Reinforce quality assessment													
4	4.1 Establish a scientific teaching quality assessment system.	√	√	√	√	√	√	√	√	√	√	10	100.00%
	4.2 Develop standards for the skills that students should master.	√		√	√	√	√		√	√	√	8	80.00%
	4.3 Conduct a learning satisfaction survey.		√	√	√	√	√	√	√		√	8	80.00%
	4.4 Continuously focus on the overall development of students.	√	√		√	√		√	√	√	√	8	80.00%
	4.5 Establish a quality assessment platform using internet technology.	√	√	√	√	√	√	√	√	√		9	90.00%

According to Table 4.15, the table lists the various strategies and recommendations collected from the interviews with the 10 participants. These strategies aim to improve the sustainability of lifelong learning in adult academic education in Zhejiang Province. The interviewees provided feedback on four key areas, including institutional safeguards, management systems, learning motivation and quality assessment.

First, the interviews discussed the first strategy suggestion of institutional safeguard, which included five main areas, including the introduction of policies for the sustainable development of adult academic education, clarifying the goal of cultivating talents that are in demand by society, optimizing the professional training program, reinforcing the practical needs of curriculum design, and integrating the concept of lifelong learning into curricula, which were widely accepted by the

interviewees, with a support rate of between 70% and 100%. This strong consensus suggests that institutional guarantee is a key element in improving the sustainable development of adult academic education in Zhejiang Province.

Secondly, the second strategic suggestion was discussed as improving the management system, which mainly includes sound management system of teaching organization, strengthening teachers' training, promoting teachers' exchange and cooperation, focusing on teachers' moral education, improving teachers' assessment and incentive mechanism, strengthening teachers' exercise in enterprises, strengthening teachers' information technology ability, and innovating teaching methods by using modern education technology, such as multimedia and the Internet, and so on. These suggestions were recognized by the respondents, with support rates ranging from 70% to 100%. The support rate indicates that improving the management system is a quality element to strengthen the sustainable development of adult academic education in Zhejiang Province.

Again, the third strategic suggestion is to enhance learning motivation, which mainly includes establishing positive learning concepts, encouraging participation in school-organized activities, lectures and forums, setting clear learning goals, communicating with teachers, actively participating in classroom interactions, interacting with classmates, finding suitable learning methods, strengthening one's own learning time management skills, and setting up scholarships for students, etc. These suggestions are recognized by the respondents and supported by 60% to 100% of them. These suggestions were recognized by the respondents, with support rates ranging from 70% to 100%. The support rate indicates that enhancing learning motivation is an internal driving factor to improve the sustainable development of adult academic education in Zhejiang Province.

Finally, the fourth strategic recommendation was discussed as strengthening quality assessment, which mainly included the establishment of a scientific teaching quality assessment system, the development of standards for the skills that students should master, the conduct of learning satisfaction surveys, the continuous attention to the overall development of students, and the establishment of an Internet

technology to build a quality assessment platform. These suggestions were widely recognized by the respondents, with support rates ranging from 80% to 100%. The support rate indicates that strengthening quality assessment is a way to grasp the sustainable development of adult academic education in Zhejiang Province.

In conclusion, these data show a high degree of agreement among the respondents on the suggested strategies to improve the sustainability of lifelong learning in adult academic education in Zhejiang Province. The strong support for these recommendations indicates a consensus on the need for institutional safeguards, management embodiment, learning motivation and quality assessment.

2.2.2 Table of results of interview analysis (second time)

In the focus interviews, in addition to providing strategic recommendations, respondents answered questions about the strengths, weaknesses, opportunities and threats of each factor. The summarized information is presented in Table 4.16.

Table 4.16 Analyzing the interviews

S	W
S1 Flexible learning formats	W1 Poor implementation of the teaching and learning process
S2 Variety of specialties	
S3 National recognition of qualifications	W2 Insufficient learning atmosphere
S4 High level of policy support and resource commitment	W3 Uneven distribution of educational resources
	W4 Financial insecurity

O	T
O1 Popularization of the concept of lifelong learning	T1 Increased competition in the market
O2 Policy reforms and opportunities	T2 Policy change and uncertainty
O3 Adult academic education is growing rapidly and is in high demand	T3 The Challenge of Increased Social Recognition

According to Table 4.16, the SWOT analysis based on the content of the interviews points out several key points for the authorities in charge of adult education in Zhejiang Province:

This form of education benefits from national policy support, and this policy gives many people the opportunity to improve themselves. The institutional system and management system of adult academic education have been continuously improved, including the existence of specialized management departments and school sponsoring units, while the learning forms and professional settings are relatively rich. Despite these strengths, there are also some challenges, such as the lack of quality in the implementation of the teaching process, the lack of a strong learning atmosphere, the uneven distribution of educational resources and other shortcomings. These weaknesses indicate the need for more stability in teaching practice. At the same time, there are 3 aspects of the program, including the popularization of the concept of lifelong learning, the continuous reform of policies and the rapid development and high demand for adult academic education.

However, this form of education also faces the threat of fierce market competition, policy changes and social acceptance, which may limit its development.

Overall, the content analysis suggests that although the development of adult academic education is well grounded and sustainable, weaknesses must be addressed and threats mitigated are critical to sustaining its development.

Table 4.17 Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis:
interview content

S	W
S1 Large national support policies	W1 Difficulty in ensuring the quality of teaching
S2 Relatively low threshold for enrolment	W2 Acquisition of academic qualifications on a part-time basis
S3 Flexible learning formats	W3 Lack of innovation in teaching methods

O	T
O1 Implementation of the concept of lifelong learning	T1 Competitive
O2 Strong market demand	T2 Risks arising from policy changes
O3 Technological progress	T3 Instability of the student population

It also reveals challenges such as unstable teaching quality, lack of innovation in teaching methods and fierce competition in the industry. Utilizing opportunities such as technological advances and improving the concept of lifelong learning, while addressing weaknesses and mitigating threats, is critical to solving the sustainable development of lifelong learning in adult academic education in Zhejiang Province.

2.2.2 Based on the results of the interviews in the second part of the questionnaire analysis and the third part of the questionnaire analysis, i.e., SWOT - PEST analysis of the interviews, it can be found that the sustainable development of lifelong learning in adult higher education in Zhejiang Province needs to be optimized in the aspects of institutional safeguard, management system, motivation for learning and quality assessment. Based on the questionnaire and interviews, this study proposes 26 strategies for sustainable development strategies. See Table 4.18.

Table 4.18 List of Strategies

NO	Aspects of Strategies	Numbers of Measures
1	Establish institutional safeguards	6
2	Enhance the management system	8
3	Enhance learning motivation	7
4	Reinforce quality assessment	5
	Total	26

According to Table 4.18, this is a synthesized representation of strategies aimed at enhancing all aspects of sustainability in lifelong learning for adult qualifications in Zhejiang Province. Each strategy is associated with a specific measure, reflecting a structured approach to achieving targeted outcomes in different areas. The components of these strategies cover the areas of focus and include four areas: institutional safeguards, management systems, learning motivation, and quality assessment.

The strategies for providing institutional safeguards include five areas of measures, including the introduction of policies for the sustainable development of adult education and the clarification of the objectives of cultivating talents that are in demand by society.

Strategies to improve the management system include nine areas of measures aimed at strengthening the management of teaching and learning, such as enhancing the competence of teachers and improving the governance structure.

The strategy of enhancing learning motivation includes measures in 7 areas, aiming at strengthening learners' initiative and interest in learning.

The strategy of strengthening quality assessment consists of 5 measures, which focuses on verifying the effectiveness of learning in order to improve the quality of teaching and learning.

The above strategic framework aims to enhance the realization of the vision and mission of adult learning by focusing on key areas of development, addressing current challenges, and taking advantage of existing opportunities for growth and improvement. The specific strategies are as follows (Table 4.19 to Table 4.22):

Table 4.19 Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Establish institutional safeguards	1. Introduce policies for the sustainable development of adult education.
	2. Define talent development goals aligned with societal needs.
	3. Optimize professional talent development plans.
	4. Strengthen the practical requirements of curriculum design.
	5. Integrate the concept of lifelong learning into the curriculum.
	6. Strengthening financial guarantees

According to Table 4.19, a total of six measures are proposed for the institutional guarantee strategy for the sustainable development of lifelong learning in adult academic education in Zhejiang Province:

1) Introduce policies for the sustainable development of adult education.

2) Define talent development goals aligned with societal needs.

3) Optimize professional talent development plans.

4) Strengthen the practical requirements of curriculum design.

5) Integrate the concept of lifelong learning into the curriculum.

6) Strengthening financial guarantees

Table 4.20 Strategies for Improving Sustainable Development of Lifelong Learning in
Adult Higher Education in Zhejiang Province

Strategies	Measures
Enhance the management system	1. Establish a robust teaching organization and management system.
	2. Enhance teacher training.
	3. Promote teacher exchanges and cooperation.
	4. Focus on teacher ethics education.
	5. Enhance the teacher evaluation and incentive system.
	6. Strengthen teacher training through experience in enterprises.
	7. Enhance teachers' information technology skills.
	8. Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.

According to Table 4.20, a total of eight measures are proposed for the strategy of improving the management system for the sustainable development of lifelong learning of adult higher education in Zhejiang Province:

1) Establish a robust teaching organization and management system.

2) Enhance teacher training.

3) Promote teacher exchanges and cooperation.

4) Focus on teacher ethics education.

5) Enhance the teacher evaluation and incentive system.

6) Strengthen teacher training through experience in enterprises.

7) Enhance teachers' information technology skills.

8) Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.

Table 4.21 Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Enhance learning motivation	1. Developing the concept of lifelong learning
	2. Actively participate in school-organized activities, lectures, and forums.
	3. Set clear learning goals.
	4. Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom
	5. Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves
	6. Create a detailed study plan and use time management tools to strengthen your study time management skills.
	7. Establish student scholarships.

According to Table 4.21, a total of seven measures were proposed for the strategy of enhancing learning motivation for the sustainable development of lifelong learning in adult higher education in Zhejiang Province:

1) Developing the concept of lifelong learning

2) Actively participate in school-organized activities, lectures, and forums.

3) Set clear learning goals.

4) Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom

5) Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves

6) Create a detailed study plan and use time management tools to strengthen your study time management skills.

7) Establish student scholarships.

Table 4.22 Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Reinforce quality assessment	1.Establish a scientific teaching quality assessment system.
	2.Develop standards for the skills that students should master.
	3.Conduct a learning satisfaction survey.
	4.Continuously focus on the overall development of students.
	5.Establish a quality assessment platform using internet technology.

According to Table 4.22, a total of five measures are proposed for the enhanced quality assessment strategy for the sustainable development of lifelong learning in adult education in Zhejiang Province:

1) Establish a scientific teaching quality assessment system.

2) Develop standards for the skills that students should master.

3) Conduct a learning satisfaction survey.

4) Continuously focus on the overall development of students.

5) Establish a quality assessment platform using internet technology.

2.3 Summary of the development strategy

Based on the information provided on the sustainable development strategy for lifelong learning in adult academic education in Zhejiang Province, the following is a structured outline for developing a comprehensive strategy using the results of the SWOT analysis:

Table 4.23 Strategies for Enhancing the Sustainability of Lifelong Learning in Adult Education in Zhejiang Province Table

Strategies	Amount	Measures
Establish institutional safeguards	6	**Establish institutional safeguards :** Zhejiang Province should formulate and introduce a series of policies and regulations related to lifelong learning of adult academic education, so as to Establisha solid institutional guarantee for the sustainable development of adult academic education. Clearly cultivating talents for the needs of society:Adult academic education in Zhejiang Province should be closely centered on the needs of economic and social development, and clearly cultivate talents for the needs of society. Optimization of professional talent training program:This includes adjusting the curriculum, updating the teaching content and improving the teaching methods. By building a scientific and reasonable curriculum system and strengthening the practical teaching links, the practical operation ability and problem-solving ability of students can be improved.

Table 4.23 (Continued)

Strategies	Amount	Measures
		Strengthening the practical needs of curriculum design : Through increasing practical teaching links, strengthening school-enterprise cooperation, and carrying out internship and practical training, students' practical ability and professionalism can be improved.
		Integrate the concept of lifelong learning into the curriculum: Adult higher education in Zhejiang Province should integrate the concept of lifelong learning in the curriculum and guide students to establish the concept of lifelong learning. This requires teachers to focus on cultivating students' key abilities such as independent learning ability, information acquisition ability and critical thinking ability in the teaching process.
		Strengthening financial guarantee: Establishing a mechanism for dynamic adjustment of tuition fee standards for higher-education continuing education, exploring the management mode of credit-based fee charging, and promoting a sound financing mechanism for higher-education continuing education that combines the input of the organizers and the reasonable sharing of cultivation costs by the learners.
Enhance the management system	8	Enhance the teaching organization and management system: Clarify the responsibilities and authority of management departments at all levels, establish scientific teaching management

Table 4.23 (Continued)

Strategies	Amount	Measures
		processes, and formulate comprehensive teaching rules and regulations.
		Strengthen the training of teachers:Regularly organize teachers to participate in professional training, academic exchanges, and teaching seminars, and encourage teachers to pursue higher degrees and qualifications.
		Promoting teachers' exchange and cooperation : By promoting communication and cooperation among teachers, teaching experiences can be shared, teaching methods discussed, and teaching challenges addressed. and the formulation of teacher ethics standards, teachers are guided to establish a positive image of teacher ethics.
		mprove the assessment and incentive mechanism of teachers: Establish a sound teacher evaluation and incentive mechanism, incorporating teachers' teaching achievements, research achievements, and professional ethics into the evaluation scope, and providing corresponding rewards and commendations.
		Strengthening teachers' exercise in enterprises:By gaining practical experience in companies, teachers can gain a deeper understanding of industry development and market demand, incorporate practical experience into their teaching, and improve the practicality and relevance of their teaching.

Table 4.23 (Continued)

Strategies	Amount	Measures
		Strengthening teachers' informatization technology capacity:Strengthen training for teachers in information technology skills to improve their information literacy and application capabilities. Utilizing modern educational technology and innovating teaching methods:Innovative teaching methods: Modern educational technologies such as multimedia and the Internet offer unlimited IFocus on teachers' moral education:Through activities to promote teacher ethics and conduct possibilities for innovative teaching methods.
Enhancing Learning Motivation	7	Developing the concept of lifelong learnin:Through ideological education, role model guidance, and other methods, we inspire students' enthusiasm and motivation for learning, so that they are willing to invest time and energy in learning from the bottom of their hearts. Encourage students to participate in school-organized activities, lectures and forums:: Regularly organize various activities, lectures, and forums. Students set up clear learning goals:Set specific, measurable learning goals. Setting clear learning goals can help students better understand their learning direction and tasks, thereby enhancing their motivation and sense of responsibility. More communication between students and teachers, active participation in classroom interaction:Set up interactive classroom activities,

Table 4.23 (Continued)

Strategies	Amount	Measures
		encourage questions and discussions, communicate more with teachers, and actively participate in classroom interactions.
		Interact more with classmates to find suitable learning methods:Organize group cooperative learning, share learning experiences, interact with classmates, and find learning methods that suit you.
		Strengthening one's study time management ability:By creating study plans and setting study priorities, students can better manage their study time and avoid procrastination and wasted time.
		Setting up student scholarships: Schools should establish scholarships based on students' academic performance, comprehensive qualities, and contributions, and commend and reward students who perform well.
Reinforce quality assessment	5	Establishing a scientific teaching quality assessment system: A scientific teaching quality assessment system should cover all aspects of the teaching process, including teaching content, teaching methods, and teaching effectiveness, to ensure the comprehensiveness and objectivity of the assessment.
		Setting standards for the skills that students should master:By establishing specific skill standards, clear goals and directions can be provided for teaching, and clear guidance can be provided for student learning.

Table 4.23 (Continued)

Strategies	Amount	Measures
		Conducting learning satisfaction surveys:By regularly conducting learning satisfaction surveys, we can promptly understand students' satisfaction and opinions regarding teaching content, teaching methods, teaching resources, and other aspects, providing valuable reference for teaching improvements. Continuous attention to students' all-round development: Students' physical and mental health, professional competence, and innovative abilities. Schools should establish a comprehensive student development evaluation system, collect student information through multiple channels and methods, and gain a comprehensive understanding of students' development status. Utilizing Internet technology to establish a quality assessment platform:Establish a quality assessment platform that can perform online teaching quality assessments, online student skill tests, online learning satisfaction surveys, and other functions to improve the efficiency and accuracy of quality assessments.

2.3.1 Vision, Misson, and Goals

1) Establish institutional safeguards

Introducing policies for the sustainable development of adult academic education: Zhejiang Province should formulate and introduce a series of policies and regulations related to lifelong learning of adult academic education, so as to Establisha solid institutional guarantee for the sustainable development of adult academic education. These policies should clarify the status, objectives, tasks and development direction of adult academic education, and provide clear guidance and norms for education administrative departments and higher education institutions at all levels. At the same time, the policies should also pay attention to the funding input, teacher team building and teaching resources allocation of adult academic education to ensure that adult academic education can be fully supported and guaranteed.

Clearly cultivating talents for the needs of society: Adult academic education in Zhejiang Province should be closely centered on the needs of economic and social development, and clearly cultivate talents for the needs of society. This requires each higher education institution to combine the needs of local economic construction, scientifically and reasonably determine the type of adult academic education, school level and professional settings. By cultivating high-quality talents with innovative spirit and practical ability, it provides strong talent support and intellectual support for the economic and social development of Zhejiang.

Optimization of professional talent training program: in order to meet the needs of economic and social development and personal career development, adult academic education in Zhejiang Province should constantly optimize the professional talent training program. This includes adjusting the curriculum, updating the teaching content and improving the teaching methods. By building a scientific and reasonable curriculum system and strengthening the practical teaching links, the practical operation ability and problem-solving ability of students can be improved. At the same time, it should also pay attention to cultivating students' comprehensive quality and innovation ability, laying a solid foundation for their lifelong development.

Strengthening the practical needs of curriculum design : on the basis of optimizing the professional personnel training program, adult education in Zhejiang Province should further strengthen the practical needs of curriculum design. Through increasing practical teaching links, strengthening school-enterprise cooperation, and carrying out internship and practical training, students' practical ability and professionalism can be improved. At the same time, it should also focus on cultivating students' innovative thinking and problem-solving ability, so that they can better adapt to market demands and changes in their future work.

Integrate the concept of lifelong learning into the curriculum: lifelong learning is the basic requirement of modern society for everyone, and it is also one of the important goals of adult academic education. Therefore, adult academic education in Zhejiang Province should integrate the concept of lifelong learning in the curriculum and guide students to establish the concept of lifelong learning. This requires teachers to focus on cultivating students' key abilities such as independent learning ability, information acquisition ability and critical thinking ability in the teaching process. At the same time, they should also introduce the concept and methods of lifelong learning to students through the provision of relevant courses, lectures and training, so as to stimulate their motivation and interest in continuous learning.

Strengthening financial guarantee: Establishing a mechanism for dynamic adjustment of tuition fee standards for higher-education continuing education, exploring the management mode of credit-based fee charging, and promoting a sound financing mechanism for higher-education continuing education that combines the input of the organizers and the reasonable sharing of cultivation costs by the learners. Ensure that adult academic education has sufficient financial support to guarantee the smooth progress of education and teaching.

To sum up, the sustainable development of lifelong learning of adult academic education in Zhejiang Province needs to start from the policy formulation, talent cultivation objectives, optimization of professional talent cultivation program,

strengthening of curriculum design practice needs and integration of lifelong learning concepts to form an all-around, multi-level institutional guarantee system.

2) Enhance the management system

Enhance the teaching organization and management system: in order to ensure the orderly conduct and teaching quality of adult education in Zhejiang Province, it is necessary to Enhance the teaching organization and management system. This includes clarifying the responsibilities and authority of the management departments at all levels, establishing scientific teaching management process, and formulating perfect teaching rules and regulations. Through a sound teaching organization and management system, we can ensure the standardization and high efficiency of teaching activities and Establish strong guarantee for the sustainable development of adult academic education.

Strengthen the training of teachers: Teachers are the core force of adult education, and their teaching level and professionalism directly affect the quality of teaching and the learning effect of students. Therefore, it is necessary to strengthen the training of teachers and continuously Enhance their teaching level and professionalism. This includes organizing regular professional training, academic exchanges and teaching seminars for teachers, as well as encouraging teachers to pursue higher levels of qualifications and degrees. By strengthening teacher training, the teaching ability and innovative spirit of teachers can be continuously upgraded, thus injecting new vitality into the sustainable development of adult academic education.

Promoting teachers' exchange and cooperation: Teachers' exchange and cooperation is an important way to promote the improvement of teaching standards and quality. By promoting exchanges and cooperation among teachers, teaching experience can be shared, teaching methods can be explored, and teaching problems can be solved, so as to jointly Enhance the teaching level and teaching quality. Adult academic education in Zhejiang Province should establish a mechanism for teachers' exchange and cooperation, provide teachers with platforms

and opportunities for exchange and cooperation, and encourage them to actively participate in academic exchanges and teaching seminars.

Focus on teachers' moral education: Teachers' moral is the foundation of teachers and the soul of education and teaching work. Focusing on teachers' moral education can guide teachers to establish correct educational concepts and professional ethics, enhance their sense of responsibility and sense of mission, so as to better fulfill their duties of teaching and educating people. Adult academic education in Zhejiang Province should strengthen the education of teachers' ethics, and guide teachers to establish a good image of teachers' ethics by carrying out the activities of building teachers' ethics and formulating the norms of teachers' ethics.

Improve the assessment and incentive mechanism of teachers: a perfect assessment and incentive mechanism is an important means to stimulate the enthusiasm and creativity of teachers. By formulating reasonable assessment standards and incentives, teachers can be encouraged to actively devote themselves to teaching and constantly Enhance their teaching level and quality. Adult academic education in Zhejiang Province should establish a perfect assessment and incentive mechanism for teachers, and include teachers' teaching achievements, scientific research achievements and teachers' moral performance into the scope of assessment, and give corresponding rewards and commendations.

Strengthening teachers' exercise in enterprises: teachers' exercise in enterprises is an important way to Enhance teachers' practical ability and professionalism. By exercising in enterprises, teachers can deeply understand the development of the industry and market demand, integrate practical experience into teaching, and Enhance the practicality and pertinence of teaching. Adult academic education in Zhejiang Province should encourage and support teachers to exercise in enterprises, Establish opportunities and platforms for teachers to practice and exercise, and promote in-depth cooperation between teachers and enterprises.

Strengthening teachers' informatization technology capacity: informatization technology is an important means of modern education and teaching, and an important way to improve the quality and efficiency of teaching.

Strengthening the training of teachers' informatization technology ability can Enhance teachers' ability and level of teaching with informatization technology, and Establish strong support for innovative teaching means and methods. Adult academic education in Zhejiang Province should strengthen the training of teachers' informatization technology ability and improve their informatization literacy and application ability.

Utilizing modern educational technology and innovating teaching methods: modern educational technology such as multimedia and Internet provides infinite possibilities for innovating teaching methods. Through the use of modern educational technology, teaching content can be enriched, teaching forms can be expanded, and teaching efficiency and quality can be improved. Adult education in Zhejiang Province should actively explore and use modern education technology, such as multimedia teaching, network teaching, distance education, etc., to innovate teaching means and methods, and inject new vitality into adult education.

To summarize, improving management system is an important guarantee for the sustainable development of lifelong learning of adult academic education in Zhejiang Province. Through such strategies as improving the management system of teaching organization, strengthening teachers' training, promoting teachers' exchanges and cooperation, focusing on teachers' moral education, perfecting the assessment and incentive mechanism, strengthening teachers' exercise in enterprises, strengthening teachers' informatization technology ability and using modern education technology to innovate teaching means, the teaching level and quality of adult academic education in Zhejiang Province can be constantly improved, and the sustainable development of adult academic education can be laid on a Solid foundation for the sustainable development of adult academic education.

3) Enhancing Learning Motivation

Developing the concept of lifelong learnin. Establishing a lifelong learning concept is the basis for enhancing learning motivation. In adult academic education, students often face pressure from work, family and other aspects, and are prone to negative attitudes towards learning. Therefore, schools and teachers should actively

guide students to establish a lifelong learning concept, so that they can realize the importance of learning for personal growth and career development. Through ideological education and role models, students' enthusiasm and motivation for learning should be stimulated, so that they are willing to devote time and energy to learning from the bottom of their hearts.

Encourage students to participate in school-organized activities, lectures and forums: Schools should organize all kinds of activities, lectures and forums on a regular basis to provide students with rich learning resources and communication platforms. These activities can not only broaden students' knowledge, but also stimulate their interest and motivation in learning. By participating in these activities, students can learn about the latest academic dynamics, industry trends and career development information, thus enhancing the relevance and effectiveness of learning. At the same time, the interaction and communication in the activities can also enhance the friendship and cooperation among students and form a favorable learning atmosphere.

Students set up clear learning goals: Clear learning goals are the key to enhancing learning motivation. Students should set specific and measurable learning goals according to their actual situation and career development plan. These goals can be short-term, such as passing the exam of a certain course; they can also be long-term, such as obtaining a degree certificate of a certain specialty. Setting up clear learning goals can make students more clearly recognize their own learning direction and tasks, thus enhancing their motivation and sense of responsibility for learning.

More communication between students and teachers, active participation in classroom interaction: communication and interaction between students and teachers is an important part of enhancing learning motivation, through the establishment of classroom interaction, encouragement of questioning and discussion and more communication with the teacher, active participation in classroom interaction, the teacher should encourage students to actively ask questions, express their views, participate in classroom discussion and interaction. By

establishing a good teacher-student relationship with students, teachers can better understand the learning needs and difficulties of students and provide targeted guidance and assistance. At the same time, the active participation of students can also stimulate the teacher's enthusiasm and creativity in teaching, forming a good teaching and learning situation.

Interact more with classmates to find suitable learning methods: Interaction and communication among classmates are also important for enhancing learning motivation, through the organization of group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods. Students should actively participate in activities such as study groups to share learning experience and discuss learning methods with classmates. Through interactions and exchanges, students can learn about different learning styles and strategies so as to find learning methods suitable for themselves. Learning methods suitable for oneself can Enhance the efficiency and quality of learning, and enhance the confidence and motivation of learning.

Strengthening one's study time management ability: Good time management is the guarantee to enhance study motivation. Students should plan their study time reasonably to ensure that they can make full use of the limited time for studying. By making study plans and setting study priorities, students can better manage their study time to avoid procrastination and waste. At the same time, good time management can also help students balance work, family and study, reduce stress and Enhance study efficiency.

Setting up student scholarships: Setting up student scholarships is an effective means to motivate students to study. Schools should set up scholarships based on students' academic performance, comprehensive quality and contribution, and recognize and reward students with outstanding performance. The establishment of scholarships can stimulate students' learning motivation and creativity and make them work harder in their studies. At the same time, the scholarship can also become the honor and capital of students, adding highlights to their career development.

To summarize, enhancing learning motivation is the key to the sustainable development of lifelong learning in adult academic education in Zhejiang Province. By establishing students' positive learning concepts, encouraging them to participate in school-organized activities, setting up clear learning goals, strengthening communication and interaction with teachers and classmates, enhancing time management skills and setting up student scholarships, and other strategies, we can continuously stimulate students' enthusiasm and motivation for learning and lay a solid foundation for their lifelong learning and development.

4) Reinforce quality assessment

Establishing a scientific teaching quality assessment system: In order to ensure the sustainable development of adult education in Zhejiang Province, it is crucial to establish a scientific teaching quality assessment system. This system should cover all aspects of the teaching process, including teaching content, teaching methods, teaching effect, etc., to ensure the comprehensiveness and objectivity of the assessment. Through regular teaching quality assessment, problems and deficiencies in teaching can be found in time, providing a strong basis for teaching improvement. At the same time, a scientific teaching quality assessment system can also motivate teachers to continuously Enhance their teaching level and promote the continuous improvement of teaching quality.

Setting standards for the skills that students should master: Defining the standards for the skills that students should master is an important part of Reinforce quality assessment. These standards should be formulated according to the characteristics of adult education and market demand to ensure that the knowledge and skills learned by students can meet the needs of social development. By formulating specific skill standards, clear objectives and directions can be provided for teaching and clear guidelines for students' learning. At the same time, these skill standards can also be used as an important basis for teaching quality assessment, helping assessors to more accurately judge students' learning effect and teaching effectiveness.

Conducting learning satisfaction surveys: Learning satisfaction surveys are an effective way to understand students' direct feedback on teaching quality and teaching effectiveness. By conducting regular learning satisfaction surveys, students' satisfaction and opinions on teaching content, teaching methods, teaching resources and other aspects can be timely understood, providing a powerful reference for teaching improvement. At the same time, learning satisfaction survey can also enhance students' participation and sense of belonging, and stimulate their learning enthusiasm and initiative. Schools should pay attention to students' feedback and take timely measures to Enhance teaching and enhance students' learning satisfaction.

Continuous attention to students' all-round development: Enhanced quality assessment should not only focus on students' academic performance, but also continue to pay attention to students' all-round development. This includes students' physical and mental health, professionalism, and innovation ability. Schools should establish a perfect evaluation system for students' development, collect students' information through multiple channels and methods, and fully understand the development of students. At the same time, schools should also provide students with diversified educational resources and activity platforms to promote students' all-round development. Continuous attention to the overall development of students is an important aspect of Reinforce quality assessment and the key to realizing the sustainable development of adult academic education.

Utilizing Internet technology to establish a quality assessment platform: With the continuous development of Internet technology, it has become possible to utilize Internet technology to establish a quality assessment platform. This platform can realize online assessment of teaching quality, online testing of students' skills, online survey of learning satisfaction and other functions to Enhance the efficiency and accuracy of quality assessment. At the same time, Internet technology can also provide big data support for quality assessment, helping assessors to have a deeper understanding of the teaching situation and students' learning. The establishment of an Internet technology quality assessment platform is an innovative initiative to

Reinforce quality assessment and an important means to promote the sustainable development of adult academic education.

To summarize, Reinforce quality assessment is the key guarantee for the sustainable development of lifelong learning of adult academic education in Zhejiang Province. By establishing a scientific teaching quality assessment system, formulating the standards of skills that students should master, carrying out learning satisfaction surveys, paying continuous attention to the overall development of students, and utilizing Internet technology to establish a quality assessment platform, and other strategies, the quality and effect of teaching can be continuously improved, and a solid foundation can be laid for the lifelong learning and development of students.
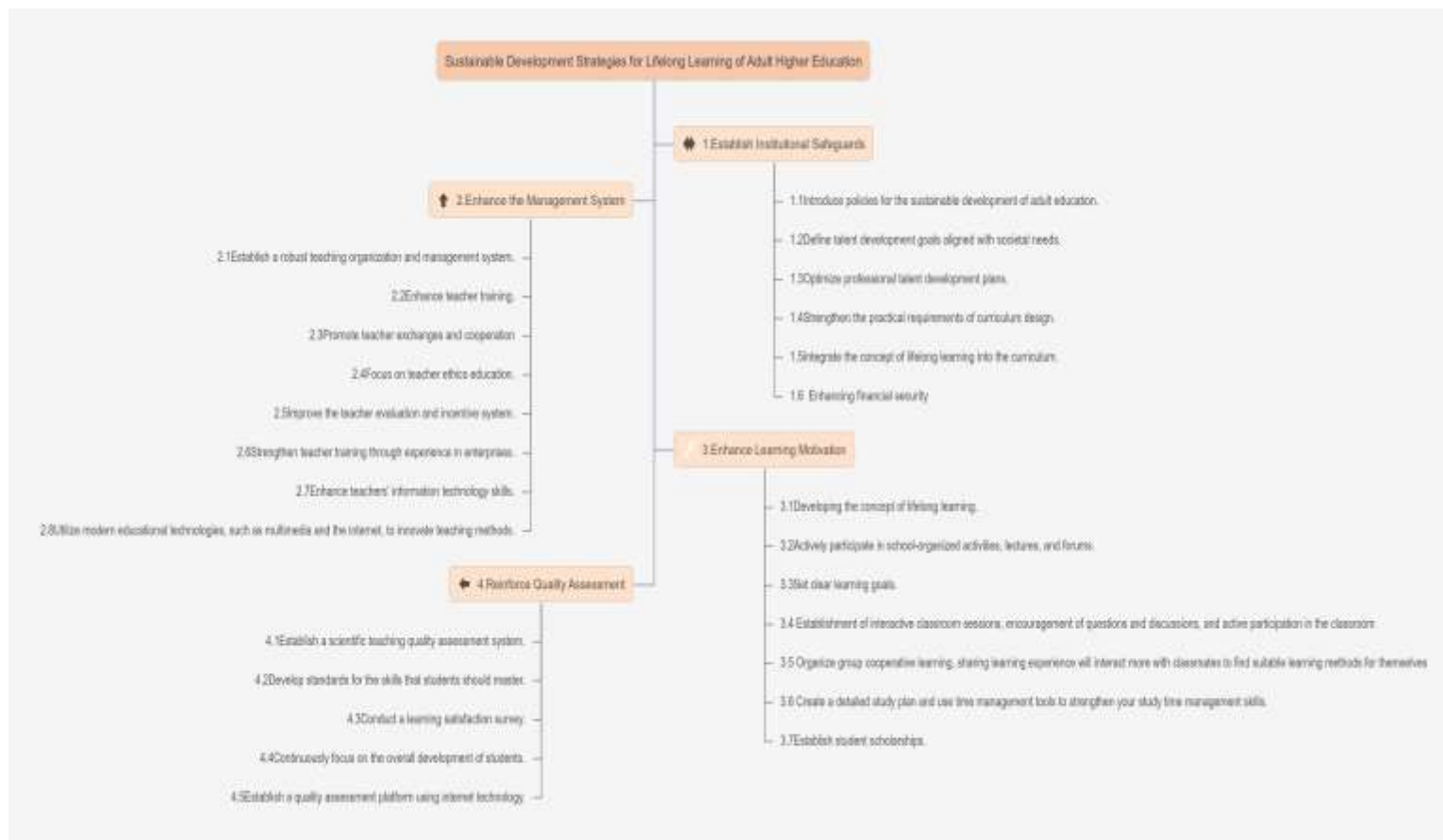
Figure 4.1 Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang Province Map

Results of the Adaptability and Feasibility Assessment of Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang Province.

3.1 Adaptability and feasibility assessment analysis of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province. The results of this stage of analysis were evaluated by an evaluation team consisting of five experts (Table 4.24). They mainly used the form of a five-level rating scale, i.e. highest, high, average, low and lowest. Each expert could select only one rating.

Table 4.24 List of Strategy Evaluation Experts

NO	Position
1	Zhejiang Normal University
	Director, Administration of Continuing Education
2	Wenzhou University
	Vice Dean, College of Continuing Education
3	Zhejiang University of Science and Technology
	Dean, College of Continuing Education
4	Zhejiang Ocean University
	Dean, College of Continuing Education
5	Lishui University
	Vice Dean, College of Continuing Education

Below are the detailed assessment results:

Table 4.25 Analytical Results of the Strategic Assessment

Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang	Feasibility			Adaptability		
	$\bar{\mathrm{X}}$	S.D.	result	$\bar{\mathrm{X}}$	S.D.	result
1.Establish institutional safeguards	4.61	0.22	highest	4.50	0.46	highest
2.Enhance the management system	4.52	0.24	highest	4.45	0.42	high
3.Enhance learning motivation	4.48	0.19	high	4.35	0.31	high
4.Reinforce quality assessment	4.51	0.16	highest	4.42	0.27	high
Total	**4.53**	**0.20**	**highest**	**4.43**	**0.36**	**high**

According to what is provided in Table 4.25, the mean value of adaptability of the four strategies to promote the sustainable development of lifelong learning in adult higher education in Zhejiang Province ranges from 4.35 to 4.50, and the mean value of feasibility ranges from 4.48 to 4.61, which are at the high to the highest level, which indicates that the research strategy has a high level of adaptability and feasibility.

Table 4.26 Results of the evaluation and analysis of strategies for establish
institutional safeguards

Assessment checklist	Feasibility			Adaptability		
	$\overline{\mathrm{X}}$	S.D.	result	$\overline{\mathrm{X}}$	S.D.	result
Establish Institutional Safeguards						
1. Introduce policies for the sustainable development of adult education.	4.70	0.25	highest	4.66	0.50	highest
2. Define talent development goals aligned with societal needs.	4.46	0.21	high	4.64	0.32	highest
3. Optimize professional talent development plans.	4.50	0.23	highest	4.72	0.27	highest
4. Strengthen the practical requirements of curriculum design.	4.66	0.24	highest	4.40	0.65	high
5. Integrate the concept of lifelong learning into the curriculum.	4.84	0.14	highest	4.24	0.56	high
6. Strengthening financial guarantees	4.54	0.26	highest	4.35	0.50	high
Total	4.61	0.22	highest	4.50	0.47	highest

According to what is provided in Table 4.26, the mean value of the adaptability of the strategy for promoting the sustainable development of lifelong learning in adult higher education in Zhejiang Province to establish institutional guarantee ranges from 4.24 to 4.72, and the mean value of the feasibility ranges from 4.46 to 4.84, which are at the high to the highest level, which indicates that the research strategy has a high level of adaptability and feasibility.

Table 4.27 Results of evaluation and analysis of strategies for enhance the
management systems

Assessment checklist	Feasibility			Adaptability		
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result
Enhance the Management System						
1. Establish a robust teaching organization and management system.	4.78	0.22	highest	4.31	0.42	high
2. Enhance teacher training.	4.56	0.23	highest	4.24	0.58	high
3. Promote teacher exchanges and cooperation.	4.41	0.20	high	4.48	0.51	high
4. Focus on teacher ethics education.	4.48	0.23	high	4.38	0.33	high
5. Enhance the teacher evaluation and incentive system.	4.52	0.17	highest	4.62	0.35	high
6. Strengthen teacher training through experience in enterprises.	4.44	0.26	high	4.44	0.47	high
7. Enhance teachers' information technology skills.	4.52	0.34	highest	4.62	0.28	highest
8. Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.	4.46	0.28	high	4.52	0.44	highest
Total	4.52	0.24	highest	4.45	0.42	high

According to what is provided in Table 4.27, the mean value of adaptability of
the strategy to promote the sustainable development of enhance the management
system for lifelong learning of adult higher education in Zhejiang Province ranges
from 4.24 to 4.62, and the mean value of feasibility ranges from 4.41 to 4.78, which
are at the high to the highest level, which indicates that the research strategy has a
high level of adaptability and feasibility.

Table 4.28 Results of the assessment and analysis of strategies to enhance learning
motivation

Assessment checklist	Feasibility			Adaptability		
	$\overline{X}$	S.D.	result	$\overline{X}$	S.D.	result
Enhance Learning Motivation						
1. Developing the concept of lifelong learning	4.62	0.12	highest	4.48	0.40	high
2. Actively participate in school-organized activities, lectures, and forums.	4.33	0.14	high	4.44	0.32	high
3. Set clear learning goals.	4.43	0.16	high	4.32	0.35	high
4. Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom	4.34	0.19	high	4.26	0.05	high
5. Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves	4.68	0.24	highest	4.12	0.28	High
6. Create a detailed study plan and use time management tools to strengthen your study time management skills.	4.58	0.35	highest	4.34	0.40	high
7. Establish student scholarships.	4.42	0.15	high	4.50	0.34	highest
Total	**4.48**	**0.19**	**high**	**4.35**	**0.31**	**high**

According to what is provided in Table 4.28, the mean value of adaptability of the strategy of promoting sustainable development of lifelong learning to enhance learning motivation in adult higher education in Zhejiang Province ranges from 4.12 to 4.50, and the mean value of feasibility ranges from 4.34 to 4.62, which are at the high to the highest level, which indicates that the research strategy has a high level of adaptability and feasibility.

Table 4.29 Results of the assessment analysis of the Reinforce Quality Assessment

Assessment checklist	Feasibility			Adaptability		
	$\overline{\mathrm{X}}$	S.D.	result	$\overline{\mathrm{X}}$	S.D.	result
Reinforce Quality Assessment						
1. Establish a scientific teaching quality assessment system.	4.78	0.15	highest	4.61	0.32	highest
2. Develop standards for the skills that students should master.	4.46	0.14	high	4.38	0.22	high
3. Conduct a learning satisfaction survey.	4.30	0.24	high	4.34	0.35	high
4. Continuously focus on the overall development of students.	4.59	0.16	highest	4.44	0.21	high
5. Establish a quality assessment platform using internet technology.	4.42	0.14	high	4.36	0.29	high
Total	**4.51**	**0.16**	**highest**	**4.43**	**0.28**	**high**

According to what is provided in Table 4.29, the mean value of the adaptability of the reinforce quality assessment strategy for promoting the sustainable development of lifelong learning in adult higher education in Zhejiang Province ranges from 4.34 to 4.61, and the mean value of the feasibility ranges from 4.30 to 4.78, both of which are at the high to the highest level, which indicates that the research strategy has a high degree of adaptability and feasibility.

The study not only comprehensively and deeply explored a variety of strategies to improve the quality of adult higher education training, but also meticulously analyzed the core areas of system construction, management system, learning motivation and quality assessment, and proposed a series of specific, feasible and innovative measures. These strategies and measures not only have a solid theoretical foundation, but also show a high degree of adaptability and practicability, and are able to flexibly respond to various challenges and changes in adult academic education. They provide a clear direction and strong guidance for the reform and practice of adult education, so that educators can have a basis and rules to follow in practice. At the same time, the effectiveness and practical value of these strategies and measures have also been initially verified in practice, laying a solid foundation for improving the overall level and quality of adult education and providing valuable experience and reference for the future reform and development of adult education.

Chapter 5

Conclusion Discussion and Recommendations

This study in the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province has the following three research objectives: 1) to study the current situation and the expected situation of the sustainable development of lifelong learning of adult higher education in Zhejiang Province. 2) to formulate the strategy of the sustainable development of lifelong learning of adult higher education in Zhejiang Province. 3) to evaluate the adaptability and feasibility of the strategy of the sustainable development of lifelong learning of adult higher education in Zhejiang Province.

The sample group of this study was selected by purposive sampling, 384 students in 5 universities in Zhejiang Province were selected for questionnaire survey, and 10 experts were selected for interview. The research instruments included 1) questionnaires, 2) interview and 3) Strategies, and 4) Strategies evaluation form. The statistics to analyze the data were percentages, mean, standard deviations, Modified Priority Needs Index (PNImodified), and content analysis. For the presentation of the research results, the details were as follows:

Conclusion

The research on the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province has been carried out by the researcher in the following three steps.

Phase 1: Research results on the status quo and expectation of sustainable development of lifelong learning of adult higher education in Zhejiang Province.

Phase 2: Research results: countermeasures for the sustainable development of adult higher education lifelong learning in zhejiang province.

Phase 3: The evaluation results of the adaptability and feasibility of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province.

The details of the research findings are as follows:

1. Research results on the status quote and expectation of sustainable development of lifelong learning of adult higher education in Zhejiang Province.

A total of 384 valid questionnaires were received for the questionnaire on the current and expected situation. 170 (44.3%) of the respondents were boys and 214 (55.7%) were girls. There were 207 (53.9%) first year students and 177 (46.1%) second year students. The classification of students is 204 students (53.1%) in Arts and 180 students (46.9%) in Science. Employment status, there are 359 students (93.5%) who are employed and 25 students (6.5%) who are to be employed. The distribution of the overall population, subject categories and employment status in this questionnaire is even.

The status quoting and expectation of sustainable development of lifelong learning of adult higher education in Zhejiang Province has four aspects, namely, curriculum design, teaching and learing implementation, learning process and learning effect, which are as follows from high to low: teaching and learing implementation, learning effect, learning process and curriculum design.

After conducting a survey on the current status of sustainable development of lifelong learning in adult higher education in Zhejiang Province, the data showed that the mean values of the four aspects showed that the respondent students were at a medium level ($\bar{X}$=3.26, S.D.=0.94) on the current status of sustainable development of lifelong learning in adult academic education in Zhejiang Province. The mean values of all aspects are at a medium level, from high to low: teaching implementation ($\bar{X}$=3.32, S.D.=0.93), learning effect ($\bar{X}$=3.31, S.D.=0.94), course design ($\bar{X}$=3.23, S.D.=0.97) and learning process ($\bar{X}$=3.18, S.D.=0.90). The surveyed students' expectation situation of the sustainability of lifelong learning in adult academic education in Zhejiang Province is generally at a high level ($\bar{X}$=4.13, S.D.=0.90). The

average levels from the highest to the lowest are: teaching implementation ($\bar{X}$=4.23, S.D.=0.91), learning effect ($\bar{X}$=4.18, S.D.=0.88), curriculum design ($\bar{X}$=4.10, S.D.=0.89) and learning process ($\bar{X}$=4.01, S.D.=0.93). Currently, there is a gap between the current status of sustainable development of lifelong learning in adult academic education and the expected situation in Zhejiang Province. This indicates that adult academic education still needs to be developed. This can be reflected in the overall PNI value (PNI=0.22), which is, in descending order: teaching implementation (PNI=0.230), learning effect (PNI=0.219), learning process (PNI=0.217), and curriculum design (PNI=0.214). This indicates that the development of adult higher education needs to be improved in all four areas.

The current status of sustainable development of lifelong learning in adult higher education in Zhejiang Province is at a medium level in terms of course design ($\bar{X}$=3.23, S.D.=0.97). All aspects are at a medium level, the highest is: you think the schedule of the course is reasonable ($\bar{X}$=3.35, S.D.=0.97), and the lowest is: you think the structure of the course (i.e., theoretical courses, social practice courses, and combination of theoretical and social practice courses) is reasonable ($\bar{X}$=3.10, S.D.=0.99), which suggests that the sustainable development of lifelong learning of adult qualifications in Zhejiang Province needs to be upgraded in terms of the design of the course. This indicates that the sustainable development of lifelong learning in adult education in Zhejiang Province needs to be improved in terms of curriculum design. In terms of the survey students' expectations for course design, the overall level is still high ($\bar{X}$=4.08, S.D.=0.91). The highest is: you think the course schedule is reasonable ($\bar{X}$=4.13, S.D.=0.92), the lowest is: you think the curriculum of your major (including the ratio between compulsory courses, elective courses, practical skills courses) is reasonable ($\bar{X}$=4.04, S.D.=0.89). There is a gap between the current situation and the expected situation in terms of curriculum design to strengthen the sustainable development of lifelong learning in adult academic education in Zhejiang Province. This indicates that there is still a need to work on the curriculum design of adult higher education lifelong learning education in Zhejiang Province. This can be reflected in the total PNI value (PNI=0.208), with the highest being: you think the

course structure (i.e., theoretical courses, social practice courses, and the combination of theoretical courses and social practice courses) is suitable (PNI=0.246), and the lowest being: you think that the course schedule is reasonable (PNI=0.189).

The status of sustainable development of lifelong learning in adult higher education in Zhejiang Province is at a medium level in terms of teaching and learning implementation ($\bar{X}$=3.32, S.D.=0.93). All aspects are at a medium level, the highest is: you think the teachers' comprehensive quality is good ($\bar{X}$=3.72, S.D.=0.98), the lowest is: you think the teachers' interactive discussion in class is reasonable ($\bar{X}$=3.11, S.D.=0.96), which can show that the sustainable development of lifelong learning of adult higher education in Zhejiang Province in the aspect of the implementation of teaching and learning needs to be strengthened to improve. In terms of the survey students' expectations for teaching implementation, the overall level is still high ($\bar{X}$=4.10, S.D.=0.92). The highest is: you are satisfied with the learning support counseling ($\bar{X}$=4.26, S.D.=0.88), the lowest is: you think the task teaching objectives are clear ($\bar{X}$=4.02, S.D.=0.90). There is a gap between the current situation and the expected situation in terms of teaching and learning implementation to strengthen the sustainable development of lifelong learning in adult academic education in Zhejiang Province. This indicates that Zhejiang adult higher education lifelong learning education in teaching and learning implementation still needs to work hard. This can be reflected in the total PNI value (PNI=0.189), with the highest being: you are satisfied with learning support counseling (PNI=0.249), and the lowest being: you think that the teachers' overall quality is good (PNI=0.093).

The status of sustainable development of lifelong learning in adult higher education in Zhejiang Province is at a medium level in terms of learning process ($\bar{X}$=3.18, S.D.=0.90). All aspects are at medium level, the highest is: you are satisfied with your learning attitude ($\bar{X}$=3.30, S.D.=0.82), and the lowest is: you are disciplining yourself in the main process of learning, and you don't need other people to put pressure on you ($\bar{X}$=3.09, S.D.=0.91), which can indicate that the sustainable development of lifelong learning of adult higher education in Zhejiang Province

needs to be improved in the aspect of learning process in all the aspects to be enhanced. In terms of the survey students' expectations for the learning process, the overall level is still high ($\bar{X}$=4.09, S.D.=0.94). The highest is: you are satisfied with your learning attitude ($\bar{X}$=4.21, S.D.=0.91), and the lowest is: you will not take the initiative to take action to look for relevant help when you encounter incomprehensible places in the learning process ($\bar{X}$=4.01, S.D.=0.95). There is a gap between the current situation and the expectation of strengthening the sustainable development of lifelong learning of adult education in Zhejiang Province in terms of learning process. This indicates that the lifelong learning education of adult higher education in Zhejiang Province still needs to make efforts in the learning process. This can be reflected in the total PNI value (PNI=0.224), the highest is: you discipline yourself in the main process of learning and do not need pressure from others (PNI=0.231), the lowest is: you communicate with your teacher more (PNI=0.215).

The status of sustainable development of lifelong learning in adult higher education in Zhejiang Province is at a medium level in terms of learning effects ($\bar{X}$=3.31, S.D.=0.94). All aspects are at medium level, the highest is: you think that lifelong learning is very important ($\bar{X}$=3.47, S.D.=0.99), and the lowest is: you improve your problem-solving ability through learning ($\bar{X}$=3.19, S.D.=0.95). Based on the above data, it can be shown that the sustainable development of lifelong learning of adult academic education in Zhejiang Province needs to be enhanced in all aspects in terms of learning effect. In terms of the survey students' expectations for learning effects, the overall level is still high ($\bar{X}$=4.17, S.D.=0.93). The highest is: you are satisfied with the whole study in general ($\bar{X}$=4.32, S.D.=0.90), and the lowest is that you improve the learning participation and initiative through learning ($\bar{X}$=4.03, S.D.=0.91). There are some gaps between the current situation of strengthening the sustainability of lifelong learning of adult qualification education in Zhejiang Province and the expected situation in terms of learning effects. This indicates that the lifelong learning education of adult higher education in Zhejiang Province still needs to work hard in learning effect. It can be reflected in the PNI value (PNI=0.207), the highest is your satisfaction with your own learning outcomes (PNI=0.236), and the

lowest is your participation and initiative in improving learning through learning (PNI=0.161).

In this study, SWOT analysis, PEST analysis and TOWS matrix are performed based on the values of the needs assessment values, which will be presented in the next section 2.

2. Research results: countermeasures for the sustainable development of adult higher education lifelong learning in zhejiang province.

Research on the sustainable development of lifelong learning of adult higher education in Zhejiang Province Strategy Development Strategy By analyzing the current situation and the expected situation data of the sustainable development of lifelong learning of adult higher education in Zhejiang Province, a complete strategy is developed through SWOT analysis, PEST analysis, and TOWS matrix, which is as follows:

2.1 Vision

The research focuses on enhancing the current status, expectations, and strategies for the sustainable development of lifelong learning in adult higher education in Zhejiang Province. First of all, to further establish institutional safeguards, only the introduction of scientific formulation, improve the system about adult higher education from the national level to the local level and then to the school level to improve the system, at the same time, to strengthen the financial guarantee, so as to ensure that the direction of training is consistent. Secondly, it is to enhance the management system, under the premise of system guarantee and financial guarantee, we should have a relatively perfect management system to improve the teaching level around teacher development, teacher training and assessment mechanism. The third is to enhance learning motivation, around the establishment of a positive concept of learning, vigorously carry out various students like cultural and sports activities, academic forum activities, etc., the establishment of study groups to exchange and discuss learning issues. Finally, reinforce quality assessment the learning results, through the design of the curriculum, teaching and learning process, to improve the effect of learning, so that students can gain, really

learn what they need to know, and apply it to the actual work, to improve the professional skills of students, and to improve the competitiveness of the students' employment.

2.2 Mission

2.2.1 Establish institutional safeguards. In order to comprehensively improve the quality and level of adult higher education, the state should introduce a series of macro policies to provide a solid institutional guarantee for the development of adult education. These policies should clarify the status and role of adult higher education, regulate its schooling behavior, and ensure the fairness and quality of education. At the same time, a stable financial guarantee mechanism should be set up, and funds should be raised through various channels such as government grants, social donations and enterprise cooperation, so as to provide sufficient financial support for adult education, improve teaching conditions and enhance teachers' strength. In addition, the objectives of talent cultivation should be clearly defined, combined with the needs of social and economic development and the characteristics of adult learners, to formulate a scientific and reasonable teaching plan and curriculum system, focus on the cultivation of practical ability and innovation ability, and provide diversified and personalized learning paths for adult learners, so as to help them realize their career development and personal value enhancement.

2.2.2 Enhance the management system. In order to further improve the management system of adult higher education, we should to establish a scientific and standardized management system to ensure that all educational work is carried out in an orderly manner. This includes clarifying management responsibilities, optimizing management processes and improving management efficiency. At the same time, strengthening the construction of the teaching team is also a crucial link, and we should continuously improve the professionalism and teaching ability of teachers through training, introduction, incentives and other measures to create a high-quality, specialized teaching team, provide solid talent

support for adult higher education, and ensure that the quality of education and the teaching effect of the continuous improvement.

2.2.3 Developing the concept of lifelong learning In order to enhance the interest of adult learning, we should pay attention to the innovation and practicability of course design, closely tie in with the needs and interests of adult learners, and develop course contents that are both in-depth and close to reality. At the same time, we should establish students' positive concept of learning, encourage them to take the initiative to explore and practice, and regard learning as a way of self-improvement and growth. In addition, various forms of learning, such as discussion and exchange, should be actively carried out to provide adult learners with interactive and cooperative learning platforms, so that they can collide their ideas and deepen their understanding in communication and discussion, thus stimulating their enthusiasm for learning and enhancing their learning effects.

2.2.4 Reinforce quality assessment. In adult higher education, emphasizing learning assessment is the key to improving education quality and promoting students' learning effectiveness. We should establish a set of comprehensive and scientific assessment system, focusing not only on students' learning effect, but also assessing their learning process, learning ability and comprehensive quality. By setting clear student learning objectives, we can guide students to carry out learning in a targeted manner and improve the purposefulness and efficiency of their learning. At the same time, we pay attention to the survey of students' learning satisfaction, collect students' feedback in time, and understand their real feelings about the teaching content, teaching methods and learning environment, so as to provide a strong basis for curriculum design and teaching improvement. In addition, students are encouraged to carry out self-assessment, and through reflecting on the learning process and summarizing the learning experience, they can continuously improve their own learning ability and self-management ability, and lay a solid foundation for lifelong learning.

2.3 Goals

Our goal is to build a comprehensive, systematic and high-quality education system centered on the four core elements of adult higher education - curriculum design, teaching and learing implementation, learning process and learning effect - to meet the diversified needs of adult learners and to promote their all-round development.

2.3.1 In terms of curriculum design, We understand that content is key. Therefore, we will focus on the practicality, cutting-edge and relevance of the courses to ensure that each course can be closely related to the career development and personal growth needs of adult learners. We will conduct in-depth research on the market to understand the changes in the demand for knowledge and skills of talents in various industries, and adjust the content and structure of the courses in a timely manner to ensure the timeliness and practicability of the courses. At the same time, we will also introduce industry experts and enterprise mentors to participate in the development of the curriculum, integrate the latest industry trends and practical experience into the curriculum, and enhance the professionalism and authority of the curriculum.

2.3.2 In terms of teaching and learing implementation, we will abandon the traditional duck-filling teaching method and adopt more flexible and diverse teaching methods. We will combine online and offline resources to create a blended teaching mode, so that learners can flexibly choose their learning mode according to their time and location. Online, we will utilize advanced network technologies and platforms to provide rich resources such as teaching videos, courseware and online tests to facilitate learners' independent learning and consolidation of knowledge. Offline, we will organize face-to-face classroom teaching, practical operation and group discussion activities to enhance the interactivity and interest of learning and stimulate learners' interest and motivation.

2.3.3 During the learning process, we will pay attention to the learning experience and learning effect of each learner. We will provide personalized learning support and resources, and customize appropriate learning plans and paths

for learners according to their learning progress and interests. At the same time, we will establish learning communities and communication platforms to encourage learners to share their learning tips and experiences with each other, forming a good learning atmosphere and mutual support mechanism. In addition, we will collect feedback and opinions from learners on a regular basis and adjust teaching strategies and methods in time to ensure the relevance and effectiveness of teaching.

2.3.4 In terms of learning effect, we will establish a scientific and comprehensive assessment system to objectively and fairly evaluate learners' learning effect. We will adopt a variety of assessment methods and approaches, including online tests, homework submission, project practice, oral reports, etc., to comprehensively examine the learners' knowledge mastery, skill application ability and comprehensive quality. At the same time, we will also focus on the assessment of the learning process, pay attention to the learners' attitude, participation and progress, encourage them to actively participate in the learning process, and continuously improve their learning ability and self-management ability.

In conclusion, our goal is to build a learner-centered adult higher education system that provides comprehensive and high-quality educational services to adult learners through quality curriculum design, flexible teaching and learning implementation, personalized learning support and comprehensive assessment of learning effect. We will make continuous efforts and innovations to meet the diversified needs of learners, promote their all-round development, and contribute our strength to the progress and development of the society. Meanwhile, we also look forward to working hand in hand with more partners to promote the prosperity and development of adult higher education.

2.4 Analysis of Strategies

2.4.1 Establish institutional safeguards. Zhejiang Province, the sustainable development of adult education lifelong learning needs to build a full range of institutional safeguards system. Specifically, relevant policies and regulations should be introduced to clarify the status and objectives of adult higher education and provide solid institutional safeguards; closely focus on the needs of economic

and social development, clarify the objectives of talent cultivation, and provide talent support for the local economy; continuously optimize the professional talent cultivation program, adjust the curriculum, and strengthen the practice of teaching; strengthen the practical needs of the curriculum design, improve students' practical ability and vocational literacy; integrate the the concept of lifelong learning and cultivate students' key abilities; at the same time, strengthen the financial guarantee to ensure the smooth progress of education and teaching.

2.4.2 Enhance the management system is an important guarantee for the sustainable development of lifelong learning of adult higher education in Zhejiang Province. In order to ensure the orderly teaching and teaching quality, it is necessary to improve the teaching organization and management system, clarify the management responsibilities, establish scientific management process, and formulate perfect rules and regulations. Teachers are the core of adult higher education, and it is necessary to strengthen teacher training, improve teaching level and professionalism, encourage teachers to participate in professional training, academic exchanges and teaching seminars, and study for higher academic degrees. At the same time, it promotes teachers' exchanges and cooperation, shares teaching experience, discusses teaching methods, and jointly improves the teaching level. Focus on teacher ethics education, guide teachers to establish correct education concepts and professional ethics, and enhance their sense of responsibility and mission. Improve the assessment and incentive mechanism for teachers, encourage teachers to actively devote themselves to teaching, incorporate teaching achievements, scientific research achievements and teachers' moral performance into the assessment, and give appropriate rewards and commendations. Strengthen teachers to exercise in enterprises, deeply understand the development of the industry and market demand, and integrate practical experience into teaching. At the same time, the training of teachers' information technology ability should be strengthened to improve their ability to use information technology for teaching and to provide support for innovative teaching methods. In addition, modern education technology, such as multimedia teaching, network teaching, distance education and

so on, should be actively explored and utilized to enrich the teaching content, expand the form of teaching, improve the efficiency and quality of teaching, and inject new vitality into adult higher education.

2.4.3 Enhanceing the learning motivation of adult higher education students needs to start from various aspects. First of all, it is necessary to establish students' positive concept of learning, let them realize the importance of learning, and stimulate the enthusiasm and enthusiasm for learning. Secondly, students are encouraged to participate in activities, lectures and forums organized by the school to broaden their knowledge and stimulate their interest in learning. At the same time, students should set up clear learning goals to enhance the motivation and sense of responsibility for learning. In addition, they should strengthen teacher-student communication and classroom interaction, as well as interaction and communication among classmates to find suitable learning methods and improve learning efficiency. In addition, strengthen the study time management ability, rationally plan the study time, and balance the relationship between work, family and study. Finally, set up student scholarships to motivate students' learning enthusiasm and creativity and add highlights to their career development.

2.4.4 Reinforce quality assessment is crucial to the sustainable development of adult higher education in Zhejiang Province. In order to realize this goal, it is necessary to establish a scientific teaching quality assessment system, which comprehensively covers all aspects of the teaching process and is regularly evaluated to identify problems in time and motivate teachers to improve their teaching level. At the same time, the standard of skills that students should master should be clearly defined and formulated according to the characteristics of adult education and market demand, so as to provide a clear goal for teaching and an important basis for evaluation. In addition, learning satisfaction surveys are conducted to understand students' direct feedback on teaching, which provides reference for teaching improvement and enhances students' participation and sense of belonging. Assessment should also pay sustained attention to the overall development of students, including physical and mental health, vocational literacy,

and innovation ability, establish a comprehensive evaluation system for student development, and provide a platform for diversified educational resources and activities. Internet technology is utilized to establish a quality assessment platform to realize online assessment, skills testing, satisfaction surveys and other functions, improve assessment efficiency and accuracy, and provide big data support. Through these strategies, the quality and effectiveness of teaching will be continuously improved, a solid foundation will be laid for students' lifelong learning and development, and the sustainable development of adult higher education in Zhejiang Province will be promoted.

Research Innovations:

1. Deep Integration of Lifelong Learning Concepts

This study breaks through the limitations of traditional adult higher education and integrates the concept of lifelong learning into curriculum design, teaching reform, teacher training, and student motivation, reflecting a shift from a "degree-oriented" approach to a "continuous development of capabilities" approach.

2. Systematic Integration of a Multidimensional Strategy System

Existing research often focuses on a single dimension of sustainable development in adult higher education (such as policy support and faculty development). This study, integrates the four dimensions of "institutional guarantees, management systems, learning motivation, and quality assessment" into a comprehensive strategy system, forming a closed-loop logic of "policy - management - motivation - evaluation." This encompasses the entire chain from top-level design to specific implementation, demonstrating both systematicity and synergy.

3. Deep Integration of "Technology Empowerment" and "Teacher Development" in the Management System

Strategies for improving management systems emphasize not only traditional teacher training and assessment incentives, but also "teachers' information technology capabilities" and "innovative teaching methods using modern educational technology" (such as multimedia and internet applications). This integration of technology upgrades and teacher capacity building addresses the transformational

needs of adult education in the digital age and addresses the shortcomings of traditional research, which has focused insufficient attention on technology applications.

4. Designing a Combination of "Internal and External Drivers" to Enhance Learning Motivation

Strategies for enhancing learning motivation emphasize both "external incentives" (such as scholarships and event organization) and "internal drivers" (such as fostering a lifelong learning mindset, clarifying learning goals, and utilizing time management tools). Furthermore, they enhance engagement through scenario-based design, such as "classroom interaction and group collaboration." This approach is more practical than research that emphasizes solely external incentives and aligns with the practice-oriented, self-directed learning characteristics of adult learners.

5. Exploring the Digital Transformation of Quality Assessment

The proposal "uses internet technology to establish a quality assessment platform" combines traditional satisfaction surveys and skill standard assessments with digital tools, promoting the upgrade of assessment from "post-event feedback" to "dynamic monitoring." This addresses the need for "personalized, regularized assessment" in lifelong learning systems and represents an innovative extension of the traditional quality assessment model.

Research Shortcomings

1. The short timeframe of the study may have resulted in an incomplete identification of potential issues.

2. The implementation path for teacher training in enterprises needs to be clarified. The management system mentions "strengthening teacher training in enterprises," but the duration, content, assessment criteria, and balance between training and teaching tasks are not specified.

3. The evaluation results of the adaptability and feasibility of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province.

The strategic adaptability and feasibility of the 26 measures in 4 aspects of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province are at a high level, and the strategic feasibility of the 26 measures in 4 aspects of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province is at a high level.

1)The results of the adaptability analysis of the 26 measures of the 4 aspects of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province are between 4.35 and 4.50, which are at the higher and the highest level, indicating that the strategies have higher or the highest adaptability.

2) The results of feasibility analysis of 26 measures in 4 aspects of sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province are between 4.48 and 4.61, which are all at high and highest levels, indicating that the strategy has high or highest feasibility.

Discussion

From the research results of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province, the research results can be discussed and divided into two stages according to the research objectives:

Phase 1: The results of research on the current situation and expected situation of the sustainable development of lifelong learning of adult higher education in Zhejiang Province.

Phase 2: The results of the development of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province.

Phase 3: The results of evaluating the adaptability and feasibility of the sustainable development strategy of lifelong learning of adult higher education in Zhejiang Province.

The specific contents of the research discussion are as follows:

1. The current situation, expected research results of sustainable development of lifelong learning of adult higher education in Zhejiang Province

This study investigates the current, expected situation of the sustainable development of lifelong learning of adult higher education in Zhejiang Province through a questionnaire survey of variables in four aspects: curriculum design, teaching and learning implementation, learning process and learning effect. For the aspect of curriculum design, it can be divided into important variables, including: 1) the arrangement of course progress is reasonable, 2) the content of the course affects the future lifelong learning of the individual is helpful, 3) the curriculum of the major studied (including the proportion between the compulsory courses, elective courses, and practical skills courses of the major) is reasonable, 4) the content of the course and the actual work demand is consistent, and 5) the structure of the course (i.e., theoretical course, social practice course, theoretical course combined with the social practice course) is reasonable. social practice classes combined) is reasonable.

For the aspect of teaching and learning implementation, it can be divided into important variables, including 1) good overall teacher quality, 2) satisfactory teaching organization and management of the school, 3) reasonable course assessment methods, 4) reasonable teaching methods of the teachers, 5) teaching ability of the teachers (including practical experience and instructional skills), 6) satisfactory learning support tutoring, 7) clear teaching objectives of the tasks, and 8) reasonable interactive discussion of the teachers in the classes.

For the aspect of learning pross it can be divided into important variables, including 1) their own learning attitude is satisfactory, 2) their own learning process are satisfactory, 3) the adoption of learning methods is reasonable, 4) the communication with the teacher is much, 5) whether they will take the initiative to take action to look for relevant help when they encountered something they don't understand in the process of learning, and 6) whether they are self-disciplined and don't need the pressure from other people in the main process of learning.

For the learning effect, it can be divided into important variables, including: 1) that lifelong learning is very important, 2) overall satisfaction with the entire learning, 3) through learning to enhance learning participation and initiative, 4) through learning to improve their own vocational skills, 5) through learning to improve their own comprehensive quality capabilities, 6) their own satisfaction with the results of the learning, 7), through learning to achieve the predetermined learning goals through learning, 8) enhancement of problem-solving ability through learning.

And by analyzing the results of the mean, S.D. and needs assessment values of curriculum design, teaching implementation, learning habits and learning effects, it is found that all these aspects need sustainable development and are important factors in developing sustainable development strategies for lifelong learning in adult higher education in Zhejiang Province. This is in line with the following research perspectives of scholars at home and abroad. They emphasize from different perspectives that the above factors play an important role in promoting the sustainable development of adult higher education.

Zhang, Guohai, & Liu, Xing. (2015) In talking about the process of sustainable development of adult higher education, it mainly involves a number of links such as curriculum design, implementation of teaching programs, provision of teaching resources, students' self-study and questioning, teachers' face-to-face tutoring and evaluation of learning effects, and especially important is teaching implementation. Research has shown that teaching implementation is one of the most important aspects in improving adult higher education and can be adept at adjusting strategies to achieve learning goals.

LiXiao&ZhangHua. (2020) believe that teaching content and curriculum design are also important factors affecting the quality of schooling. The curriculum design of adult higher education needs to be combined with practical needs, focusing on practicality and cutting-edge. Curriculum content should be combined with industry development trends and vocational skills requirements to ensure that learners can obtain practical career enhancement. Research has shown that not enough has been done in transforming theoretical knowledge into practical operation ability and

solving practical problems, and the practicality of the curriculum is also in great need of strengthening.

Brookfield (1986) further pointed out that adult learners tend to regulate their learning attitudes according to their personal needs and have a stronger sense of independent learning. Therefore, curriculum design needs to focus on stimulating learners' intrinsic motivation to maintain a positive attitude towards learning in order to facilitate an effective learning process. Learning habits in adult academic education are closely related to the long-term effects of the learning process.

Sun Gangcheng, & Qu Ge. (2014) mentioned lifelong education as a brand-new form of education, emphasized that education should be continuous and systematic throughout the whole process of an individual's life, analyzed the limitations of traditional education in time and space, and considered its importance for the development of students' independent learning habits.

Knowles (1984) pointed out that adult learners, through continuous learning practices, gradually develop systematic learning Brookfield (1995) emphasized that good study habits can help adult learners find the rhythm and way of learning in their busy work and life, and thus manage their time and energy more effectively. Research suggests that developing adult learners' time management skills, self-monitoring and self-motivation are critical to their long-term academic success. Reflective Learning (RL) is also an important way to enhance learning outcomes in adult academic education. Brookfield (1995) states that adult learners are better able to translate theoretical knowledge into practical action by reflecting deeply on the content of their learning. In the process of reflection, learners not only improve their work competence, but also improve their coping skills and service quality in service positions. In this study, in the process of conducting the survey, the questionnaire was designed to reflect the self-reflection and self-assessment of the learning effect with questions such as "improving problem-solving ability through learning" and "achieving the predefined learning goals through learning".

Li&Wang (2021) concluded that adult learners' motivation and self-management ability have a significant impact on learning effectiveness. The above

scholars' studies examined how curriculum design, instructional delivery, learning habits, and learning outcomes affect the sustainable development of adult higher education.

2. Discuss the results of the formulation of strategies for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

This study proposes strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province, which mainly includes the strategies of establish institutional safeguards, enhance the management system, enhance learning motivation and reinforce quality assessment. From the results of this study, it was found that the strategies were all at a high or highest level of application. All strategies are important factors in promoting the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

For establish institutional safeguards, in line with scholars such as Li Hua (2017), Wang (2019) and Li & Chen (2016), the government can promote the widespread implementation of lifelong learning by formulating more supportive policies and providing funding. Strengthening policy support and funding: the implementation of policies should be strengthened at the national and local levels, especially by providing more financial and resource support to less developed regions, and at the same time, improving and innovating lifelong learning-related policies and systems in order to solve the problem of unclear educational goals. Therefore, it is very crucial to introduce policies and financial support inputs for the sustainable development of adult academic education.

Cui Luyao. (2022) believes that the concept of lifelong learning has put forward new requirements for adult higher education in colleges and universities, and in order to better serve lifelong learning for all people and build a learning society, adult higher education needs to provide institutional safeguards, deepen reforms, and incorporate the concept of lifelong learning in many aspects such as the educational concept, professional curricula, evaluation mode, and faculty, so as to promote the transformation of adult higher education from episodic development to connotative development, in order to give full play to its role and value in the

lifelong education system. Therefore, it is an important way to formulate the goal of cultivating talents with clear social needs and optimize the professional talent training program.

Wu Qing'er (2024) points out that the quality path of adult academic education can be realized through five aspects, among which the introduction of practical teaching aspect is particularly important. Therefore, it also shows the importance of the practical needs of chemical curriculum design.

Yang, Hui, Jiaqi Fan, & Bingnan Yu. (2024) emphasized that under the guidance of the concept of lifelong learning, the reform of adult education teaching should pay attention to the diversity of adult learners, and strengthen learning motivation through the deep integration of modern technology to enhance the teaching interaction, improve the learning experience, and promote independent learning, and at the same time, set up a comprehensive assessment system to continuously ensure the quality of teaching and optimize the teaching objectives, so as to meet the diversified and personalized learning needs of adult learners and promote the innovative development of adult education teaching. In addition, a comprehensive assessment system is established to continuously ensure teaching quality and optimize teaching goals, so as to meet the diversified and personalized learning needs of adult learners and promote the innovative development of adult education. The importance of the concept of lifelong learning is clearly mentioned by the scholar, which is highly consistent with this study.

For enhance the management system, Xu Ying. (2024) argues that under the concept of lifelong learning, adult higher education is facing many challenges and needs to be explored in depth in five aspects: updating the concept of education, establishing a management system, strengthening quality assessment, promoting the reform of the Three Teachings (i.e., the reform of teachers, textbooks, and teaching methodology), and clarifying the responsibilities of the government, so as to deepen the reform of adult higher education and to improve the quality of education. In order to deepen the reform of adult higher education, improve the quality of education, better meet the learning needs of adult learners in the information age

and knowledge economy, and promote the construction of a learning society. Therefore, a sound teaching organization and management system is the premise and foundation for promoting overall teaching quality assurance.

Xu Donghong (2019) pointed out that the establishment of a high-quality professional teaching management team to scientifically and effectively implement management services for learners is the key to ensuring the quality of adult academic continuing education. To improve the quality of education and teaching, the teaching level of the teaching team is the core factor. At the same time, teaching services focus on practical teaching.

Wang Xin&Liu Jie (2019) pointed out that teacher quality is one of the core factors affecting the quality of schooling. High-quality teachers not only have rich professional knowledge, but also have good teaching ability and communication skills. Teachers' academic qualifications, teaching experience, scientific research ability, as well as their understanding and adaptability to adult education, all directly affect the quality of education.

Zhou (2019) studied the construction of a deepening teacher training system: to improve the teachers' educational literacy for sustainable development, and to establish a regularized teacher training mechanism. From the perspective of mechanism, to reflect the importance of teacher training.

Zhang Lichun (1988) pointed out that adhering to the quality standards of adult higher education, we should strictly manage and standardize the operation of schools, strengthen the management of teachers, improve the ability and level of the teaching team, and in terms of teaching management, we should grasp the various teaching links. Therefore, it is also very important to improve the assessment and incentive mechanism of teachers.

Yang Lijun Zhang Liang (2015) pointed out that the teaching reform to build a blended teaching model will dominate the higher education continuing education The rapid development of information technology has given birth to profound changes in the field of education, and the emergence of learning modes based on the Internet and multimedia technology such as online learning, mobile learning,

ubiquitous learning, MOOCs, O2O, and so on have significantly expanded the coverage of education, promoted the sharing of high-quality educational resources, and The efficiency of learning has been improved. Higher continuing education takes online education as the main form and in-service practitioners as the education target, and due to these two factors, the blended teaching mode, which can integrate the advantages of online and offline learning, will become the dominant teaching mode. This is a very clear requirement for teachers to be skilled in informatization technology ability, use modern education technology, such as multimedia, Internet, etc., and innovative teaching methods to carry out teaching work.

For enhance learning motivation, Consistent with Deci & Ryan (1985), (Candy,1991), Chen & Zhang Hua (2020), Wang Qiang (2018) and other scholars, Sun (2020) suggests that in terms of strengthening the promotion of the concept of lifelong learning and social publicity, the state and the society should strengthen the publicity of the concept of lifelong learning through a variety of channels to enhance the importance of the whole population to academic education. Organizations such as communities and trade unions can regularly hold relevant activities to help adults better understand and integrate into the system of lifelong learning. Therefore, it is important to increase the publicity of the concept of lifelong learning so as to enhance the concept of lifelong learning in the learning process of students.

Lifelong learning as advocated by Candy (1991) refers to the process of continuous learning and development of an individual throughout his/her life. In the learning process through online and offline platforms students participate in school learning activities such as lectures, forums and community discussions. Therefore encouraging all students to participate in school activities is one of the paths to self-improvement.

Tough (1979) the drivers of lifelong learning include technological advances, changing occupational demands, and personal developmental needs, and suggests that individuals continue to learn in order to achieve self-growth, improve the quality of life, and achieve personal goals.

Deci & Ryan (1985) suggest that personal motivation and self-management skills are essential to the success of lifelong learning. Motivation: The intrinsic motivation of learners is stimulated by setting clear learning goals and providing incentives. Therefore, clear learning goals are the source of motivation.

Yang, Hui, Jiaqi Fan, & Bingnan Yu. (2024) emphasized that under the guidance of the concept of lifelong learning, the reform of adult education teaching should pay attention to the diversity of adult learners, enhance teaching interaction, improve the learning experience and promote independent learning through the in-depth integration of modern technology, strengthen the motivation of learning, and at the same time, set up a comprehensive assessment system to ensure the quality of teaching and optimize the teaching objectives, so as to satisfy the diversified and personalized learning needs of adult learners and promote the innovation and development of adult education teaching. It also establishes a comprehensive assessment system to continuously ensure the quality of teaching and optimize teaching goals, so as to meet the diversified and personalized learning needs of adult learners and promote the innovative development of adult education. Therefore, classroom interaction is a path to enhance the demand for learning.

Wang (2019) proposes to encourage more adults to participate in academic education through policies such as increasing scholarships, subsidies and tax incentives. Therefore, more students are motivated to learn through the establishment of scholarships.

Self-directed learning theory (self-directed learning) proposed by Tough (1979) emphasizes that adult learners tend to achieve their learning goals by designing their own learning plans and selecting learning resources. Research has shown that adult learners tend to prefer practice-oriented learning methods, especially those content that can be integrated with real work.

For reinforce quality assessment., Consistent with scholars Wang Li (2019), Li & Zhang (2019), and Zhang Min (2020), teaching evaluation is an important method to assess the quality of schooling.

Yang, Hui, Jiaqi Fan, & Bingnan Yu. (2024) emphasized the need to establish a comprehensive evaluation system to continuously ensure the quality of teaching and optimize the teaching objectives, so as to meet the diversified and personalized learning needs of adult learners and to promote the innovative development of adult education teaching.

Li & Zhang (2019) proposed that to improve the quality of education and to standardize the teaching standards, a third-party evaluation agency can be introduced to conduct regular assessment of the teaching quality of adult education that guarantees its standardization and normalization. Therefore, the scientific teaching quality assessment system of adult higher education is one of the means to test the learning effect.

LiYang&WangJie (2021) believe that the sustainable development of adult academic education provision usually refers to the comprehensive level of educational services provided by adult education institutions, including the quality of teaching content, teaching methods, faculty, learning resources, student support services and other aspects. The quality of schooling has a direct impact on the effectiveness of education and the satisfaction of learners. High-quality adult academic education should be able to meet the learning needs of learners and help them effectively improve their vocational skills and academic abilities.

Li Xiao&Zhang Hua (2020) believe that teaching content and curriculum design are also important factors affecting the quality of schooling. The curriculum design of adult academic education needs to be combined with practical needs, focusing on practicality and cutting-edge. Curriculum content should be combined with industry development trends and vocational skills requirements to ensure that learners can obtain practical career enhancement. Therefore, in the process of carrying out adult higher education personnel training, it is very crucial that students should master the skill standards.

LiYang&WangJie (2021) believe that the sustainable development of adult academic education provision usually refers to the comprehensive level of educational services provided by adult education institutions, including the quality of

teaching content, teaching methods, faculty, learning resources, student support services and other aspects. The quality of schooling has a direct impact on the effectiveness of education and the satisfaction of learners. High-quality adult academic education should be able to meet the learning needs of learners and help them effectively improve their vocational skills and academic abilities.

ZhangMin (2020) pointed out that student satisfaction is one of the important indicators to measure the quality of schooling. The quality of schooling can be assessed by collecting students' feedback on teaching content, teaching methods, faculty, and learning environment through questionnaires and interviews. Carrying out a survey on learning satisfaction is to reflect the reality of the process of running a school, which can promptly identify the shortcomings of improving the school so as to make improvements and enhancements.

China's Ministry of Education issued the "Implementation Opinions on Promoting the Reform of Academic Continuing Education in Ordinary Colleges and Universities in the New Era", which requires the establishment of an online service management and monitoring platform. Through the above initiatives, quality assessment can be effectively improved to promote the sustainable development of adult higher education.

3. Discuss the results of the evaluation of the adaptability and feasibility of the sustainable development strategy of lifelong learning for adult higher education in Zhejiang Province.

The results of the evaluation of the sustainable development strategies of lifelong learning for adult higher education in Zhejiang Province show that their adaptability and feasibility are at a high or even optimal level. The results indicate that the strategies were developed based on rigorous academic procedures and systematically reviewed by a team of experts to ensure that they were both relevant and feasible. As a key part of monitoring and optimizing strategies, strategy evaluation is a necessary requirement. Building an evaluation framework to measure the effectiveness of strategy implementation helps us to identify which strategies are achieving the desired results as planned, and which strategies and strategies need to

be further optimized and adjusted. According to Porter, M. E. (1980) and Cressman Jr, G. E. (2012). Scholars have suggested about strategy formation and principles of consistency. According to Kaplan and Norton (2021), strategy evaluation helps to allocate resources more efficiently, optimize work methods, and ensure that the organization remains competitive.In summary, strategy assessment supports risk management, promotes accountability, and ensures that strategies are aligned with the external environment and organizational goals.

Recommendation

Implications

The results of the study show that the following strategies are recommended to improve the sustainable development of lifelong learning in adult higher education in Zhejiang Province:

1. Government and education authorities: formulate and adjust relevant policies to provide policy support for adult higher education. Set up a special fund to support the innovation and development of adult higher education. Promote. Establish a special fund to support the innovation and development of adult higher education. Promote the establishment of a dynamic adjustment mechanism for tuition standards and a credit-based fee management model. Educational institutions: optimize professional talent training programs according to market demand and changes. Teachers and teaching teams, Participate in curriculum design and ensure that the teaching content meets the needs of practice and the concept of lifelong learning. Focus on cultivating students' innovative thinking and problem-solving ability in teaching.

2. Management of educational institutions: improve the teaching organization and management system, and clarify the responsibilities and authority of management departments at all levels. Formulate and improve teaching rules and regulations to ensure the standardization and efficiency of teaching activities. Teacher Development Center: Organize teacher training to improve teachers' teaching level and professionalism. To establish mechanisms for teachers' exchange and

cooperation, and to promote the sharing of teaching experience and methods. Responsible for implementing teaching quality assessment to ensure the continuous improvement of teaching quality. Establish and improve the teacher assessment and incentive mechanism to stimulate teachers' motivation.

3. Student Level: To establish students' positive learning concepts and stimulate students' enthusiasm for learning through ideological education and role model leadership. Organize various activities, lectures and forums to provide students with rich learning resources and communication platforms. Teachers and Teaching Teams: Set up classroom interactions, encourage students to ask questions, discuss and participate, and enhance students' motivation to learn. Establish a good relationship with students and provide targeted guidance and assistance. Students themselves: Set clear learning goals, plan their own study time and improve their learning efficiency. Actively participate in study groups and other activities to find learning methods that suit them.

Future Researches

The following are some potential areas for future research to promote the sustainable development of lifelong learning in adult higher education in Zhejiang Province Suggestions:

1. Government Level

Focus on optimizing policies, funding, and fee mechanisms. Study the key factors influencing policy formulation, establish a dynamic evaluation mechanism to provide a basis for policy adjustments; track the use of special funds, analyze allocation ratios and effectiveness, and explore pathways to enhance funding efficiency; conduct in-depth research on the dynamic adjustment mechanism for tuition standards and the credit-based tuition model, analyze their impact on learning motivation and educational equity, and establish a more reasonable tuition system.

2.University Level

Focus on talent cultivation, faculty development, and teaching quality. Continuously optimize professional talent cultivation programs in response to market

demand, tailored to the needs of different majors and educational levels; establish a scientific faculty training system covering content, methods, and effectiveness evaluation to enhance teaching proficiency and professional competence. Research the construction of a teaching quality monitoring and evaluation system, clarify indicators, methods, and the application of results, and ensure the continuous improvement of teaching quality.

3. Student Level

Focus on improving learning concepts, resources, and methods. Explore pathways to transform learning concepts and stimulate learning enthusiasm, analyze the role of ideological education and role modeling; construct diverse learning resources and platforms, integrate resources such as activities and lectures, and optimize learning support; Research adult learning methods and strategies to guide students in finding approaches suited to their needs, while exploring classroom interaction designs to enhance learning motivation and effectiveness.

The sustainable development of lifelong learning in adult higher education in Zhejiang Province is a systematic project that requires the joint efforts of the government, universities and students. Future research should focus on in-depth discussion and practical exploration at the government level, university level and student level to provide strong support for the sustainable development of adult higher education in Zhejiang Province.

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Appendices

Appendix A

List of Specialists and Letters of Specialists Invitation

for IOC Verification

List of Specialists Invitations for IOC Verification

NO.	Name	Position
1	Zhang Long	Professor of Lishui University
2	Fang Xiaoming	Associate Professor of Zhejiang University of Science and Technology
3	Chollada Pongpattanayothin	Associate Professor of Bansomdejchaopraya Rajabhat University
4	Phisanu Bangkheow	Associate Professor of Bansomdejchaopraya Rajabhat University
5	Phatchareephorn Bangkheow	Assistant Professor of Bansomdejchaopraya Rajabhat University

Subject: Invitation for an Interview

NO.	Name	Position
1	Wang Feng	Associate Professor of Lishui University
2	Yao Jianwei	Associate Professor of Lishui University
3	Li Jianyu	Associate Professor Zhejiang University of Science and Technology
4	Zhang Shaowei	Zhejiang University of Science and Technology
5	Zeng Lijun	Associate Professor of Zhejiang Ocean University
6	Jin Yongzhong	Associate Professor of Zhejiang Ocean University
7	Sun Guangfu	Associate Professor of Wenzhou University
8	Luo Bing	Wenzhou University
9	Luo Fujian	Professor of Zhejiang Normal University
10	Zhong Junjian	Associate Professor of Zhejiang Normal University

Focus Group Discussion Invitation Letter

NO.	Name	Position
1	Wang Feng	Associate Professor of Lishui University
2	Yao Jianwei	Associate Professor of Lishui University
3	Li Jianyu	Associate Professor Zhejiang University of Science and Technology
4	Zhang Shaowei	Zhejiang University of Science and Technology
5	Zeng Lijun	Associate Professor of Zhejiang Ocean University
6	Jin Yongzhong	Associate Professor of Zhejiang Ocean University
7	Sun Guangfu	Associate Professor of Wenzhou University
8	Luo Bing	Wenzhou University
9	Luo Fujian	Professor of Zhejiang Normal University
10	Zhong Junjian	Associate Professor of Zhejiang Normal University

List of Specialists Invitation for Strategies Evaluation

The following list were invited to serve as evaluation experts to assess the adaptability and feasibility of the sustainable development strategy of lifelong learning for adult higher education in Zhejiang Province.

NO.	Name	Position
1	Professor Dr. Xu Jianhua	Zhejiang Normal University Director, Administration of Continuing Education
2	Associate Professor Hu Kui	Wenzhou University Vice Dean, College of Continuing Education
3	Professor Li Jianyu	Zhejiang University of Science and Technology Dean, College of Continuing Education
4	Professor Fang Bin	Zhejiang Ocean University Dean, College of Continuing Education
5	Associate Professor Xu Qiaolin	Lishui University Vice Dean, College of Continuing Education

Appendix B

Official Letter

MHESI 0643.14/ จ.�ๆ

Bansorndejchaopraya
Rajabhat University
1061 Soi Itsaraphap 15,
Itsaraphap Road, Hiranruchi,
Thonburi, Bangkok, Thailand
10600

07 Jan 2025

Subject: Invitation to validate research instrument

Dear   Assistant Professor Dr. Chollada Pongpattanayothin Ph.D. Education for Locality
            Development Bansomdejchaopraya Rajabhat University

      Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

          1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

          2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

          3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

      The thesis advisory committee recognizes your expertise in field 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

(Asst. Prof. Dr.Tanaput Chancharoen)
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Rajabhat University
1061 Soi Itsaraphap 15,
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Thonburi, Bangkok, Thailand
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07 Jan 2025

Subject: Invitation to validate research instrument
Dear   Assistant Professor Dr. Phisanu Bangkheow Ph.D. Education for Locality
             Development Bansomdejchaopraya Rajabhat University

Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

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3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

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Thonburi, Bangkok, Thailand
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07 Jan 2025

Subject: Invitation to validate research instrument

Dear   Assistant Professor Dr.Phatchareephorn Bangkheow Ph.D. Education for Locality
Development Bansomdejchaopraya Rajabhat University

Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

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

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07 Jan 2025

Subject: Invitation to validate research instrument
Dear   Professor Dr. Zhang Long

      Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

        1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

        2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

        3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

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

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07 Jan 2025

Subject: Invitation to validate research instrument

Dear   Assistant Professor Dr. Fang Xiaoming

       Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

       1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

       2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

       3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

       The thesis advisory committee recognizes your expertise in field 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.

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07 Jan, 2025

Subject   Invitation to join an interview as an expert

Dear   Assistant Professor Wang Feng

        Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

        1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

        2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

        3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

        The thesis advisory committee, along with the student, recognizes your expertise in research on adult higher educatio. As such, the graduate school would like to formally invite you to participate in an interview 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

(Asst. Prof. Dr.Tanaput Chancharoen)
Vice Dean of Graduate School for Dean of Graduate School

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07 Jan, 2025

Subject   Invitation to join an interview as an expert

Dear   Assistant Professor Yao Jianwei

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07 Jan, 2025

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6 Feb, 2025

Subject   Invitation to participate in the strategic assessment as an expert

Dear   Professor Dr.Xu Jianhua

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       The primary focus of this research is to Research on sustainable development strategies for lifelong learning in higher adult education. 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 strategies under consideration and to provide feedback on these strategies. Your insights will be instrumental in promoting sustainable development of adult higher education in Zhejiang Province. We sincerely value your time and consideration of this request.

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Dear   Associate Professor Hu Kui

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Subject   Invitation to participate in the strategic assessment as an expert

Dear   Professor Li Jianyu

Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

The primary focus of this research is to Research on sustainable development strategies for lifelong learning in higher adult education. 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 strategies under consideration and to provide feedback on these strategies. Your insights will be instrumental in promoting sustainable development of adult higher education in Zhejiang Province. We sincerely value your time and consideration of this request.

Thank you for your kind considerations.

Yours faithfully

(Asst. Prof. Dr.Tanaput Chancharoen)
Vice Dean of Graduate School for Dean of Graduate School

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MHESI 0643.14/ก. 49

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Rajabhat University
1061 Soi Itsaraphap 15,
Itsaraphap Road, Hiranruchi,
Thonburi, Bangkok, Thailand
10600

6 Feb, 2025

Subject   Invitation to participate in the strategic assessment as an expert

Dear   Associate Professor Xu Qiaolin

        Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

            1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

            2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

            3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

        The primary focus of this research is to Research on sustainable development strategies for lifelong learning in higher adult education. 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 strategies under consideration and to provide feedback on these strategies. Your insights will be instrumental in promoting sustainable development of adult higher education in Zhejiang Province. We sincerely value your time and consideration of this request.

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Itsaraphap Road, Hiranruchi,
Thonburi, Bangkok, Thailand
10600

6 Feb, 2025

Subject   Invitation to participate in the strategic assessment as an expert

Dear   Professor Fang Bin

   Mr.Xu Zhongyan 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 "Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang" under the supervision of the following thesis advisory committee:

     1. Assistant professor Dr. Sunate Thaveethavornsawat Major Advisor

     2. Assoc professor Dr. Touchakorn Suwancharas Co-Advisor

     3. Assistant professor Dr. Areeya Juijumlong Co-Advisor

   The primary focus of this research is to Research on sustainable development strategies for lifelong learning in higher adult education. 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 strategies under consideration and to provide feedback on these strategies. Your insights will be instrumental in promoting sustainable development of adult higher education in Zhejiang Province. We sincerely value your time and consideration of this request.

   Thank you for your kind considerations.

Yours faithfully

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Appendix C

Research Instrument

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Questionnaire on Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang

Direction:

1. This questionnaire examines the current status and supporting factors for the sustainable development Strategies of lifelong learning in adult higher education in Zhejiang. The aim of this study is to explore the components of sustainable development in lifelong learning for adult higher education in Zhejiang, formulate strategies for its sustainable development, and evaluate those strategies.

2. The questionnaire is structured in two parts: the first part collects respondent demographics, while the second explores current strategies for sustainable development in lifelong learning for adult higher education in Zhejiang, with a total of 25 questions.

3. Please check the box (√) that represents your opinion on sustainable development of lifelong learning in adult higher education in Zhejiang.

Thank you.

Xu Zhongyan

A doctoral student in Educational administration program

Bansomdejchaopraya Rajabhat University

Part I: Information on the identity of students

1. Gender:

☐ Male   ☐ Female

2. Grade:

☐ First grade   ☐ Second grade

3.Subject classification:

☐ Liberal Arts   ☐ Science

4.Employment status

☐ Employed   ☐ Unemployed

Part II: Questionnaire on the Current Status of Adult Education in Zhejiang and Factors Promoting Its Sustainable Development

Direction: Please carefully read the following items (Questions 1-25) and, based on your opinion, rate each item on a five-point scale.. These levels will help assess the current state of adult higher education in Zhejiang and the supporting factors that promote the sustainable development of lifelong learning. The details are as follows:

1 = lowest level   2 = low level   3 = mediumlevel,

4 = high level   5 = highest level

Questions	Level				
	5	4	3	2	1
Curriculum Design for the Sustainable Development of Adult Higher Education					
1.You think the curriculum design of your major is reasonable(including the ratio of required courses, elective courses, and practical skills courses) is reasonable.					
2.You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable					
3.You think the course schedule is reasonable					
4.You think the course content aligns with actual work requirements					
5.Whether you found the course content helpful in influencing future personal lifelong learning					
Implementation of Teaching for the Sustainable Development of Adult Higher Education					
6.How satisfied are you with the school's teaching organization and management					
7.You think the teachers' teaching abilities (including practical experience and guidance skills) are good					
8.You think the teachers' instructional methods are reasonable					
9.You think the teachers' overall competence					

Questions	Level				
	5	4	3	2	1
is good					
10.You think the assessment methods for the course are reasonable					
11.You think the interactive discussions in class led by the teacher are reasonable					
12.You think the learning objectives of the tasks are clear					
13.Are you satisfied with the learning support and guidance					
Learning Process for the Sustainable Development of Lifelong Learning in Adult Higher Education					
14.Are you satisfied with your own learning attitude					
15.You think the learning methods you use are reasonable					
16.Are you satisfied with your own study habits					
17.You have frequent communication with your teachers					
18.Do you actively seek help when you encounter difficulties in your studies					
19.You primarily self-regulate your learning and do not need others to apply pressure					
learning effect for the Sustainable Development of Lifelong Learning in Adult Higher Education					

Questions	Level				
	5	4	3	2	1
20.You enhance your problem-solving skills through learning					
21.You improve your professional skills through learning					
22.You enhance your overall competence through learning					
23.You achieve your set learning goals through studying					
24.You enhance your engagement and initiative in learning through studying.					
25.Your satisfaction with your own learning effect					
26.You think lifelong learning is very important					
27.You are generally satisfied with your overall learning					

suggestions : ....

....

....

LISHUI UNIVERSITY

Interview Form

Research on Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang

---

Direction:

1.This interview form examines the supporting factors for the sustainable development Strategie of lifelong learning in adult higher education in Zhejiang. The aim of this study is to explore the components of sustainable development in lifelong learning for adult higher education in Zhejiang, formulate strategies for its sustainable development, and evaluate those strategies.

2.This interview form is specifically designed for expert review. It is divided into two parts, consisting of four questions and suggestions.

3.Your feedback on the interview form will contribute to the formulation of sustainable development strategies to promote lifelong learning in adult higher education in Zhejiang. Your responses to this questionnaire will have no personal impact on you. The suggested data will provide an overview, and the researchers aim to use this data solely for research purposes.

Thank you.

Xu Zhongyan

A doctoral student in Educational administration program

Bansomdejchaopraya Rajabhat University

Part I: Personal Information

Interviewer…………………….Interview Date…………………..Interview Time……………

Interview……………………….Gender…………………………………Age…………years old

Educationackground…………………Position……………………………………………………

Work place………………………………………………………………………………………………

Part II: Factors Promoting Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang

Regarding the current status and strategies of sustainable development
1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

suggestions : ....

....

....

LISHUI UNIVERSITY

Assessment Form for the Validity of the Questionnaire on the Current Status and Influencing Factors of Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang

(For Experts)

Direction:

1.This "Assessment Form for the Validity of the Questionnaire on the Current Status and Influencing Factors of Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang" is designed for experts to review the consistency of the questionnaire and provide suggestions. It is part of the doctoral dissertation on Sustainable Development in Educational Management at Bansomdejchaopraya Rajabhat University, Thailand. The study aims to explore the elements that constitute the sustainable development of adult education in Zhejiang, formulate strategies for sustainable development in adult education in the region, and evaluate these strategies.

2.This validity assessment form is divided into two parts, consisting of a total of 25 questions, and it provides suggestions for the formulation of sustainable development strategies for lifelong learning in adult higher education in Zhejiang.

3.Your feedback on the validity assessment form will contribute to the development of management strategies to promote sustainable development strategies for lifelong learning in adult higher education in Zhejiang. Your responses to this questionnaire will have no personal impact on you. The suggested data will provide an overview, and the researchers intend to use this data solely for research purposes.

Xu Zhongyan

A doctoral student in Educational administration program

Bansomdejchaopraya Rajabhat University

Part I: Information on the identity of students

1. Gender:

☐ Male   ☐ Female

2. Grade:

☐ First grade   ☐ Second grade   ☐ Third grade

3.Subject classification:

☐ Liberal Arts   ☐ Science

4.Employment status

☐ Employed   ☐ Unemployed

Part II: Questionnaire on the Current Status of Adult Education in Zhejiang and Factors Promoting Its Sustainable Development

Direction: Please carefully read the following items (Questions 1-25) and, based on your opinion, rate each item on a five-point scale.. These levels will help assess the current state of adult higher education in Zhejiang and the supporting factors that promote the sustainable development of lifelong learning. The details are as follows:

1 = lowest level   2 = low level   3 = mediumlevel,

4 = high level   5 = highest level

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
Curricul um Design	1.You think the curriculum design of your major is reasonable(including the ratio of required courses, elective courses, and practical skills courses) is reasonable				
	2.You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable				
	3.You think the course schedule is reasonable				
	4.You think the course content aligns with actual work requirements				
	5.Whether you found the course content helpful in influencing future personal lifelong learning				
Implem entation of Teachin g	6.How satisfied are you with the school's teaching organization and management				
	7.You think the teachers' teaching abilities (including practical experience and guidance skills) are good				
	8.You think the teachers' instructional methods are reasonable				
	9.You think the teachers' overall competence is good				
	10.You think the assessment methods for the course are reasonable				

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
	11.You think the interactive discussions in class led by the teacher are reasonable				
	12.You think the learning objectives of the tasks are clear				
	13.Are you satisfied with the learning support and guidance				
Learning Process	14.Are you satisfied with your own learning attitude				
	15.You think the learning methods you use are reasonable				
Learning Process	16.Are you satisfied with your own study habits				
	17.You have frequent communication with your teachers				
	18.Do you actively seek help when you encounter difficulties in your studies				
	19.You primarily self-regulate your learning and do not need others to apply pressure				
learning effect	20.You enhance your problem-solving skills through learning				
	21.You improve your professional skills through learning				
	22.You enhance your overall competence through learning				
	23.You achieve your set learning goals through studying				

Factors	Questions	Assessment result			Remarks
		+1	0	-1	
	24.You enhance your engagement and initiative in learning through studying.				
	25.Your satisfaction with your own learning effect				
	26.You think lifelong learning is very important				
	27.You are generally satisfied with your overall learning				

suggestions : ....

....

....

Sign...Assessor

(...)

Date........../...................../.............

LISHUI UNIVERSITY

Assessment Form for the Validity of the Interview on the Promoting Factors of Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang
(For Experts)

Direction:

1.This "Assessment Form for the Validity of the Interview on the Promoting Factors of Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang" is designed for experts to review the consistency of the interview form and provide suggestions. It is part of the doctoral dissertation on Sustainable Development in Educational Management at Bansomdejchaopraya Rajabhat University, Thailand. This study aims to explore the components of sustainable development in lifelong learning for adult higher education in Zhejiang, formulate strategies for its sustainable development, and evaluate those strategies.

2.This interview validity assessment form is divided into two parts with a total of 4 questions and suggestions.

3.Your feedback on the validity assessment form for the interview will contribute to the formulation of management strategies to promote sustainable development strategies for lifelong learning in adult higher education in Zhejiang. Your responses to this questionnaire will have no personal impact on you. The suggested data will provide an overview, and the researchers intend to use this data solely for research purposes.

Thank you for your cooperation in completing this interview form.

Xu Zhongyan

A doctoral student in Educational administration program

Bansomdejchaopraya Rajabhat University

Part I: Personal Information

Interviewer………………………Interview Date……………………Interview Time……………

Interview………………………Gender…………………………………Age…………years old

Educationackground…………………Position……………………………………………………

Work place………………………………………………………………………………………………

Part II: Factors Promoting Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang

Direction:

Please consider the consistency of the influencing factors in the formulation of sustainable development strategies for adult education in Zhejiang. After consideration, please check the appropriate box. Use the following criteria for your assessment

Rating is +1. There is an opinion that"Corresponds to definition."

Rating is 0. There is an opinion that "Not sure it corresponds to definition."

Rating is -1. There is an opinion that"Inconsistent with definition."

Factors	Questions	Assessment result			Remarks
		-1	0	1	
Factors for Promoting Development	1.What are the issues with the current curriculum design for sustainable development in adult education in Zhejiang, and what strategies can promote sustainable curriculum design?				
	2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?				

Factors	Questions	Assessment result			Remarks
		-1	0	1	
	3.How is the learning process for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to advance the sustainable learning process?				
	4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?				

suggestions : ....

....

....

Sign...Assessor

(..)

Date........../................./............

Appendix D

The Results of the Quality Analysis of Research Instruments

The Quality Analysis Results of Research Instruments

Results of the Consistency Evaluation of the Questionnaire Survey on the Current Situation of Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province.

1. The quality analysis results of Questionnaire.

clause	Status of Sustainable Development of Lifelong Learning of Adult Higher Education in Zhejiang Province	Experts					IOC	Conclusion
		1	2	3	4	5		
Curriculum Design for the Sustainable Development of Adult Higher Education								
1	You think the curriculum design of your major is reasonable(including the ratio of required courses, elective courses, and practical skills courses) is reasonable.	1	1	1	1	1	1.00	consistent
2	You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable	1	1	1	1	1	1.00	consistent
3	You think the course schedule is reasonable	1	1	1	1	1	1.00	consistent
4	You think the course content aligns with actual work requirements	1	1	1	1	1	1.00	consistent

clause	Status of Sustainable Development of Lifelong Learning of Adult Higher Education in Zhejiang Province	Experts					IOC	Conclusion
		1	2	3	4	5		
5	Whether you found the course content helpful in influencing future personal lifelong learning	1	1	1	1	1	1.00	consistent

Implementation of Teaching for the Sustainable Development of Adult Higher Education

clause		Experts					IOC	Conclusion
1	How satisfied are you with the school's teaching organization and management	1	1	1	1	1	1.00	consistent
2	You think the teachers' teaching abilities (including practical experience and guidance skills) are good	1	1	1	1	1	1.00	consistent
3	You think the teachers' instructional methods are reasonable	1	1	1	1	1	1.00	consistent
4	You think the teachers' overall competence is good	1	1	1	1	1	1.00	consistent
5	You think the assessment methods for the course are reasonable	1	1	1	1	1	1.00	consistent
7	11.You think the interactive discussions in class led by the teacher are reasonable	1	1	1	1	1	1.00	consistent
8	You think the learning objectives of the tasks are clear	1	1	1	1	1	1.00	consistent
9	Are you satisfied with the learning support and guidance	1	1	1	1	1	1.00	consistent

clause	Status of Sustainable Development of Lifelong Learning of Adult Higher Education in Zhejiang Province	Experts					IOC	Conclusion
		1	2	3	4	5		
Learning Process for the Sustainable Development of Lifelong Learning in Adult Higher Education								
1	Are you satisfied with your own learning attitude	1	1	1	1	1	1.00	consistent
2	You think the learning methods you use are reasonable	1	1	1	1	1	1.00	consistent
3	Are you satisfied with your own study habits	1	1	1	1	1	1.00	consistent
4	Are you satisfied with your own learning attitude	1	1	1	1	1	1.00	consistent
5	You have frequent communication with your teachers	1	1	1	1	1	1.00	consistent
6	Do you actively seek help when you encounter difficulties in your studies	1	1	1	1	1	1.00	consistent
7	You primarily self-regulate your learning and do not need others to apply pressure	1	1	1	1	1	1.00	consistent
learning effect for the Sustainable Development of Lifelong Learning in Adult Higher Education								
1	You enhance your problem-solving skills through learning	1	1	1	1	1	1.00	consistent
2	You improve your professional skills through learning	1	1	1	1	1	1.00	consistent

clause	Status of Sustainable Development of Lifelong Learning of Adult Higher Education in Zhejiang Province	Experts					IOC	Conclusion
		1	2	3	4	5		
3	You enhance your overall competence through learning	1	1	1	1	1	1.00	consistent
4	You achieve your set learning goals through studying	1	1	1	1	1	1.00	consistent
5	You enhance your engagement and initiative in learning through studying.	1	1	1	1	1	1.00	consistent
6	Your satisfaction with your own learning effect	1	1	1	1	1	1.00	consistent
7	You think lifelong learning is very important	1	1	1	1	1	1.00	consistent
8	You are generally satisfied with your overall learning	1	1	1	1	1	1.00	consistent

2. The quality analysis results of Interview.

clause	Content of the interviews	Experts					IOC	Conclusion
		1	2	3	4	5		
1	What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?	1	1	1	1	1	1.00	consistent
2	What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?	1	1	1	1	1	1.00	consistent
3	How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?	1	1	1	1	1	1.00	consistent
4	How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?	1	1	1	1	1	1.00	consistent

3. The quality analysis results of evaluation form.

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
Establish Institutional Safeguards								
1	Introduce policies for the sustainable development of adult education.	1	1	1	1	1	1.00	consistent
2	Define talent development goals aligned with societal needs.	1	1	1	1	1	1.00	consistent
3	Optimize professional talent development plans.	1	1	1	1	1	1.00	consistent
4	Strengthen the practical requirements of curriculum design.	1	1	1	1	1	1.00	consistent
5	Integrate the concept of lifelong learning into the curriculum.	1	1	1	1	1	1.00	consistent
6	Strengthening financial guarantees	1	1	1	1	1	1.00	consistent
Enhance the Management System								
1	Establish a robust teaching organization and management system.	1	1	1	1	1	1.00	consistent
2	Enhance teacher training.	1	1	1	1	1	1.00	consistent
3	Promote teacher exchanges and cooperation.	1	1	1	1	1	1.00	consistent
4	Focus on teacher ethics education.	1	1	1	1	1	1.00	consistent
5	Improve the teacher evaluation and incentive system.	1	1	1	1	1	1.00	consistent
6	Strengthen teacher training through experience in enterprises.	1	1	1	1	1	1.00	consistent
7	Enhance teachers' information technology skills.	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
8	Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.	1	1	1	1	1	1.00	consistent
Enhance Learning Motivation								
1	Developing positive concepts of learning in students	1	1	1	1	1	1.00	consistent
2	Actively participate in school-organized activities, lectures, and forums.	1	1	1	1	1	1.00	consistent
3	Set clear learning goals.	1	1	1	1	1	1.00	consistent
4	Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom	1	1	1	1	1	1.00	consistent
5	Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves	1	1	1	1	1	1.00	consistent
6	Create a detailed study plan and use time management tools to strengthen your study time management skills.	1	1	1	1	1	1.00	consistent
7	Establish student scholarships.	1	1	1	1	1	1.00	consistent
Reinforce Quality Assessment								
1	Establish a scientific teaching quality assessment system.	1	1	1	1	1	1.00	consistent
2	Develop standards for the skills that students should master.	1	1	1	1	1	1.00	consistent
3	Conduct a learning satisfaction survey.	1	1	1	1	1	1.00	consistent

clause	The factors promoting development	Experts					IOC	Conclusion
		1	2	3	4	5		
4	Continuously focus on the overall development of students.	1	1	1	1	1	1.00	consistent
5	Establish a quality assessment platform using internet technology.	1	1	1	1	1	1.00	consistent

Reliability analysis of research instruments

Results of variable reliability correlation analysis

Reliability

Scale: all variables

Case handling summary		N	%
case	effective	384	100
	Excluded[a]	0	0
	Total	384	100
a. List deletion based on all variables in this program.			

Reliability statistics		
Cronbach's Alpha	Based on standardized items Cronbachs Alpha	Number of terms
.947	.947	27

Interviewee

Interviewer 1: Mr. Wang, College of Continuing Education, Zhejiang Lishui University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Wang! Thank you very much for accepting our interview. We would like to know the current status of curriculum design for sustainable development of lifelong learning in adult academic education, and what strategic suggestions you have on how to promote sustainable curriculum design.

Mr. Wang: Hello! I am very glad to accept this interview. Regarding the current situation of curriculum design for sustainable development of lifelong learning in adult academic education, I think we can talk about the following aspects:

Curriculum:Status quo: the current curriculum of adult academic education has been relatively rich, covering a number of subject areas. However, some of the curricula still appear to be traditional and lack innovation and foresight.Strategy: The curriculum should be constantly adjusted and optimized according to the market demand and the development of the industry, and emerging disciplines and cutting-edge technologies should be introduced to make the curriculum closer to reality and meet the diversified needs of students.

Curriculum structure: Status quo: There is a certain degree of rigidity in the curriculum structure, and the connection between some courses is not close enough, lacking systematicity and coherence. Strategy: A more flexible and open course structure should be built to strengthen the articulation and integration between courses, form a complete knowledge system, and improve students' comprehensive quality and ability.

Arrangement of course progress: Current situation: The arrangement of course progress is sometimes too compact, which brings more learning pressure to students; sometimes it is too loose, which leads to low learning efficiency. Strategies: The course progress should be rationally arranged, taking into account students' learning ability and time schedule, and ensuring the completeness and depth of the teaching content. Modularized teaching methods can be used to allow students to flexibly choose the learning progress according to their actual situation.

Course content and actual job requirements: Status: There is a disconnect between some course content and actual job requirements, which leads to students feeling confused and useless in learning. Strategy: The connection between course content and actual work demand should be strengthened, and through research and analysis of industry development trends, cases and experiences in actual work should be integrated into course content to improve students' practical ability and employment competitiveness.

Course content affects future individual lifelong learning: Status: Some course content focuses too much on immediate benefits and lacks guidance and training for students' future lifelong learning. Strategies: The concept of lifelong learning should be integrated into the design of the curriculum, and emphasis should be placed on cultivating students' self-learning ability and the habit of continuous learning, so that they can continuously adapt to new environments and challenges in the future.

Next, I will talk about how to promote sustainable development in curriculum design strategies:

Policies for development: The government should introduce relevant policies to encourage and support curriculum innovation and development of adult academic education, and provide policy guarantee and financial support for curriculum design.

Social demand: Curriculum design should pay close attention to the changes of social demand and adjust the course content and structure in time to meet the social demand for talents.

Talent cultivation program: develop a scientific talent cultivation program, clarify the cultivation objectives, cultivation specifications and cultivation methods, and provide guidance and basis for curriculum design.

Practicality of curriculum design: Strengthen the practicality of curriculum design, emphasize the cultivation of students' practical ability and operation skills, so that they can learn truly useful knowledge and skills in their study.

Integration of the curriculum into the concept of lifelong learning: Integrate the concept of lifelong learning into the design of the curriculum, focusing on cultivating students' self-learning ability and habit of continuous learning, so as to lay a solid foundation for their future lifelong learning.

Funding guarantee: Increase funding and provide sufficient financial support for curriculum design to ensure its smooth progress and continuous innovation.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Mr. Wang, the next question is that we want to know about the problems in the teaching and learning implementation of lifelong learning and sustainable development in adult education, and what strategic suggestions do you have on how to promote the implementation of sustainable development teaching.

Mr. Wang: Satisfaction with the school's teaching organization and management:

Current situation: The school's teaching organization and management are relatively standardized, but sometimes there are still deficiencies in

coordinating resources from all parties and meeting the diversified needs of students.

Countermeasures: The school should further strengthen the flexibility and response speed of teaching organization, establish a closer teaching management team, and ensure the effective allocation and utilization of teaching resources.

Teachers' teaching ability (including practical experience and guidance skills):

Current situation: Some teachers still need to improve their practical experience and guidance skills, especially for some emerging fields and technologies.

Countermeasures: The school should increase the training of teachers, encourage teachers to participate in industry practice, academic exchanges and further studies, and improve their practical experience and guidance skills.

Teachers' teaching methods are reasonable:

Current situation: Although teachers have some innovations in teaching methods, some methods are still traditional and difficult to meet the diverse learning needs of adult students.

Countermeasures: Schools should encourage teachers to adopt more flexible and diverse teaching methods, such as case teaching, project teaching, online teaching, etc., to improve the pertinence and effectiveness of teaching.

Teachers' comprehensive quality:

Current situation: Most teachers have high professional quality, but they still need to improve their interdisciplinary knowledge and international vision.

Countermeasures: Schools should strengthen the cultivation of teachers' comprehensive quality, encourage teachers to broaden their knowledge, and improve their ability of interdisciplinary teaching and international communication.

Course assessment method:

Current situation: The course assessment method is relatively single, mainly based on examinations, and lacks a comprehensive evaluation of students' practical and innovative abilities.

Countermeasures: Schools should explore more diversified course assessment methods, such as combining project reports, practical operations, group discussions and other evaluation methods to comprehensively evaluate students' learning effect.

Teachers' interactive discussion in class:

Current situation: Some teachers have fewer interactive discussion sessions in class and lack sufficient communication and exchange with students.

Countermeasures: Schools should encourage teachers to increase interactive discussion sessions in class, stimulate students' interest and enthusiasm in learning, and promote benign interaction between teachers and students.

Are the teaching objectives clear:

Current situation: The teaching objectives of most courses are relatively clear, but some courses are not specific and clear enough in setting teaching objectives.

Countermeasures: The school should strengthen the management and guidance of teaching objective setting, ensure that each course has clear and specific teaching objectives, and provide a clear guide for teaching and learning implementation.

Students are satisfied with learning support and counseling:

Current situation: Students are highly satisfied with learning support and counseling, but some students still hope to get more personalized counseling and support.

Countermeasures: The school should strengthen learning support and counseling for students, establish a more complete counseling system, provide personalized counseling services, and meet the diverse needs of students.

Next, I will talk about how to promote the implementation of sustainable development teaching strategies:

Strengthen teaching organization and management: Establish a more efficient and flexible teaching organization and management mechanism to ensure the effective allocation and utilization of teaching resources.

Improve teachers' teaching ability: Increase the training of teachers, encourage teachers to participate in industry practice, academic exchanges and further studies, and improve their practical experience and guidance skills.

Innovate teaching methods: Encourage teachers to adopt more flexible and diverse teaching methods to improve the pertinence and effectiveness of teaching.

Improve the comprehensive quality of teachers: strengthen the cultivation of comprehensive quality of teachers, broaden their knowledge, and enhance the ability of interdisciplinary teaching and international communication.

Diversify course assessment methods: explore more diversified course assessment methods and comprehensively evaluate students' learning effect.

Increase classroom interactive discussions: encourage teachers to increase interactive discussions in class to stimulate students' interest and enthusiasm in learning.

Clarify teaching objectives: strengthen the management and guidance of teaching goal setting to ensure that each course has clear and specific teaching objectives.

Strengthen learning support and counseling: establish a more complete counseling system, provide personalized counseling services, and meet the diverse needs of students.

Interviewer: Thank you very much for Mr. Wang's detailed sharing and suggestions. I believe that your experience and insights will have a positive impact on the implementation of lifelong learning sustainable development teaching in adult academic education.

Mr. Wang: You're welcome! I also hope that our experience and practices can provide reference and reference for other colleges of continuing education. At the same time, I also hope that the school can continue to pay attention to and support the teaching and learning implementation of adult academic education and contribute to the construction of a lifelong learning system.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Mr. Wang, the third question is to understand the current situation of the learning process of middle school students in lifelong learning and sustainable development of adult education in Zhejiang Province, and what strategic suggestions do you have on how to promote the learning process of sustainable development.

Mr. Wang: Regarding the learning process of middle school students in lifelong learning and sustainable development of adult education, I think we can talk about the current situation from the following aspects:

Students' learning attitude:

Current situation: Most adult students have a positive attitude towards learning, and they recognize the importance of learning for personal growth and career development. However, some students are not sufficiently invested in learning due to pressure from work and family, and their attitude is relatively negative.

Countermeasures: Schools should strengthen the motivation of students to learn, and enhance students' learning motivation and confidence through activities such as career planning lectures and sharing of successful cases.

Learning methods adopted by students:

Current situation: Adult students often adopt the method of self-study as the main method and supplemented by online learning resources due to limited time. However, some students lack effective learning strategies and their learning efficiency is not high.

Countermeasures: Schools should provide guidance on learning methods, such as time management skills, efficient reading methods, note-taking skills, etc., to help students improve their learning efficiency.

Students' learning habits:

Current situation: Some adult students have irregular learning habits due to busy work and find it difficult to maintain a continuous learning state.

Countermeasures: Schools should encourage students to develop reasonable learning plans and provide learning tracking and support, such as regular learning progress checks and learning partner systems, to help students develop good learning habits.

Communication between students and teachers:

Current situation: Adult students have relatively little communication with teachers, and some students are unwilling to actively communicate with teachers due to shyness or time reasons.

Countermeasures: Schools should establish more convenient teacher-student communication platforms, such as online Q&A, WeChat groups, etc., to encourage interaction and communication between teachers and students. At the same time, teachers should also take the initiative to care about students' learning situation and provide necessary guidance and help.

Will students take the initiative to take action to find relevant help when they encounter something they don't understand during the learning process:

Current situation: Some students will choose to give up or procrastinate when they encounter difficulties, and lack the awareness of actively seeking help.

Countermeasures: Schools should cultivate students' independent learning ability and problem-solving ability, and encourage them to actively find resources or ask teachers and classmates for help when they encounter difficulties. At the same time, schools can also provide learning guidance and support services, such as study groups and tutoring classes.

In the main process of learning, students should restrain themselves and do not need others to put pressure on them:

Current situation: Adult students are relatively mature and have strong self-discipline. However, some students tend to relax their requirements for themselves due to the lack of external supervision and pressure.

Countermeasures: Schools should establish a reasonable learning evaluation mechanism, such as regular learning achievement display, learning competition, etc., to stimulate students' learning enthusiasm and competitive consciousness. At the same time, students can also be encouraged to set personal learning goals and invite family, friends or teachers as supervisors to help them maintain their learning motivation.

Next, I will talk about how to promote sustainable development learning process strategies:

Stimulate learning motivation: Enhance students' learning motivation and confidence through career planning lectures, success case sharing and other activities.

Provide learning method guidance: Teach time management skills, efficient reading methods, note-taking skills, etc. to help students improve their learning efficiency.

Cultivate good learning habits: Encourage students to make reasonable learning plans and provide learning tracking and support services.

Strengthen communication between teachers and students: Establish a convenient communication platform between teachers and students to encourage interaction and communication between teachers and students.

Cultivate independent learning ability: Encourage students to actively seek resources or help when encountering difficulties, and provide learning guidance and support services.

Establish a learning evaluation mechanism: stimulate students' learning enthusiasm and competitive awareness through regular learning achievement display, learning competitions, etc.

Interviewer: Thank you very much for Mr. Wang's detailed sharing and suggestions. I believe that your experience and insights will have a positive impact on the learning process of students in the sustainable development of lifelong learning in adult education.

Mr. Wang: You're welcome! I also hope that our experience and practices can provide reference and reference for other adult education workers. At the same time, I also hope that the school can continue to pay attention to and support the learning process of adult students and provide them with a better learning environment and conditions.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Mr. Wang, the last question is to understand the current status of the learning effect of middle school students in lifelong learning and sustainable development in adult education in Zhejiang Province, and what strategic suggestions do you have on how to promote the learning effect of sustainable development, especially in combination with the situation of Lishui University Continuing Education College.

Mr. Wang: OK. Regarding the learning effect of middle school students in lifelong learning and sustainable development in adult education, I think we can talk about the current situation from the following aspects:

Improving problem-solving ability through learning:

Current situation: Most adult students have indeed improved their problem-solving ability to a certain extent through learning. They are able to apply what they have learned to actual work and solve some specific problems. However, some students are not good in this regard and lack the ability to transform theory into practice.

Countermeasures: The college should strengthen the practical teaching link, such as offering case analysis courses, organizing field trips, etc., to help students combine what they have learned with practice and improve their problem-solving ability.

Improve their own professional and technical abilities after learning:

Current situation: One of the main purposes of adult students participating in continuing education is to improve their professional and technical abilities. Through the professional course training of the college, many students have indeed improved their professional skills. But some students also reflected that there is a disconnect between what they have learned and the actual work needs.

Countermeasures: The college should strengthen cooperation with industry enterprises, understand market demand, adjust course settings and teaching content, and ensure that the knowledge learned by students matches the needs of professional skills.

Improve their comprehensive quality and ability through learning:

Current situation: In addition to professional skills, adult students also hope to improve their comprehensive quality and ability through learning, such as communication skills, teamwork skills, etc. The college has also made certain efforts in this regard, but the effect varies from person to person.

Countermeasures: The college should offer more comprehensive quality improvement courses, such as interpersonal skills, team management, leadership training, etc., and encourage students to actively participate in extracurricular activities and club activities to exercise comprehensive qualities.

Achieve predetermined learning goals through learning:

Current situation: Most students set clear learning goals when they enter school, but after learning, some students find it difficult to achieve these goals. This may be related to setting too high learning goals, improper learning methods, or insufficient learning motivation.

Countermeasures: The college should strengthen the guidance and guidance of students' learning goals, help students set reasonable and feasible learning goals, and provide support for learning methods and learning motivation.

Improve learning participation and initiative through learning:

Current situation: The learning participation and initiative of adult students vary from person to person. Some students show high enthusiasm and initiative in learning, but some students lack motivation for learning and have low participation.

Countermeasures: The college should adopt a variety of teaching methods and means, such as case teaching, project teaching, online interaction, etc., to stimulate students' interest and enthusiasm in learning, and improve learning participation and initiative.

Satisfaction with students' own learning effect:

Current situation: Most students are satisfied with their learning effect, but some students believe that there is a gap between what they have learned and their expectations, and are not very satisfied with the learning effect.

Countermeasures: The college should strengthen feedback and evaluation of students' learning effect, regularly collect students' opinions and

suggestions, and adjust teaching plans and teaching methods in a timely manner to improve students' learning satisfaction.

Next, I will talk about how to promote learning effect strategies for sustainable development:

Strengthen practical teaching: Through case analysis, field visits and other methods, help students combine what they have learned with practice and improve their problem-solving ability.

Adjust course settings: Strengthen cooperation with industry enterprises, understand market demand, adjust course settings and teaching content, and ensure that students' knowledge matches their professional skills needs.

Open comprehensive quality improvement courses: provide courses such as interpersonal skills, team management, leadership training, etc. to train students' comprehensive quality ability.

Guide learning goal setting: help students set reasonable and feasible learning goals, and provide support for learning methods and learning motivation.

Diversified teaching methods: adopt diversified teaching methods and means such as case teaching, project teaching, and online interaction to stimulate students' learning interest and enthusiasm.

Strengthen learning outcome feedback: regularly collect students' opinions and suggestions, adjust teaching plans and teaching methods in a timely manner, and improve students' learning satisfaction.

Interviewer: Thank you very much for Mr. Wang's detailed sharing and suggestions. I believe that your experience and insights will have a positive impact on the learning effect of promoting the sustainable development of lifelong learning in adult education.

Mr. Wang: You're welcome! I also hope that our experience and practices can provide reference and reference for other adult education workers. At the same time, I also hope that the college can continue to pay attention to and

support the learning process and learning effects of adult students, and provide them with a better learning environment and conditions.

Through this interview, we have a deep understanding of the current situation of students' learning effects in the sustainable development of lifelong learning in adult education in Zhejiang Province and the learning effect strategies to promote sustainable development. Teacher Wang analyzed the current status of learning effects in detail from multiple aspects, including improving problem-solving ability, improving professional technical ability, improving comprehensive quality ability, achieving predetermined learning goals, improving learning participation and initiative, and students' satisfaction with their own learning effect, and proposed targeted countermeasures. These insights and suggestions are of great reference value for improving adult students' learning effects and promoting the sustainable development of lifelong learning.

Interviewer 2: Mr. Yao, College of Continuing Education, Zhejiang Lishui University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Yao, thank you very much for accepting our interview. First of all, I would like to know the current status of curriculum design for sustainable development of lifelong learning in adult education, especially in terms of curriculum setting, curriculum structure, course schedule, course content and actual work needs, and the impact of course content on personal lifelong learning.

Mr. Yao: I am very happy to accept your interview. In terms of curriculum setting, we currently focus on diversity and flexibility, including both basic theoretical knowledge courses and professional skills practice courses. In terms of course structure, we adopt a modular design, which is divided into compulsory courses, elective courses and practical courses, so that learners can

choose suitable courses according to their needs. The course schedule is flexibly adjusted according to the learner's schedule and work rhythm, providing online and offline hybrid teaching modes. In terms of course content, we strive to be close to actual work needs, invite industry experts to participate in course design, and ensure that the knowledge learned is closely related to the workplace. As for the impact of course content on personal lifelong learning, we focus on cultivating learners' autonomous learning ability and critical thinking, so that they can continue to learn and grow in their future careers.

However, we also face some challenges, such as the lack of timely updates of some course content, which makes it difficult to fully meet the needs of the rapidly developing industry; the course schedule sometimes makes it difficult to take into account the personalized needs of all learners; and how to impart theoretical knowledge and strengthen practical skills within limited class hours.

Interviewer: In view of these current situations, how do you think the curriculum design strategy should be promoted to promote the sustainable development of lifelong learning in adult education? Especially in the introduction of policies for the sustainable development of adult education, clarifying the goal of cultivating talents for social needs, optimizing professional talent training programs, strengthening the practical needs of curriculum design, integrating the concept of lifelong learning into the curriculum, and strengthening funding guarantees.

Mr.Yao: First of all, at the policy level, we hope that the government can introduce more policies to support adult education and lifelong learning, such as providing tuition subsidies and establishing a credit bank system, so as to encourage more adults to participate in continuing education.

In terms of clarifying the goal of cultivating talents for social needs, we will further strengthen cooperation with enterprises and industries, clarify the direction and goals of talent training through market research and demand

analysis, and ensure that our curriculum design and talent training are closely connected with social needs.

In terms of optimizing professional talent training programs, we will continue to improve the curriculum system, focus on interdisciplinary integration, increase practical links and case analysis, and improve the practicality and pertinence of the courses. At the same time, we will also encourage the teaching team to continue learning and innovating to improve the quality and level of teaching.

In terms of strengthening the practical needs of course design, we will increase the proportion of practical links such as experiments, practical training, and internships, and cooperate with enterprises to establish practical training bases to provide learners with a real professional environment and practical opportunities. In addition, we will also introduce new teaching models such as project-based learning to allow learners to learn and grow in practice.

In terms of integrating the concept of lifelong learning into the curriculum, we will focus on cultivating learners' autonomous learning ability and awareness of continuous learning. By offering courses such as learning methodology and information retrieval, we will help learners master effective learning strategies. At the same time, we will also encourage learners to participate in new teaching models such as online learning and blended teaching, so that they can learn anytime and anywhere.

Finally, in terms of strengthening funding guarantees, we will actively seek support from the government and all sectors of society and raise funds through various channels. At the same time, we will also focus on the rational use and management of funds to ensure that every penny is spent on the blade, providing strong guarantees for the sustainable development of adult academic education and lifelong learning.

Interviewer: Thank you very much for your detailed sharing and suggestions. I believe that your experience and insights will have a positive

impact on the curriculum design of lifelong learning sustainable development of adult education.

Mr. Yao: You're welcome. I also hope that our experience and practices can provide reference and reference for other colleges of continuing education and jointly promote the sustainable development of adult education.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Teacher Yao, the second question is that we want to know about the current problems in the implementation of sustainable development teaching in lifelong learning of adult education, and your views on these problems. At the same time, we also want to hear your suggestions on strategies to promote the implementation of sustainable development teaching.

Mr.Yao: OK. Regarding the problems in the implementation of sustainable development teaching in lifelong learning of adult education, I think there are mainly the following aspects:

Satisfaction with teaching organization and management: At present, the teaching organization and management system of some colleges and universities is not sound enough, and there are problems such as chaotic management and unclear responsibilities. This has led to a certain impact on the development of teaching work, and the quality of teaching is difficult to guarantee.

Teachers' teaching ability: Some teachers are relatively lacking in practical experience and guidance skills, which makes it difficult to meet the needs of adult education. At the same time, some teachers' teaching methods are relatively traditional, lacking innovation and pertinence.

Teachers' teaching methods are reasonable: The rationality of teaching methods is an important factor affecting teaching quality. At present, some teachers' teaching methods are too single, lacking diversity and flexibility, and it is difficult to stimulate students' interest and enthusiasm in learning.

Teachers' comprehensive literacy: Teachers' comprehensive literacy directly affects students' learning effects and growth. Some teachers still need to improve in terms of teacher ethics, knowledge, and ability.

Course assessment method: Course assessment method is an important means to evaluate students' learning effect. At present, the assessment methods of some courses are too single, focusing only on knowledge memory and test-taking ability, and ignoring the examination of students' practical ability and innovation ability.

Teachers' interactive discussion in class: Interactive discussion is an important part of classroom teaching, which helps to stimulate students' interest in learning and thinking vitality. However, some teachers lack interactive discussion with students during class, resulting in a dull classroom atmosphere and poor student learning effect.

Clear teaching objectives: Clear teaching objectives are the compass of teaching work. However, the teaching objectives of some courses are not clear enough, resulting in the lack of pertinence and effectiveness of teaching content and teaching methods.

Students are satisfied with learning support counseling: Learning support counseling is an important means to help students solve learning difficulties and improve learning effects. However, some students are not satisfied with the learning support counseling provided by the school, believing that the counseling content is not rich enough and the methods are not flexible enough.

In response to these problems, I think the following strategies can be adopted to promote the implementation of sustainable development teaching:

Improve the teaching organization and management system: Establish a sound teaching organization and management system, clarify the responsibilities of various departments and teachers, strengthen the coordination and management of teaching work, and ensure the orderly development of teaching work.

Strengthen teacher training: regularly organize teachers to participate in various trainings to improve teachers' teaching ability and practical experience. At the same time, encourage teachers to participate in academic exchanges and practical activities, broaden their horizons, and update their educational concepts.

Promote communication and cooperation among teachers: establish a regular communication mechanism among teachers to promote experience sharing and cooperation among teachers. At the same time, encourage teachers to carry out interdisciplinary and cross-field cooperative research to improve teachers' comprehensive quality and innovation ability.

Pay attention to teachers' professional ethics education: strengthen teachers' professional ethics education and cultivate teachers' sense of responsibility and mission. At the same time, establish a sound professional ethics evaluation system to conduct regular evaluation and assessment of teachers' professional ethics performance.

Improve teachers' assessment and incentive mechanisms: formulate scientific and reasonable teacher assessment standards, focusing on teaching results, and considering teachers' scientific research contributions and professional ethics performance. At the same time, establish a diversified incentive mechanism to stimulate teachers' work enthusiasm and creativity.

Strengthen teachers' training in enterprises: encourage teachers to go to enterprises or industries for practical training, accumulate practical work experience, and improve teachers' practical teaching ability. At the same time, establish a school-enterprise cooperation mechanism to jointly cultivate high-quality talents that meet social needs.

Strengthen teachers' information technology capabilities: Strengthen information technology training for teachers, and improve teachers' information technology application capabilities and innovative teaching capabilities. At the same time, encourage teachers to use information technology means in teaching and innovate teaching methods and means.

Use modern educational technologies, such as multimedia, the Internet, etc., to innovate teaching methods: Make full use of the advantages of modern educational technologies, such as multimedia, the Internet, etc., to innovate teaching methods and content. Through online teaching, hybrid teaching and other methods, improve the flexibility and pertinence of teaching, and meet students' personalized learning needs.

Interviewer: Thank you very much for Teacher Yao's detailed sharing and suggestions. I believe that your experience and insights will have a positive impact on the implementation of lifelong learning and sustainable development teaching in adult academic education.

Mr.Yao: You're welcome! I also hope that our experience and practices can provide reference and reference for other colleges of continuing education in colleges and universities, and jointly promote the sustainable development of adult academic education.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Teacher Yao, the third question is to understand the current learning status of students in the process of sustainable development of lifelong learning in adult education in Zhejiang Province, and what strategic suggestions do you have on how to promote the learning process of sustainable development.

Mr. Yao: OK. Regarding the learning process of students in the process of sustainable development of lifelong learning in adult education in Zhejiang Province, I think there are currently the following current situations:

Learning attitude:

Most adult students have clear learning goals and positive learning attitudes. They are well aware of the importance of learning for their career development and personal growth.

However, some students are not positive enough in their learning attitudes and lack the motivation to continue learning due to pressures from work and family.

Learning methods:

Adult students usually choose appropriate learning methods according to their actual conditions, such as self-study, online learning, face-to-face learning, etc.

However, some students may lack effective learning methods, resulting in low learning efficiency.

Learning habits:

Good learning habits are crucial to learning results. Some adult students can maintain good learning habits, such as regular review and note-taking.

However, some students have poor learning habits due to improper time management or lack of self-discipline.

Communication between students and teachers:

Adult students have relatively little communication with teachers, and some students may not dare to actively communicate with teachers due to shyness or lack of confidence.

Teachers also need to be more proactive in establishing contact with students to understand their learning needs and difficulties.

Do you actively seek help when you encounter something you don't understand:

Most adult students will actively seek relevant help when they encounter learning difficulties, such as looking up materials, asking classmates or teachers, etc.

But some students may give up seeking help due to laziness or lack of confidence.

Self-discipline ability:

Adult students usually have strong self-discipline ability and can arrange their study time and plans independently.

However, some students may find it difficult to maintain a continuous learning state due to external interference or their own reasons.

In response to these current situations, I think the following strategies can be adopted to promote the sustainable development of the learning process:

Establish a positive learning concept:

Guide students to establish a correct learning concept and emphasize the importance of learning for personal growth and career development.

Encourage students to maintain a positive learning attitude and overcome difficulties and challenges in learning.

Actively participate in activities, lectures and forums organized by the school:

Schools should regularly hold various academic activities, lectures and forums to provide students with more learning opportunities and communication platforms.

Encourage students to actively participate in these activities, broaden their horizons and increase their knowledge.

Set clear learning goals:

Help students set clear learning goals so that they can study in a directional and planned manner.

Encourage students to combine long-term goals with short-term goals to maintain the continuity and motivation of learning.

Communicate more with teachers and actively participate in classroom interactions:

Encourage students to actively communicate with teachers and express their learning needs and difficulties.

Teachers should pay more attention to students' learning situation and provide timely guidance and help.

In class, encourage students to actively participate in interactions to improve learning results.

Interact more with classmates and find a learning method that suits them:

Encourage students to communicate and interact more with classmates and share learning experiences and insights.

Help students find a learning method that suits them and improve learning efficiency.

Strengthen their own learning time management ability:

Guide students to arrange their study time reasonably to avoid wasting time and procrastination.

Teach students time management skills and methods to help them improve their time utilization efficiency.

Set up student scholarships:

Schools can set up student scholarships to encourage students to make progress in learning and perform well.

The establishment of scholarships can stimulate students' learning motivation and enthusiasm and promote a sustainable learning process.

Interviewer: Thank you very much for your detailed sharing and suggestions, Teacher Yao. I believe that your experience and insights will have a positive impact on the sustainable development of lifelong learning in adult education in Zhejiang Province.

Mr.Yao: You're welcome! I also hope that our experience and practices can provide reference and reference for other colleges of continuing education, and jointly promote the sustainable development of adult education. At the same time, I also hope that the school can pay more attention to the students' learning process and support services, and provide students with a better learning environment and conditions.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Mr.Yao, the last question is to understand the current status of students' learning effects in the process of lifelong learning and sustainable development of adult education in Zhejiang Province, and what strategic suggestions do you have on how to promote the learning effects of sustainable development.

Mr.Yao: OK. Regarding the learning effects of students in the process of lifelong learning and sustainable development of adult education in Zhejiang Province, I think there are currently the following current situations: Improve problem-solving ability through learning: Most adult students can improve their ability to solve practical problems through learning, which is well reflected in their work. However, some students also said that although they have learned relevant knowledge, they still feel powerless in practical applications, and their problem-solving ability has been limited.

Improve their own professional and technical abilities after learning: Adult education has a significant effect on improving students' professional and technical abilities, and many students have obtained better career development opportunities after completing their studies. However, some students also reflected that the course content is out of touch with the actual work needs, resulting in insufficient improvement in professional and technical abilities.

Improve their own comprehensive quality and ability after learning: Learning not only improves students' professional skills, but also improves their comprehensive quality and ability to a certain extent, such as communication skills, teamwork skills, etc. However, some students also said that in the learning process, the cultivation of comprehensive quality and ability is relatively neglected, and they hope to strengthen this aspect in the future.

Achieve the predetermined learning goals through learning: Most students can achieve the predetermined learning goals and are satisfied with the learning results.

However, some students fail to achieve their goals for various reasons and feel disappointed and frustrated. Improve learning participation and initiative through learning: Adult students generally have high learning participation and initiative, and they are willing to invest time and energy in learning.

However, some students also said that due to work, family and other reasons, their learning participation and initiative have declined.

Satisfaction with students' own learning effect: In general, students are satisfied with their learning effect and believe that learning has a positive effect on their career development and personal growth.

However, some students believe that the learning effect have not met expectations and hope to further improve the learning effects in the future.

In response to these current situations, I think the following strategies can be adopted to promote sustainable learning effects:

Establish a scientific teaching quality evaluation system:

Establish a scientific teaching quality evaluation system to conduct a comprehensive and objective evaluation of students' learning effects.

Provide timely feedback on teaching effects through the evaluation system to provide a basis for improving teaching.

Formulate the skill standards that students should master:

According to market demand and industry development, formulate the skill standards that students should master to ensure that the course content is consistent with actual work needs.

Guide students to learn in a targeted manner through skill standards and improve their professional and technical capabilities.

Carry out learning satisfaction surveys:

Carry out learning satisfaction surveys regularly to understand students' satisfaction with teaching content, teaching methods, teaching services, etc.

Adjust teaching strategies in a timely manner according to survey results to improve students' learning experience and learning effects.

Continuously pay attention to students' all-round development:

In the teaching process, we should not only pay attention to the improvement of students' professional skills, but also pay attention to their comprehensive quality and ability cultivation.

By carrying out various activities, lectures and forums, broaden students' horizons and improve their comprehensive quality and ability.

Establish a quality assessment platform using Internet technology:

Use Internet technology to establish a quality assessment platform to achieve real-time monitoring and data analysis of teaching quality.

Collect students' learning data through the platform, analyze students' learning behavior and learning effects, and provide data support for teaching improvement.

Interviewer: Thank you very much for Mr. Yao's detailed sharing and suggestions. I believe that your experience and insights will have a profound impact on the sustainable development of lifelong learning in adult education in Zhejiang Province.

Mr. Yao: You're welcome! I also hope that our experience and practices can provide reference for other colleges of continuing education. At the same time, I also hope that all sectors of society can pay attention to and support the development of adult academic education and contribute to the construction of a lifelong learning system.

Interviewer 3: Mr.Li, School of Continuing Education, Zhejiang University of Science and Technology

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, thank you very much for accepting our interview. Today, we mainly want to know four aspects of the problem. The first question is about the current situation of curriculum design of adult education in Zhejiang Province under the concept of lifelong learning and your views on curriculum design strategies to promote sustainable development.

Mr.Li: Hello, I am very happy to have the opportunity to participate in this interview. Adult education in Zhejiang Province has been working hard to explore a curriculum design model that meets the characteristics of adult learning and lifelong learning needs.

Interviewer: First of all, we would like to know your views on the curriculum setting, curriculum structure, and curriculum progress of the current curriculum design.

Mr.Li: From the perspective of curriculum setting, we try to cover the knowledge and skills required by adult learners at different career stages. However, in actual operation, we also find that some courses may be too theoretical and out of touch with the actual work needs of students. In terms of course structure, we try to adopt a modular design so that students can flexibly choose courses according to their own time and needs. However, this modular design also encountered some challenges in the implementation process, such as how to ensure the connection and coherence between modules. In terms of course progress, we usually make adjustments based on student feedback and teaching results, but sometimes the progress is delayed or too fast due to various reasons.

Interviewer: How do you think the current courses are relevant to actual work? Will the course content help students' future personal lifelong learning?

Mr.Li: This is a very important question. We have been working hard to make the course content closer to actual work, and optimize the course design through industry research, expert consultation and other means. But it is undeniable that due to the rapid changes in industry development, sometimes our course content is still difficult to keep up with the pace of actual work. As for the impact of course content on students' future personal lifelong learning, we think this is very important. Therefore, we try to incorporate some common learning methods and skills into the course design to help students develop the ability of lifelong learning.

Interviewer: Based on the current situation you just mentioned, can we discuss the course design strategy to promote sustainable development?

Mr.Li: Of course. I think that first of all, the government or relevant institutions can introduce relevant policies to guide and support the course design of adult academic education to be more in line with the needs of lifelong learning.

Interviewer: Specifically, what aspects can these policies include?

Mr.Li: For example, a special fund can be set up to support course research and development and innovation, reward and promote excellent course designs, and provide certain tuition subsidies or tax incentives to students participating in lifelong learning.

Interviewer: Very reasonable. What suggestions do you have for clarifying the goal of talent training and optimizing talent training programs?

Mr.Li: I think we should more clearly define the talent training goal of adult academic education, that is, to cultivate applied talents with lifelong learning ability. On this basis, we can further optimize the talent training program, focus on the combination of theory and practice, and strengthen the practical ability of the course. For example, we can add some practical links or project-based learning to allow students to master knowledge and skills in actual operations.

Interviewer: It is indeed important to strengthen the practical ability of the course. What specific ideas do you have for integrating the concept of lifelong learning into the course?

Mr.Li: We can add some content about learning methods, information retrieval, critical thinking, etc. to the course content to help students develop the ability of independent learning. At the same time, we can also design some interdisciplinary courses or projects to allow students to establish connections between knowledge in different fields, thereby broadening their horizons and stimulating their interest in learning.

Interviewer: It sounds very practical. Finally, what other aspects do you think need special attention or improvement in the course design process?

Mr.Li: I think that in addition to the aspects mentioned above, we also need to pay more attention to the feedback and needs of students. We can collect students' opinions and suggestions through questionnaires, seminars, etc., and timely adjust and optimize the course design. At the same time, we also need to strengthen cooperation and exchanges with industry enterprises,

understand the latest developments and changes in demand in the industry, and provide a more accurate basis for course design.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: The second question is to understand the current situation of teaching and learning implementation in adult education in Zhejiang Province under the concept of lifelong learning and your views on teaching and learning implementation strategies to promote sustainable development.

Mr.Li: Better. Adult education in Zhejiang Province has always been committed to providing high-quality educational services to a wide range of students. Especially under the guidance of the concept of lifelong learning, we are also constantly exploring and improving the teaching and learning implementation methods.

Interviewer: First of all, we would like to know how satisfied you are with the teaching organization and management of the current teaching and learning implementation?

Mr.Li: Overall, our teaching organization and management are relatively standardized, but there are also some areas that need improvement. For example, in the arrangement and scheduling of courses, sometimes there will be some minor problems due to resource constraints or poor communication. In addition, the mechanism for collecting and processing feedback and opinions from students needs to be further improved.

Interviewer: What do you think of the teaching ability of teachers?

Mr.Li: The overall quality of our teaching team is still relatively high, and most teachers have solid professional knowledge and rich teaching experience. But there are also some new teachers who need to further improve their teaching methods and skills.

Mr.Li: Do you think the teaching methods of teachers are reasonable?

Mr.Li: This varies from person to person. Most teachers can use a variety of teaching methods to stimulate students' interest and enthusiasm in learning. But there are also a few teachers who may rely too much on traditional teaching methods and lack innovation and interaction.

Interviewer: What do you think about the comprehensive quality of teachers?

Mr.Li:I think the comprehensive quality of teachers is very important. In addition to professional knowledge, teachers' professional ethics, communication skills, teamwork skills, etc. are also important factors affecting the quality of teaching. Our teachers' overall performance in this regard is still good, but they also need to be continuously strengthened and improved.

Interviewer: What about the course assessment method? Do you think it is reasonable?

Mr.Li:Our course assessment method is constantly being reformed and improved. At present, we have adopted a variety of assessment methods, including exams, homework, project reports, etc., to comprehensively evaluate students' learning effect. But some course assessment methods may be too single or not flexible enough and need further optimization.

Interviewer: What are your observations or feelings about the interaction in class?

Mr.Li: Interaction is an important part of classroom teaching. We found that when teachers can actively guide students to participate in discussions, questions and sharing, the classroom atmosphere will be more active and students' learning effects will be better. But some teachers may pay too much attention to imparting knowledge and neglect interaction with students.

Interviewer: What do you think about whether the teaching objectives are clear?

Mr.Li:I think clear teaching objectives are the premise and foundation of teaching and learning implementation. When our teachers formulate teaching plans, they will clearly define the teaching objectives and key points and difficulties. But some teachers may deviate from the teaching objectives in actual teaching, resulting in poor teaching results.

Interviewer: Finally, how do you think the learning support and counseling is done?

Mr.Li: Learning support and counseling is an important part of ensuring students' learning results. We provide a variety of learning support methods, including online Q&A, learning material sharing, and study groups. But some students also reflected that they need more support and help in some aspects.

Interviewer: Thank you very much for your detailed sharing just now. Based on your answer, can we discuss the teaching and learning implementation strategy to promote sustainable development?

Mr.Li: Of course. I think that first of all, we need to introduce a more sound teaching organization and management system, clarify the responsibilities and tasks at all levels, and ensure the smooth progress of teaching work.

Interviewer: This is indeed very important. What about teacher training and development?

Mr.Li: Strengthening teacher training is very necessary. We can regularly organize teaching seminars, workshops and other activities to improve teachers' teaching ability and professional quality. At the same time, we can also encourage teachers to participate in teaching training and academic exchange activities at home and abroad to broaden their horizons and ideas.

Interviewer: Promoting communication and cooperation among teachers is also an effective way to improve teaching quality, right?

Mr.Li: Yes. We can establish a teacher exchange platform to encourage experience sharing and cooperative research among teachers. Through

teamwork and collective lesson preparation, teachers can learn from each other, learn from each other's strengths and weaknesses, and jointly improve teaching level.

Interviewer: Teacher ethics education should not be ignored.

Mr.Li: Yes. Teacher ethics education is an important part of improving teachers' comprehensive quality. We can guide teachers to establish a correct view of education and talent and improve teachers' professional ethics by carrying out teacher ethics and style construction activities and strengthening teacher professional ethics education.

Interviewer: It is also important to improve the assessment and incentive mechanism for teachers, right?

Mr.Li: Yes. We can comprehensively evaluate teachers' teaching achievements and contributions by establishing a scientific and reasonable teacher assessment system. At the same time, we can also set up a reward mechanism to commend and reward teachers with outstanding performance and stimulate teachers' work enthusiasm and creativity.

Interviewer: Strengthening teachers' training in enterprises is also a good way to improve teachers' practical ability.

Mr.Li: That's right. Through training in enterprises, teachers can have a deeper understanding of industry needs and development trends, combine theoretical knowledge with practice, and improve the pertinence and effectiveness of teaching.

Interviewer: With the development of information technology, it is imperative to strengthen teachers' information technology capabilities.

Mr.Li: Yes. We can organize teachers to participate in information technology training activities to improve teachers' information technology application capabilities and levels. At the same time, teachers can also be encouraged to use information technology to innovate teaching and explore practices.

Interviewer: Finally, innovative teaching methods are also the key to improving teaching quality.

Mr.Li: Yes. We can try to adopt new teaching methods and methods such as online and offline hybrid teaching and flipped classrooms to stimulate students' interest and enthusiasm in learning. At the same time, personalized teaching design and implementation can also be combined with course characteristics and student needs.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: The third question is, please talk about the students' learning attitude, learning methods, and learning habits in the learning process? How do they communicate with teachers? Will they take the initiative to seek help when they encounter problems? What are their requirements for themselves?

Mr.Li: Most of the students in our college maintain a positive learning attitude. They are well aware of the importance of continuing education for personal career development and comprehensive quality improvement. In terms of learning methods, students have their own strengths. Some students are good at using online resources for independent learning, while others prefer to interact with teachers and classmates through face-to-face courses. In terms of learning habits, most students can arrange their time reasonably and persist in learning, but some students have relatively scattered learning time due to busy work.

In terms of communication with teachers, our college encourages close communication between teachers and students. When students encounter problems, they usually take the initiative to ask teachers for advice, and teachers will answer them patiently. In addition, the college also holds Q&A sessions regularly to provide students with more opportunities for communication.

In terms of finding help for problems, students show strong initiative. They will not only ask teachers for help, but also use the online learning platform, library and other resources provided by the college to find solutions on their own.

In terms of their own requirements, students generally have high expectations for their studies. They hope to improve their professional skills and comprehensive qualities through continuing education, and lay a solid foundation for their future career development.

Interviewer: In order to promote the sustainable development of adult education and enhance students' learning motivation, what strategies do you think the college can adopt?

Mr.Li: I think the college can start from the following aspects:

First, establish a positive learning concept. We can instill the concept of lifelong learning in students through publicity, lectures and other forms, so that they realize that learning is a lifelong career, not a task at a certain stage.

Second, encourage students to participate in activities, lectures and forums organized by the school. These activities can not only broaden students' horizons, but also stimulate their interest in learning. Through communication with other students and teachers, students can obtain more information and inspiration.

Furthermore, set clear learning goals. We can help students develop personal learning plans and clarify the learning goals for each stage. In this way, students have a clear direction and motivation in the learning process.

At the same time, encourage more communication with teachers and actively participate in classroom interaction. Teachers are the guides of students, and their experience and wisdom are very valuable to students. Through communication with teachers, students can acquire more knowledge and skills.

In addition, encourage more interaction with classmates and find a learning method that suits you. Mutual learning and help between classmates is very important. Through cooperative learning, students can inspire and motivate each other and improve together.

In addition, strengthen students' learning time management ability. We can offer time management courses or provide relevant training to help students learn how to arrange their time reasonably and improve their learning efficiency.

Finally, set up student scholarships. By setting up scholarships, we can motivate students to study harder and strive to achieve better results. At the same time, scholarships can also serve as a recognition of students' learning achievements, enhancing their self-confidence and learning motivation.

Interviewer: Thank you very much for sharing these strategies! So, in the process of implementing these strategies, did the college encounter any challenges or difficulties? And how did you overcome them?

Mr.Li: In the process of implementing these strategies, we did encounter some challenges and difficulties. For example, some students were unable to attend school activities or lectures on time due to their busy work. To address this problem, we have adopted flexible and diverse teaching methods, such as online live broadcasts and recorded broadcasts, so that students can learn anytime, anywhere.

In addition, some students lack clear goals and motivation when making study plans. In response to this problem, we strengthened communication and exchanges with students, helped them clarify their learning goals, and encouraged them to actively participate in classroom interaction and cooperative learning to stimulate their interest and motivation in learning.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: The last question is to understand the performance of the college in terms of learning effects. Do you think that through learning, students' problem-solving ability has been improved?

Mr.Li:In fact, we pay great attention to cultivating students' problem-solving ability. Through curriculum setting and practical teaching, students not only learn theoretical knowledge, but also learn how to apply this knowledge to practical problems. From the feedback, students' logical thinking, innovation ability and practical ability in problem solving have been significantly improved.

Interviewer: In addition to problem-solving ability, have students' professional technical ability and comprehensive quality ability been improved?

Mr.Li: Of course, this is also one of our important teaching goals. We constantly update teaching content and teaching methods according to market demand and industry standards to ensure that students can master the latest professional technical skills. At the same time, we also focus on cultivating students' comprehensive qualities, such as communication skills, teamwork skills, leadership, etc. These abilities are crucial to their career development.

Interview question: Have students achieved the predetermined learning goals? How is their learning participation and initiative?

Mr.Li: In general, most students have achieved the predetermined learning goals. Through regular teaching evaluation and feedback, we help students clarify their learning direction and goals, and encourage them to actively participate in the learning process. Students have a high degree of learning participation and initiative. They cherish this opportunity of continuing education and are willing to invest time and energy in learning.

Interviewer: Are students satisfied with their learning results? How do they view the importance of lifelong learning?

Mr.Li: From our survey, most students are quite satisfied with their learning results. They believe that through this study, they have not only improved their professional skills and comprehensive qualities, but also

broadened their horizons and ways of thinking. Students also have a very deep understanding of the importance of lifelong learning. They understand that in a rapidly changing society, only continuous learning can keep up with the pace of the times and maintain competitiveness.

Interviewer: Thank you very much for sharing these valuable information! Next, we would like to talk about strategy formulation. In your opinion, how to establish a scientific teaching quality evaluation system to ensure teaching effectiveness?

Mr.Li: Establishing a scientific teaching quality evaluation system is the direction we have been working towards. We believe that teaching quality evaluation should include multiple aspects, such as teaching content, teaching methods, teaching effectiveness, etc. We can collect information through student evaluation, peer evaluation, self-evaluation and other methods, and conduct a comprehensive analysis of this information to obtain objective and accurate evaluation results. At the same time, we can also use Internet technology to establish a quality assessment platform to achieve transparency and informatization of the evaluation process.

Interviewer: What are the considerations and plans of the college in formulating the skill standards that students should master?

Mr.Li: When formulating the skill standards that students should master, we mainly consider market demand and industry standards. We will communicate with industry experts and corporate representatives regularly to understand their needs and expectations for talent skills, and formulate our skill standards based on this information. At the same time, we will continue to adjust and improve these standards based on student feedback and learning effect to ensure that they are both in line with actual needs and operational.

Interviewer asked: Has the college conducted a learning satisfaction survey? What are the results of the survey?

Mr.Li: Yes, we conduct learning satisfaction surveys regularly. The survey content includes teaching quality, course content, teaching methods, learning resources and other aspects. Judging from the survey results, most students are satisfied or very satisfied with our teaching. They think that our teaching quality is high, the course content is practical, the teaching methods are flexible and diverse, and the learning resources are rich. Of course, some students have also put forward some valuable opinions and suggestions, which we will seriously consider and adopt to continuously improve our teaching.

Interviewer: Finally, how do you think the college should continue to pay attention to the all-round development of students?

Mr.Li: Paying attention to the all-round development of students is one of the core of our teaching work. We believe that the all-round development of students includes not only the improvement of professional skills, but also the improvement of comprehensive quality, the cultivation of personal interests, and the attention to mental health. Therefore, we will pay attention to the all-round development of students in many ways, such as opening mental health courses, organizing club activities, and providing internship opportunities. At the same time, we will also establish student files to record their learning and growth process in order to better understand their needs and expectations and provide them with more targeted support and help.

Interviewer asked: Thank you very much for your sharing and answers today! I believe that under your leadership, the college's teaching work will surely achieve more brilliant achievements!

Mr.Li: Thank you! We are also very grateful for your support and encouragement! We will continue to work hard to provide students with better teaching services and support!

Interviewer 4: Mr.Zhang, School of Continuing Education, Zhejiang University of Science and Technology

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Zhang! Thank you very much for accepting our interview. We would like to know the situation in four aspects. First, the current situation of Zhejiang University of Science and Technology's continuing education in the curriculum design of sustainable development of lifelong learning in adult education, and what strategic suggestions do you have on how to promote sustainable development of curriculum design.

Mr. Zhang: Hello! I am very happy to accept this interview. Regarding the curriculum design of sustainable development of lifelong learning in adult education, I think we can talk about the current situation from the following aspects:

Course setting:Current situation: At present, our curriculum setting is relatively rich, covering multiple disciplines, and basically meets the diversified learning needs of adult students. However, with the rapid development of society and the continuous changes in professional needs, the content of some courses may be slightly outdated and out of touch with the development of the times.

Countermeasures: We need to evaluate and adjust the curriculum setting regularly, update the course content in a timely manner according to market demand and career development trends, and ensure the practicality and foresight of the course.

Course structure:

Current situation: Our course structure is relatively reasonable, with both basic theoretical courses and practical application courses. However, the connection between some courses is not tight enough, which makes it difficult for students to form a systematic knowledge system.

Countermeasures: We should optimize the course structure, strengthen the connection and integration between courses, form a more complete and systematic knowledge system, and improve students' learning effects.

Course schedule:

Current situation: Due to work, family and other reasons, adult students have relatively scattered time, and the course schedule needs to be more flexible. At present, our course schedule is relatively fixed, which is difficult to meet the personalized needs of some students.

Countermeasures: We can consider adopting a combination of online and offline teaching methods to provide a more flexible course schedule so that students can choose the learning progress according to their own time.

Course content and actual work needs:

Current situation: Some course content is out of touch with actual work needs, and the knowledge learned by students does not match the professional skills requirements, which makes it difficult for students to apply the knowledge they have learned in their work.

Countermeasures: We should strengthen cooperation with industry enterprises, deeply understand market demand and career development trends, integrate actual work needs into course content, and improve the practicality and pertinence of courses.

Course content affects future personal lifelong learning:

Current situation: Adult academic education is not only for obtaining academic certificates, but more importantly for future personal lifelong learning and development. At present, some course content focuses too much on the inculcation of theoretical knowledge and neglects the cultivation of students' learning ability and comprehensive quality.

Countermeasures: We should focus on cultivating students' autonomous learning ability and comprehensive qualities, such as critical thinking,

innovation, teamwork, etc. These abilities will have a positive impact on students' future personal lifelong learning.

Next, I will talk about how to promote sustainable development curriculum design strategies:

Regularly evaluate and adjust the curriculum setting: Establish a curriculum evaluation mechanism, regularly evaluate and adjust the curriculum setting, and ensure the practicality and foresight of the course content.

Optimize the course structure: Strengthen the connection and integration between courses, form a more complete and systematic knowledge system, and improve students' learning effects.

Provide flexible course schedule: Adopt a combination of online and offline teaching methods to provide a more flexible course schedule to meet students' personalized needs.

Integrate actual work needs: Strengthen cooperation with industry enterprises, integrate actual work needs into the course content, and improve the practicality and pertinence of the course.

Focus on cultivating learning ability and comprehensive quality: In the course design, focus on cultivating students' autonomous learning ability and comprehensive quality, and lay a solid foundation for students' personal lifelong learning and development.

Interviewer: Thank you very much for Mr. Zhang's detailed sharing and suggestions. So, in your opinion, what specific improvement measures can be taken by the School of Continuing Education of Zhejiang University of Science and Technology in course design?

Mr. Zhang: I think we can take the following specific measures to improve course design:

Establish an industry expert advisory team, regularly invite industry experts to give lectures at school, communicate with students, and let students understand the latest industry trends and career development needs.

Offer interdisciplinary courses to encourage students to learn across fields, broaden their knowledge horizons, and improve their comprehensive quality.

Introduce project-based learning to allow students to learn and apply knowledge in the process of completing actual projects, improve their practical and innovative abilities.

Strengthen cooperation with international educational institutions, introduce international advanced courses and teaching concepts, and enhance the internationalization and modernization of courses.

Interviewer: These measures are very targeted, and I believe they will have a positive impact on course design after implementation. Finally, what are your prospects for the future of sustainable development of lifelong learning in adult education?

Mr.Zhang: I think the future of sustainable development of lifelong learning in adult education is very bright. With the continuous development of society and the continuous changes in professional needs, adult education will be increasingly valued by people. We should keep up with the pace of the times, continuously innovate and improve course design, provide adult students with a more high-quality, practical and flexible learning experience, and help their personal lifelong learning and development.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Mr.Zhang, the second thing I want to know is the current situation of Zhejiang University of Science and Technology's continuing education in the curriculum design of sustainable development of adult education and lifelong learning, and what strategic suggestions do you have on how to promote sustainable development of curriculum design. In this

interview, we especially want to discuss in depth the school's teaching organization and management, teachers' teaching ability, teaching methods, comprehensive literacy, course assessment methods, classroom interactive discussions, clarity of teaching objectives, and learning support and counseling.

Mr. Zhang: Hello! I am very happy to accept this interview. Regarding the aspects you mentioned, I will talk about my views based on the actual situation of the School of Continuing Education of Zhejiang University of Science and Technology.

Satisfaction with the school's teaching organization and management:

Current situation: Overall, the school still attaches great importance to the teaching organization and management of continuing education. We have a special teaching management department responsible for the arrangement of courses and the allocation of teaching resources. However, in the specific implementation process, there are sometimes some poor coordination, such as course time conflicts and unreasonable classroom arrangements.

Countermeasures: Strengthen the coordination and communication capabilities of the teaching management department and establish a more efficient teaching management mechanism. At the same time, information technology can also be introduced to improve the efficiency and accuracy of teaching management.

Teachers' teaching ability (including practical experience and guidance skills):

Current situation: The overall quality of our teaching staff is relatively high, and many teachers have rich practical experience and guidance skills. However, some teachers, especially young teachers, still need to improve their practical experience and guidance skills.

Countermeasures: Strengthen the training and cultivation of young teachers, encourage them to participate in practical activities and accumulate practical experience. At the same time, a mentor system can also be

established to allow experienced teachers to guide young teachers and improve their guidance skills.

Teachers' teaching methods are reasonable:

Current situation: Most teachers can adopt more reasonable teaching methods according to the characteristics of adult students, such as case teaching, project teaching, etc. However, some teachers' teaching methods are relatively simple and lack innovation.

Countermeasures: Encourage teachers to innovate teaching methods and introduce more diversified teaching methods, such as online teaching, blended teaching, etc. At the same time, teachers can also be organized to exchange and discuss teaching methods, learn from each other, and improve together.

Teachers' comprehensive quality:

Current situation: Our teaching staff is still relatively high in comprehensive quality. They not only have professional knowledge, but also have good teacher ethics. However, some individual teachers still need to improve their comprehensive quality.

Countermeasures: Strengthen the teacher's ethics education for teachers, and improve teachers' professional quality and moral level. At the same time, teachers can also be encouraged to participate in social practice and volunteer service activities to broaden their horizons and improve their comprehensive quality.

Course assessment method:

Current situation: Our course assessment method is relatively simple, mainly based on examinations. Although this assessment method can reflect students' learning situation, it sometimes ignores students' practical ability and innovation ability.

Countermeasures: Reform the course assessment method and introduce more diversified assessment methods, such as project reports, practical operations, oral reports, etc. At the same time, it is also possible to strengthen

the assessment of students' usual learning and improve the comprehensiveness and accuracy of the assessment.

Interactive discussion of teachers in class:

Current situation: Most teachers can actively interact and discuss with students in class to stimulate students' interest and enthusiasm in learning. However, some teachers lack interactive discussions in class, resulting in a dull classroom atmosphere.

Countermeasures: Encourage teachers to actively interact and discuss with students in class to create a good classroom atmosphere. At the same time, some classroom activities and group discussions can also be organized to improve students' participation and initiative.

The teaching objectives are clear:

Current situation: Our teaching objectives are relatively clear, and each course has clear teaching objectives and requirements. However, in the specific implementation process, sometimes the teaching objectives are out of touch with the actual teaching.

Countermeasures: Strengthen the publicity and interpretation of teaching objectives so that teachers and students can clearly understand the teaching objectives and requirements. At the same time, the teaching objectives can also be evaluated and adjusted regularly to ensure that the teaching objectives are consistent with the actual teaching.

Students are satisfied with the learning support and counseling:

Current situation: We still attach great importance to students' learning support and counseling, and provide a variety of counseling methods and resources. However, some students also reported that the counseling resources are not sufficient and the counseling methods are not flexible enough.

Countermeasures: Strengthen learning support and counseling for students, and provide more diversified counseling methods and resources. For example, an online counseling platform can be established to provide 24-hour

online counseling services. At the same time, one-on-one counseling and communication between teachers and students can also be encouraged to improve the pertinence and effectiveness of counseling.

Interviewer: Thank you very much, Mr. Zhang, for your comprehensive analysis of the current situation of Zhejiang University of Science and Technology's continuing education in the curriculum design of sustainable development of lifelong learning in adult education, and for proposing targeted countermeasures. So, in your opinion, how to ensure that these countermeasures can be effectively implemented?

Mr.Zhang: I think that to ensure that these countermeasures can be effectively implemented, first of all, school leaders need to attach great importance to and support them. School leaders should fully realize the importance of adult academic education and increase investment and support for continuing education. Secondly, it is necessary to establish an effective supervision and evaluation mechanism, regularly evaluate and inspect teaching organization and management, teachers' teaching ability, teaching methods, etc., and promptly identify problems and take measures to solve them. Finally, it is necessary to strengthen communication and exchanges between teachers and students, promptly understand the needs and opinions of teachers and students, and continuously improve and perfect the curriculum design and management mechanism.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Mr.Zhang, the third aspect is to understand the current situation of students' learning in the process of sustainable development of lifelong learning in adult education in Zhejiang Province, and how to promote sustainable development learning strategies. We especially want to discuss students' learning attitudes, learning methods, learning habits, communication

with teachers, coping attitudes when encountering difficulties, self-discipline, etc., and listen to your strategic suggestions in this regard.

Mr.Zhang: Hello! It's a pleasure to communicate with you again. Regarding these aspects you mentioned, I will talk about my views based on my work experience in the School of Continuing Education.

1. Current situation of student learning

Learning attitude:

Current situation: Most adult students are serious about learning. They clearly know the purpose and significance of learning and are willing to invest time and energy in learning. However, some students are not positive enough in their learning attitude and lack initiative due to work, family and other reasons.

Analysis: The learning attitude of adult students is affected by many factors, including personal interests, career needs, family support, etc. Therefore, different incentives need to be adopted according to the situation of different students.

Learning methods: Current situation: Adult students have a variety of learning methods. Some students are good at self-study, some students like to participate in offline courses, and some students use online resources to learn. However, some students lack effective learning methods and their learning efficiency is not high.

Analysis: Adult students need to choose a learning method that suits them according to their actual situation and learning characteristics. At the same time, the school can also provide some guidance and training on learning methods.

Learning habits:

Current situation: Some adult students have developed good learning habits, can complete homework on time, and actively participate in class discussions. However, some students have poor learning habits due to improper time management, which affects their learning results.

Analysis: Good learning habits are crucial to improving learning efficiency. Schools can help students develop good learning habits by setting up learning plans and providing time management training.

Communication with teachers:

Current situation: Most adult students can actively communicate with teachers to seek help and advice. However, some students communicate less with teachers due to shyness or lack of confidence.

Analysis: Effective communication with teachers helps students better understand and master knowledge and improve learning results. Schools can encourage interaction between teachers and students and provide more communication opportunities and platforms.

Attitude when encountering difficulties:

Current situation: Some adult students can actively seek relevant help when encountering difficulties, such as consulting materials, asking teachers or classmates. However, some students choose to give up or escape, which affects the learning effect.

Analysis: A positive attitude when facing difficult problems is crucial to improving learning ability and problem-solving ability. Schools can cultivate students' problem-solving ability and encourage them to face challenges positively.

Self-discipline ability:

Current situation: Most adult students have strong self-discipline ability and can arrange their study time and complete their study tasks independently. However, some students lack self-discipline ability and need external pressure and supervision to learn.

Analysis: Self-discipline ability is an important guarantee for adult students to successfully complete their studies. Schools can enhance students' self-discipline ability by setting learning goals and providing learning feedback.

2. Learning strategies to promote sustainable development

Establish a positive learning concept:

Strategy: Schools can help students establish a positive learning concept, clarify the purpose and significance of learning, and stimulate the internal motivation of learning through publicity and education, role model demonstration and other methods.

Actively participate in activities, lectures and forums organized by the school:

Strategy: Schools can regularly hold various academic activities, lectures and forums to provide students with more learning opportunities and communication platforms to broaden their horizons and knowledge.

Set clear learning goals:

Strategy: Schools can guide students to set clear and measurable learning goals and develop corresponding learning plans to help students better plan and manage their study time.

Communicate more with teachers and actively participate in classroom interactions:

Strategy: Schools can encourage interaction and communication between teachers and students, provide more classroom interaction opportunities, such as group discussions, case analysis, etc., to enhance students' sense of participation and belonging.

Interact more with classmates and find a learning method that suits you:

Strategy: Schools can organize student study groups or learning communities to promote communication and cooperation among students, help them find a learning method that suits them, and improve their learning efficiency.

Strengthen their learning time management ability:

Strategy: Schools can provide time management training or related courses to help students master time management skills and methods, arrange their study time reasonably, and improve their learning efficiency.

Set up student scholarships:

Strategy: Schools can set up student scholarships to commend and reward students with excellent academic performance and outstanding performance, and stimulate students' enthusiasm and competitiveness.

Interviewer: Thank you very much, Mr. Zhang, for your comprehensive analysis and suggestions on the learning process and strategies of students in lifelong learning and sustainable development of adult education in Zhejiang Province. So, in your opinion, what challenges may these strategies encounter during implementation? How to overcome these challenges?

Mr.Zhang: I think there may be some challenges in the process of implementing these strategies. For example, some adult students may not be able to devote themselves to learning due to work, family and other reasons; some students may lack confidence or motivation to learn, resulting in poor learning results. In order to overcome these challenges, we need to take a variety of measures. On the one hand, schools can provide more flexible and diverse learning methods, such as online learning, blended teaching, etc., to meet the different needs of students; on the other hand, schools can strengthen psychological counseling and motivation for students to help them build confidence and stimulate learning motivation. At the same time, we can also strengthen cooperation with enterprises to provide students with more practical opportunities and employment channels to enhance their learning enthusiasm and competitiveness.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Teacher Zhang, the last question is about the learning effects of students in the process of sustainable development of lifelong learning in adult education in Zhejiang Province, and how to promote the learning effects of sustainable development. We especially want to discuss the aspects of improving problem-solving ability, improving vocational and technical ability, improving comprehensive quality ability, achieving predetermined learning goals, improving learning participation and initiative, and satisfaction with students' own learning results through learning, and listen to your strategic suggestions in this regard.

Mr.Zhang: Hello! It's a pleasure to discuss these topics with you. Regarding the learning effects of students in the sustainable development of lifelong learning in adult education in Zhejiang Province, I think it is positive overall, but there are also some areas that need improvement.

1. Current status of students' learning effects

Improving problem-solving ability through learning:

Current status: Most adult students have indeed improved their problem-solving ability through learning. When they encounter practical problems at work, they can use the knowledge they have learned to analyze and solve them.

Analysis: This is due to the practicality and pertinence of our course settings, and the teachers' focus on cultivating students' practical ability and innovative thinking in the teaching process.

Improving their own vocational and technical abilities after learning:

Current status: Adult students generally reflect that their vocational and technical abilities have been significantly improved after learning. This helps them better adapt and develop in the workplace.

Analysis: We have established cooperative relationships with many companies, and constantly adjust the curriculum and teaching content

according to market demand to ensure that the knowledge students learn is closely connected with professional skills.

Improve their comprehensive quality and ability through learning:

Current situation: In addition to professional skills, students have also improved their comprehensive quality and ability through learning, such as communication skills, teamwork skills, leadership, etc.

Analysis: The improvement of these abilities will help students to cooperate with others better in the workplace and play a greater role.

Achieve the predetermined learning goals through learning:

Current situation: Most students can study according to the predetermined learning plan and learning goals, and have achieved certain results.

Analysis: This is due to our tracking and guidance of the students' learning process, as well as the students' own efforts and self-discipline.

Improve learning participation and initiative through learning:

Current situation: In the learning process, students' participation and initiative have improved, and they are more willing to actively participate in classroom discussions and practical activities.

Analysis: This may be related to the reform of our teaching methods, such as case teaching and project-based teaching, which has stimulated students' interest and enthusiasm in learning.

Satisfaction with students' own learning effect:

Current situation: Most students are satisfied with their learning effect and believe that they have indeed improved their abilities and qualities through learning.

Analysis: This reflects the overall level of our teaching quality and the degree of students' recognition of learning.

2. Learning effect strategies to promote sustainable development

Establish a teaching quality evaluation system:

Strategy: We need to establish a complete teaching quality evaluation system to regularly evaluate and feedback the teaching quality to ensure the continuous improvement of teaching quality.

Implementation: Teaching quality evaluation can be carried out through various methods such as student evaluation, peer evaluation, and expert evaluation to form a diversified evaluation mechanism.

Develop skill standards that students should master:

Strategy: According to market demand and career development requirements, formulate skill standards that students should master and clarify the learning effect that students need to achieve.

Implementation: Skill standards can be jointly formulated with industry experts, corporate representatives, etc. to ensure the scientificity and practicality of the standards.

Conduct a learning satisfaction survey:

Strategy: Conduct learning satisfaction surveys regularly to understand students' satisfaction with teaching content, teaching methods, teaching resources, etc., and promptly identify problems and make improvements.

Implementation: Satisfaction surveys can be conducted through questionnaires, interviews, etc. to ensure the objectivity and accuracy of the survey results.

Continue to focus on the all-round development of students:

Strategy: In addition to paying attention to students' learning effect, we also need to pay attention to the all-round development of students, including physical and mental health, professional literacy, social responsibility and other aspects.

Implementation: Students' all-round development can be promoted through mental health education, career planning guidance, social practice activities and other means.

Use Internet technology to establish a quality assessment platform:

Strategy: Use Internet technology to establish a quality assessment platform to achieve online evaluation and management of teaching quality and improve the efficiency and accuracy of evaluation.

Implementation: An online assessment system can be developed to realize the online functions of student evaluation, teacher self-evaluation, peer evaluation, etc., which is convenient for teachers and administrators to conduct teaching quality evaluation and management.

Interviewer: Thank you very much, Mr. Zhang, for your comprehensive analysis and suggestions on the learning effects and promotion strategies of students in the sustainable development of lifelong learning in adult education in Zhejiang Province. So, in your opinion, what challenges may these strategies encounter in the implementation process? How to ensure the effective implementation of these strategies?

Mr. Zhang: In the process of implementing these strategies, we may encounter some challenges. For example, the establishment of a teaching quality assessment system may require a lot of manpower and material resources; the formulation of standards for students' skills may require communication and coordination with multiple parties; the conduct of learning satisfaction surveys may require ensuring the objectivity and accuracy of the survey results, etc.

In order to ensure the effective implementation of these strategies, I think we need to do the following: First, strengthen organizational leadership, clarify the division of responsibilities, and ensure that someone is responsible for and implements each strategy; second, strengthen publicity and guidance to improve teachers and students' awareness and attention to teaching quality

evaluation and learning effect improvement; third, strengthen supervision and inspection, regularly inspect and evaluate the implementation of strategies, promptly identify problems and make rectifications; fourth, strengthen funding guarantees to ensure the funding required for strategy implementation.

Interviewer: Thank you very much for Mr. Zhang's valuable opinions and suggestions. I believe that with your efforts, the sustainable development of lifelong learning in adult education in Zhejiang Province will surely achieve more significant results.

Through this interview, we have a deep understanding of the current status of Zhejiang University of Science and Technology's continuing education in the course design of sustainable development of lifelong learning in adult education and the course design strategy to promote sustainable development. Mr. Zhang analyzed the current status of course design in detail from multiple aspects such as course setting, course structure, course schedule, course content and actual work needs, and the impact of course content on future personal lifelong learning, and put forward targeted countermeasures and specific improvement measures. Thank you.

Interviewer 5: Mr.Zeng, School of Continuing Education, Zhejiang Ocean University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Zeng! Thank you very much for taking the time to accept our interview. This time we want to understand the situation in the following four aspects. First, the current situation of curriculum design for sustainable development of lifelong learning in adult education, and how to promote sustainable development curriculum design strategies. We especially want to combine the actual situation of the School of Continuing Education of Zhejiang Ocean University, and talk about the current situation around curriculum setting, curriculum structure, course schedule, the relationship

between course content and actual work needs, and the impact of course content on future personal lifelong learning, and listen to your views and countermeasures in this regard.

Mr. Zeng: Hello! It's a pleasure to discuss these topics with you. The curriculum design for sustainable development of lifelong learning in adult education is indeed an important topic we are currently facing. Here are some of my views on the current situation, as well as curriculum design strategies to promote sustainable development.

1. Current situation of curriculum design

Course setting:

Current situation: The curriculum setting of our college is relatively comprehensive, covering multiple fields and majors. However, the connection between some courses is not strong enough, lacking systematicity and coherence.

Analysis: This may cause students to feel confused during the learning process and do not know how to integrate what they have learned into actual work.

Course structure:

Current situation: The course structure is relatively fixed, lacking flexibility and diversity. For students with different backgrounds and different needs, it may be difficult to find a learning path that suits them.

Analysis: This requires us to optimize the course structure, add elective courses, modular courses, etc. to meet the personalized needs of students.

Course schedule:

Current situation: The course schedule is relatively tight, and sometimes the actual learning situation and acceptance ability of students may be ignored.

Analysis: We need to arrange the course schedule more reasonably to ensure that students can fully understand and master the knowledge they have learned.

The relationship between course content and actual work needs:

Current situation: Some course content is out of touch with actual work needs, lacking practicality and pertinence.

Analysis: This requires us to strengthen cooperation with industry enterprises, keep abreast of industry trends and technological developments, and integrate the latest knowledge and technology into the course content.

The impact of course content on future personal lifelong learning:

Current situation: Some course content focuses too much on the inculcation of theoretical knowledge and neglects to cultivate students' learning ability and comprehensive quality.

Analysis: This may make it difficult for students to adapt to the rapidly changing social environment after graduation and lack the ability to continue learning and development.

2. Curriculum design strategies to promote sustainable development

Issue policies for the sustainable development of adult education:

Strategy: Schools should issue relevant policies to clarify the development direction and goals of adult education and provide policy support and guarantee for curriculum design.

Implementation: A development plan for adult education can be formulated to clarify requirements in terms of curriculum setting, teaching methods, assessment and evaluation.

Clearly cultivate the goal of talents that meet social needs:

Strategy: Curriculum design should closely focus on social needs, clarify training goals, and cultivate high-quality talents with practical ability and innovative spirit.

Implementation: Market demand surveys can be conducted regularly to understand the needs of industry enterprises for talents and feedback the needs into curriculum design.

Optimize professional talent training programs:

Strategy: Optimize existing talent training programs and focus on cultivating students' comprehensive qualities and practical abilities.

Implementation: Practical courses and internship training sessions can be added to strengthen students' practical operation ability training.

Strengthen the practical needs of curriculum design:

Strategy: Curriculum design should pay more attention to practical needs, combine theoretical knowledge with practical operations, and improve students' practical application capabilities.

Implementation: Industry experts can be invited to participate in curriculum design and the latest industry technologies and cases can be integrated into the course content.

Integrate the concept of lifelong learning into the curriculum:

Strategy: Integrate the concept of lifelong learning into the curriculum to cultivate students' independent learning ability and awareness of sustainable development.

Implementation: Courses or lectures related to lifelong learning can be offered to guide students to establish the concept of lifelong learning.

Strengthen funding guarantee:

Strategy: The school should increase funding for adult academic education and provide sufficient funding guarantee for curriculum design.

Implementation: Special funds can be set up for expenditures in curriculum development, textbook compilation, practical teaching, etc.

Interviewer: Teacher Zeng, the strategies you mentioned are very forward-looking. So, in the process of implementing these strategies, how do you think the college should ensure the quality and effectiveness of curriculum design?

Mr. Zeng: To ensure the quality and effectiveness of curriculum design, I think the college needs to take the following measures. First, an evaluation mechanism for curriculum design should be established to regularly evaluate the rationality, practicality, and innovation of curriculum design. Secondly, we should strengthen cooperation with industry enterprises, invite industry experts to participate in the review and guidance of curriculum design, and ensure that the course content is closely connected with actual work needs. At the same time, we should focus on the training and development of teachers and improve their curriculum design and teaching capabilities. Finally, students should be encouraged to participate in feedback and evaluation of course design, so as to timely understand students' learning needs and opinions and continuously improve and optimize course design.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

During the interview, Mr. Zeng discussed the current situation and countermeasures of the implementation of sustainable development teaching in lifelong learning of adult education in the School of Continuing Education of Zhejiang Ocean University.

In terms of the current situation, the teaching organization and management are standardized but the coordination is not smooth; the teachers have rich teaching practice experience, but they need to improve their cutting-edge knowledge and guidance skills; the teaching methods are diverse but some are not suitable for adult education; the comprehensive quality of teachers is high, but their interdisciplinary knowledge and international vision

need to be improved; the course assessment method is single and lacks comprehensive evaluation; classroom interactive discussion is insufficient; some teaching objectives are vague; students are highly satisfied with learning support and counseling, but personalized counseling needs to be strengthened.

In order to promote the implementation of sustainable development teaching, Mr. Zeng proposed the following strategies: improve the teaching organization and management system and establish an efficient coordination mechanism; strengthen teacher training, update industry knowledge and teaching skills; promote teacher exchanges and cooperation, share experiences and resources; strengthen teacher ethics education, establish correct educational concepts and professional ethics; establish an assessment and incentive mechanism, objectively evaluate teaching results; strengthen teachers' information technology capabilities, and skillfully use modern information technology.

To ensure the effective implementation of the strategy, Mr. Zeng suggested that the college formulate a detailed implementation plan and timetable, strengthen supervision and evaluation, pay attention to teacher participation and feedback, and continue to invest resources and energy.

In short, Mr. Zeng's suggestions are targeted and provide a useful reference for the implementation of sustainable development teaching of lifelong learning in adult education of the college. I believe that with the efforts of the college, the teaching and learning implementation will achieve more significant results.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

The Interviewer asked Mr. Zeng about the learning process and promotion strategies of middle school students in the sustainable development of lifelong learning in adult education in Zhejiang Province. Mr. Zeng elaborated on this in detail.

1. Current status of students' learning process

Learning attitude: Most students have a positive attitude towards learning and recognize the importance of lifelong learning. This is due to the college's promotion and guidance of the concept of lifelong learning and students' expectations for career development.

Learning methods adopted: Students adopt a variety of learning methods, including online learning, face-to-face learning, independent learning, etc., and choose appropriate methods according to actual needs. The college provides flexible and diverse learning methods to meet the different needs of students.

Learning habits: Some students have developed good learning habits, such as regular review and active preview, but some students have problems such as procrastination and lack of planning. The development of good learning habits requires time and guidance.

Communication between students and teachers: Students communicate frequently with teachers and ask questions, seek help or feedback from teachers in class, after class or on online platforms. The college encourages communication and interaction between teachers and students and provides multiple communication channels and platforms.

Attitude when encountering difficulties: Most students will take the initiative to seek help, such as looking up information, asking teachers or classmates for advice, etc., but some students are afraid of difficulties. It is necessary to strengthen the guidance and encouragement of students to help them overcome their fear of difficulties.

Self-discipline in learning: Some students show strong self-discipline in the learning process, can restrain themselves and complete learning tasks on time, but some students lack self-discipline. The cultivation of self-discipline requires time and process.

2. Strategies for promoting sustainable development of learning process

Strengthen learning attitude guidance: Through thematic lectures, sharing sessions and other activities, guide students to establish correct learning concepts and stimulate learning enthusiasm and initiative. Invite successful alumni or industry experts to share experiences and encourage students to cherish learning opportunities.

Optimize learning method guidance: Provide students with more learning methods and skills guidance to help them find a learning method that suits them and improve learning efficiency. Set up learning method guidance courses or workshops to teach skills such as making learning plans, efficient memory, and time management.

Cultivate good learning habits: Guide students to develop good learning habits by formulating learning norms and establishing learning reward mechanisms. Establish an "Excellent Learner" award to commend students with good study habits and excellent grades.

Promote communication and interaction between teachers and students: Further broaden the communication channels between teachers and students, such as setting up an online question-and-answer platform, conducting teacher-student reading activities, etc., to enhance the understanding and trust between teachers and students. Regularly hold teacher-student seminars or tea parties to provide a relaxed and pleasant communication environment.

Encourage active help: Create an open and inclusive learning atmosphere and encourage students to actively seek help when they encounter difficulties. Establish a "learning mutual aid group" or "learning mentor system" to provide students with more help and support.

Strengthen self-discipline education and management: Help students develop good self-discipline through self-discipline education activities and the establishment of self-discipline management mechanisms. Set up self-discipline education courses or lectures, teach skills such as setting goals and managing

time, and establish a learning supervision group or learning punch-in mechanism.

To ensure the effective implementation of the strategy, the college needs to pay enough attention and support, establish a sound supervision and evaluation mechanism, strengthen teacher and student training and education, and pay attention to the continuity and stability of the strategy.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Mr. Zeng, the last question is about the learning effects of students in the process of sustainable development of lifelong learning in adult education in Zhejiang Province, and how to promote the learning effects of sustainable development. We especially want to discuss the improvement of problem-solving ability, vocational and technical ability, comprehensive quality ability through learning, the achievement of predetermined learning goals through learning, the improvement of learning participation and initiative through learning, and the satisfaction of students' own learning results, and listen to your strategic suggestions in this regard.

Mr. Zeng: Hello! It's a pleasure to discuss these topics with you. Regarding the learning effects of students in the sustainable development of lifelong learning in adult education in Zhejiang Province, I think our college has achieved certain results in this regard, but there is still room for improvement.

1. Current situation of students' learning effects

Improving problem-solving ability through learning:

Current situation: Our students generally reflect that through continuing education, they can analyze problems more systematically when they encounter problems at work, and try to use the knowledge they have learned to find solutions.

Analysis: This is due to the practical teaching and case analysis emphasized in our courses, which allows students to exercise their problem-solving ability in actual operations.

Improving vocational and technical ability through learning:

Current situation: Students said that through learning, their professional skills have been significantly improved, which has played a key role in career promotion and job change.

Analysis: We work closely with the industry to adjust the curriculum according to market demand to ensure that the skills students learn match the needs of the workplace.

Improving comprehensive quality and ability through learning:

Current situation: Students have not only improved their professional skills, but also made significant progress in communication, teamwork, time management, etc.

Analysis: We focus on cultivating students' soft skills and improve their comprehensive quality through activities such as team projects and speech competitions.

Achieving predetermined learning goals through learning:

Current situation: Most students can clearly define their learning goals and complete learning tasks according to the plan to achieve the expected learning results.

Analysis: We encourage students to develop personal learning plans and provide personalized learning guidance to help students achieve their goals.

Improving learning participation and initiative through learning:

Current situation: Students are highly engaged, they actively participate in classroom discussions, actively seek learning resources, and their learning initiative is significantly enhanced.

Analysis: We use flexible and diverse teaching methods, such as online learning and blended teaching, to stimulate students' interest and enthusiasm in learning.

Satisfaction with students' own learning effect:

Current situation: Most students are satisfied with their learning effect and believe that they have indeed improved their abilities and competitiveness through learning.

Analysis: This reflects the improvement of our teaching quality and students' recognition of learning.

2. Learning effect strategies to promote sustainable development

Establish a teaching quality evaluation system:

Strategy: We need to establish a scientific and comprehensive teaching quality evaluation system, including student evaluation, peer evaluation, self-evaluation and other dimensions to ensure the continuous improvement of teaching quality.

Implementation: Industry experts can be invited to conduct teaching evaluations regularly, and students are encouraged to provide feedback on teaching opinions to form a virtuous circle.

Develop standards for skills that students should master:

Strategy: According to industry development and market demand, formulate core skill standards that students should master, and clarify learning goals and requirements.

Implementation: We can work with industry associations to jointly develop skill standards to ensure that the skills learned by students are closely connected with workplace needs.

Conduct a learning satisfaction survey:

Strategy: Conduct a learning satisfaction survey regularly to understand students' satisfaction with teaching content, teaching methods, teaching resources, etc., and make timely adjustments and improvements.

Implementation: Students' opinions can be collected through online questionnaires, face-to-face interviews, etc. to ensure the comprehensiveness and accuracy of the survey results.

Continuously pay attention to the comprehensive development of students:

Strategy: In addition to paying attention to students' learning effect, we should also pay attention to the comprehensive development of students' physical and mental health, career planning, social responsibility, etc.

Implementation: A career planning guidance center can be set up to provide psychological counseling services, organize students to participate in social practice activities, and promote the all-round development of students.

Use Internet technology to establish a quality assessment platform:

Strategy: Use Internet technology to establish an online quality assessment platform to achieve real-time monitoring and evaluation of teaching quality and improve evaluation efficiency and accuracy.

Implementation: An online assessment system can be developed to integrate student evaluation, teaching feedback, skill testing and other functions to facilitate teachers and administrators to manage teaching quality.

Interviewer: Teacher Zeng, the strategies you mentioned are very forward-looking. So, in the process of implementing these strategies, what challenges do you think may be encountered? How does the college deal with these challenges?

Teacher Zeng: In the process of implementing these strategies, we may indeed encounter some challenges. For example, the establishment of a teaching quality assessment system may require a lot of manpower and material resources, and the formulation of assessment standards also needs to

be carefully considered. In addition, when formulating the skill standards that students should master, it is necessary to maintain close contact with the industry to ensure the practicality and forward-looking nature of the standards.

In order to meet these challenges, our college has taken a number of measures. First, we have strengthened cooperation with the industry and invited industry experts to participate in the formulation of teaching evaluation and skill standards. Secondly, we have increased our investment in the teaching quality evaluation system and introduced advanced teaching evaluation tools and methods. At the same time, we also focus on improving students' participation and initiative, encouraging them to actively participate in teaching evaluation and satisfaction surveys, and providing strong support for the improvement of teaching quality.

Interviewer: Thank you very much for Mr. Zeng's detailed answers and valuable suggestions. I believe that with your efforts, the sustainable development of lifelong learning in adult education of the School of Continuing Education of Zhejiang Ocean University will surely achieve more significant results.

Through this interview, I have a deep understanding of the student learning effects of the School of Continuing Education of Zhejiang Ocean University in the sustainable development of lifelong learning in adult education and the learning effect strategies to promote sustainable development. Mr. Zeng analyzed the current status of learning effects in detail from multiple aspects, such as improving problem-solving, vocational skills, and comprehensive quality capabilities, achieving predetermined learning goals, improving learning participation and initiative, and students' satisfaction with their own learning effect, and put forward targeted strategic suggestions. At the same time, Mr. Zeng also put forward his own insights on the challenges that may be encountered in the implementation of the strategy and how the college can respond to these challenges. These insights and suggestions are of

great reference value for improving the learning effects of adult education and promoting the sustainable development of lifelong learning.

Interviewer 6: Mr.Zhang, School of Continuing Education, Zhejiang Ocean University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Teacher Zhang! Thank you very much for accepting our interview. This time we want to understand the situation in four aspects. First, the current status of curriculum design for sustainable development of lifelong learning in adult education, and how to promote sustainable development curriculum design strategies. We especially want to talk about the current situation around curriculum setting, curriculum structure, course schedule, the relationship between course content and actual work needs, and the impact of course content on future personal lifelong learning, and listen to your specific suggestions in this regard.

Teacher Zhang: Hello! I am very happy to discuss these topics with you. The following is my opinion on the current status of curriculum design for sustainable development of lifelong learning in adult education, as well as some specific measures to promote sustainable development curriculum design.

1. Current status of curriculum design

Course setting:

Current status: The current curriculum setting is relatively broad, covering multiple subject areas, but the connection between some courses is not strong enough, lacking systematicity and coherence.

Analysis: It is necessary to strengthen the connection between courses and form a more systematic and coherent curriculum system so that students can better master knowledge and skills.

Curriculum structure:

Current status: The curriculum structure is relatively simple, mainly based on theoretical lectures, lacking practical links and interactive teaching.

Analysis: It is necessary to optimize the course structure, increase practical links and interactive teaching, and improve students' practical ability and learning interest.

Course schedule:

Current situation: The course schedule is sometimes too tight, which brings great learning pressure to students; sometimes it is too loose, resulting in low learning efficiency.

Analysis: It is necessary to arrange the course schedule reasonably to ensure the continuity of learning and leave enough time for students to digest and absorb.

The relationship between course content and actual work needs:

Current situation: Some course content is out of touch with actual work needs, and it is difficult for students to apply what they have learned to actual work after graduation.

Analysis: It is necessary to strengthen the connection between course content and actual work needs to ensure the practicality and pertinence of course content.

The impact of course content on future personal lifelong learning:

Current situation: Some course content focuses too much on immediate needs and lacks guidance and cultivation of students' future lifelong learning.

Analysis: It is necessary to focus on cultivating students' autonomous learning ability and lifelong learning habits in course design to lay a solid foundation for their future development.

2. Specific measures to promote sustainable development curriculum design

Strengthen the connection between courses:

Measures: Sort out and integrate existing courses, clarify the logical relationship and sequence between courses, and form a more systematic and coherent curriculum system.

Implementation: Experts can be organized to train teachers and guide them on how to design and arrange course connection.

Optimize course structure:

Measures: Increase practical links and interactive teaching, such as case analysis, group discussion, project practice, etc., to improve students' practical ability and learning interest.

Implementation: The school can provide necessary practical resources and facilities to support the practical teaching of courses.

Rationally arrange course progress:

Measures: According to the course content and students' learning characteristics, arrange the course progress reasonably, which not only ensures the continuity of learning, but also leaves students enough time to digest and absorb.

Implementation: Teachers can formulate detailed teaching plans, clarify the teaching objectives and tasks of each class, and ensure the reasonable arrangement of course progress.

Strengthen the connection between course content and actual work needs:

Measures: Regularly invite industry experts or corporate representatives to participate in course design and teaching, and integrate the latest industry trends and needs into the course content.

Implementation: Schools can establish cooperative relationships with enterprises to jointly develop and update course content to ensure the practicality and pertinence of course content.

Focus on cultivating students' autonomous learning ability and lifelong learning habits:

Initiatives: In course design, focus on cultivating students' autonomous learning ability, critical thinking and innovation ability, and guide them to form the concept and habit of lifelong learning.

Implementation: Teachers can cultivate students' autonomous learning ability and lifelong learning habits by assigning open homework, encouraging students to participate in scientific research projects or social practice, etc.

Interviewer: Teacher Zhang, the initiatives you mentioned are very targeted and operational. So, in the process of implementing these initiatives, what challenges and difficulties do you think may be encountered? How should we overcome them?

Mr Zhang: In the process of implementing these initiatives, we may indeed encounter some challenges and difficulties. For example, the connection and optimization between courses requires teachers to reach a consensus and work together; the increase of practical links and interactive teaching may require more resources and investment; cooperating with enterprises to update course content may require coordination of the interests of all parties, etc.

In order to overcome these challenges and difficulties, I think we can take the following measures: first, strengthen communication and coordination, promote cooperation and exchanges among teachers, and jointly promote the improvement of curriculum design; second, increase investment and support, provide schools with necessary resources and facilities, and support the practical teaching of courses; third, establish a cooperation mechanism, establish long-term and stable cooperative relations with enterprises, and jointly develop and update course content.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in

Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer:Mr. Zhang, the second question is about the implementation of sustainable development teaching in lifelong learning of adult education, and how to promote the implementation of sustainable development teaching. We would like to talk about the current situation in terms of the satisfaction of the school's teaching organization and management, teachers' teaching ability, teaching methods, comprehensive literacy, course assessment methods, classroom interactive discussions, clarity of teaching objectives, and student learning support and guidance. At the same time, we would also like to hear some of your strategic suggestions in this regard.

Mr.Zhang: Hello! I am very happy to discuss these topics with you. The following are my views on the current situation of the implementation of sustainable development teaching in lifelong learning of adult education, as well as some strategic suggestions for promoting the implementation of sustainable development teaching.

1. Current situation of teaching and learning implementation

Satisfaction with teaching organization and management:

Current situation: The school can basically meet the teaching needs in terms of teaching organization and management, but sometimes there are problems of insufficient management and insufficient response speed.

Analysis: It is necessary to further improve the teaching organization and management system to improve management efficiency and response speed.

Teacher teaching ability:

Current situation: Most teachers have good teaching ability and practical experience, but they still need to improve their guidance skills, especially personalized guidance for the characteristics of adult students.

Analysis: It is necessary to strengthen teacher training and improve teachers' guidance skills and practical experience.

Teachers' teaching methods:

Current situation: Teachers' teaching methods are diverse, but some methods may not be reasonable or adaptable to the learning needs of adult students.

Analysis: Teachers need to be encouraged to explore and innovate teaching methods, and pay attention to the rationality and effectiveness of teaching methods.

Teachers' comprehensive quality:

Current situation: The overall comprehensive quality of teachers is high, but some teachers need to be improved in terms of teacher ethics and professional quality.

Analysis: Teachers' teacher ethics education and professional quality training need to be strengthened.

Course assessment method:

Current situation: The course assessment method is relatively single, mainly relying on exams or papers, lacking diversity and flexibility.

Analysis: The course assessment method needs to be improved and more diversified evaluation methods need to be introduced.

Interactive discussion of teachers in class:

Current situation: Some teachers can actively guide students to interact and discuss in class, but some teachers do not do enough in this regard.

Analysis: Teachers need to be encouraged to increase interactive discussion sessions in class to improve students' learning enthusiasm and participation.

Clarity of teaching objectives:

Current situation: The teaching objectives of most courses are relatively clear, but sometimes there is a problem that the objectives are too general or not specific enough.

Analysis: Teachers need to be more specific and clear when setting teaching goals, so that students can understand and grasp them.

Students are satisfied with learning support and tutoring:

Current situation: Students are highly satisfied with learning support and tutoring, but some students also reflect that tutoring is not timely or personalized enough.

Analysis: It is necessary to strengthen learning support and tutoring for students and improve the timeliness and personalization of tutoring.

2. Strategies to promote the implementation of sustainable development teaching

Improve the teaching organization and management system:

Strategy: Establish a more complete teaching organization and management system, clarify the management responsibilities and processes at all levels, and improve management efficiency and response speed.

Implementation: Schools can set up special teaching management agencies or committees to be responsible for the planning, coordination and supervision of teaching organizations.

Strengthen teacher training:

Strategy: Regularly train teachers to improve their teaching ability, guidance skills and practical experience.

Implementation: Schools can organize internal or external training, and invite experts or outstanding teachers to give lectures or demonstration teaching.

Promote communication and cooperation among teachers:

Strategy: Encourage communication and cooperation among teachers, share teaching experience and resources, and jointly improve teaching standards.

Implementation: Schools can set up teacher exchange platforms or forums, and regularly organize teaching seminars or workshops.

Focus on teachers' ethics education:

Strategy: Strengthen teachers' ethics education and improve teachers' professional ethics and sense of responsibility.

Implementation: Schools can include teachers' ethics education in teacher training plans and regularly organize teachers' ethics lectures or seminars.

Improve teachers' assessment and incentive mechanisms:

Strategy: Establish a more complete teacher assessment and incentive mechanism to stimulate teachers' teaching enthusiasm and creativity.

Implementation: Schools can formulate specific assessment standards and processes, and link assessment results with teachers' salaries, promotions, etc.

Strengthen teachers' training in enterprises:

Strategy: Encourage teachers to train in enterprises, understand the latest trends and needs of the industry, and improve the practicality and pertinence of teaching.

Implementation: Schools can establish cooperative relationships with enterprises to provide teachers with training opportunities and practice platforms.

Strengthen teachers' information technology capabilities:

Strategy: Improve teachers' information technology capabilities so that teachers can skillfully use modern educational technology for teaching.

Implementation: Schools can organize information technology training or workshops to provide teachers with necessary technical support and resources.

Use modern educational technology to innovate teaching methods:

Strategy: Encourage teachers to use modern educational technology such as multimedia, the Internet and other innovative teaching methods to improve the fun and interactivity of teaching.

Implementation: The school can provide necessary teaching equipment and resources to support teachers in teaching innovation and experiments.

Interviewer: Teacher Zhang, the strategies you mentioned are very targeted and operational. So, in the process of implementing these strategies, what challenges and difficulties do you think you may encounter? And how should we overcome them?

Mr.Zhang: In the process of implementing these strategies, we may indeed encounter some challenges and difficulties. For example, the training and development of teachers requires a lot of time and resources; the communication and cooperation of teachers may be limited by time and space; the establishment and improvement of the assessment and incentive mechanism of teachers needs to take into account many factors and interest balance, etc.

In order to overcome these challenges and difficulties, I believe we can take the following measures: First, strengthen leadership and support to ensure that the implementation of the strategy receives sufficient attention and resources; second, strengthen communication and coordination to promote cooperation and collaboration among all parties; third, focus on effectiveness and evaluation, summarize experience and lessons in a timely manner, and continuously adjust and optimize strategies; fourth, strengthen publicity and promotion to increase teachers' and students' awareness and participation in the strategy.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Teacher Zhang, the third aspect is the learning process of students in lifelong learning and sustainable development of adult education in Zhejiang Province, and how to promote the learning process strategy of sustainable development. We especially want to talk about the current situation around students' learning attitudes, learning methods, learning habits, communication with teachers, coping attitudes when encountering difficulties, self-discipline, etc., and listen to your views and specific measures in this regard. At the same time, we also want to explore some strategies to promote the sustainable development of students' learning process.

Teacher Zhang: Hello! I am very happy to discuss these topics with you again. The following is my view on the current situation of the learning process of students in lifelong learning and sustainable development of adult education in Zhejiang Province, and some strategic suggestions for promoting the learning process of sustainable development.

1. Current situation of students' learning process

Learning attitude:

Current situation: Most students have a positive attitude towards learning and are willing to invest time and energy to improve themselves. However, some students have a poor learning attitude and lack motivation for learning due to work, family and other reasons.

Analysis: It is necessary to strengthen the guidance and motivation of students' learning and help them establish a correct learning concept.

Learning methods:

Current situation: Students have differences in learning methods. Some students can find a learning method that suits them and learn efficiently.

However, some students lack effective learning methods and have low learning efficiency.

Analysis: Students need to be guided to explore learning methods that suit them and improve their learning efficiency.

Study habits:

Current situation: Some students have developed good study habits, can complete homework on time, and actively participate in learning activities. However, some students have poor study habits and have procrastination, absenteeism and other phenomena.

Analysis: It is necessary to strengthen the management of students' learning and cultivate good study habits.

Communication with teachers:

Current situation: Some students can actively communicate with teachers to seek help and advice. However, some students have less communication with teachers and even have communication barriers.

Analysis: It is necessary to encourage more communication between teachers and students and establish a good teacher-student relationship.

Attitude when encountering difficulties:

Current situation: Some students can actively seek relevant help when encountering difficulties, such as consulting materials, asking teachers or classmates. However, some students choose to give up or escape when encountering difficulties.

Analysis: It is necessary to cultivate students' problem-solving ability and autonomous learning ability.

Self-discipline ability:

Current situation: Some students can self-discipline and can take the initiative to learn without pressure from others. However, some students have poor self-discipline ability and need external supervision and motivation.

Analysis: It is necessary to strengthen the cultivation of students' self-management ability and improve their initiative and consciousness in learning.

2. Strategies for the learning process to promote sustainable development

Establish a positive learning concept:

Strategy: Through admission education, theme lectures and other forms, guide students to establish correct learning concepts and clarify the purpose and significance of learning.

Implementation: The college can regularly organize admission education activities, invite outstanding graduates or industry experts to share their learning experiences, and stimulate students' enthusiasm and motivation for learning.

Actively participate in activities, lectures and forums organized by the school:

Strategy: Encourage students to actively participate in various activities, lectures and forums organized by the school to broaden their horizons and increase their knowledge.

Implementation: The college can formulate an activity participation points system, incorporate students' participation in activities into the credit assessment system, and encourage students to actively participate.

Set clear learning goals:

Strategy: Guide students to set clear and measurable learning goals and formulate corresponding learning plans.

Implementation: Teachers can set learning goals with students at the beginning of the course, and regularly check and feedback the completion of goals during the learning process.

Communicate more with teachers and actively participate in classroom interactions:

Strategy: Encourage students to communicate more with teachers, actively participate in classroom discussions and interactions, and improve learning effects.

Implementation: Teachers can set up interactive sessions in class, such as asking questions and group discussions, to increase students' participation and enthusiasm.

Interact more with classmates and find a learning method that suits you:

Strategy: Encourage students to exchange learning experiences and methods with classmates, learn from each other and learn from each other.

Implementation: The college can organize study groups or a learning partner system to allow students to support and help each other in the learning process.

Strengthen your own learning time management ability:

Strategy: Guide students to master time management skills, arrange study time reasonably, and improve learning efficiency.

Implementation: The college can offer time management training courses or provide relevant learning resources to help students improve their time management ability.

Establish student scholarships:

Strategy: Establish a student scholarship system to commend and reward students with excellent academic performance and outstanding performance.

Implementation: The college can formulate detailed scholarship selection criteria and procedures to ensure that outstanding students are selected fairly and impartially, and hold a grand award ceremony to enhance students' sense of honor and learning motivation.

Interviewer: Teacher Zhang, the strategies you mentioned are very comprehensive and operational. So, in the process of implementing these

strategies, how do you think the college should ensure the effective implementation of these strategies?

Mr.Zhang: To ensure the effective implementation of these strategies, I think the college needs to take the following safeguards. First, we need to strengthen communication and collaboration between teachers and students to ensure that teachers can understand students' learning situation and needs in a timely manner and provide students with targeted guidance and help. Secondly, we need to strengthen teaching management and supervision to ensure the standardization and effectiveness of teaching activities, while strengthening the tracking and evaluation of students' learning process. In addition, the college also needs to strengthen the supervision and management of incentive mechanisms such as scholarship selection to ensure that outstanding students are selected fairly and impartially to stimulate students' enthusiasm and competitiveness. Finally, the college should continue to pay attention to students' learning feedback and opinions, and constantly adjust and optimize teaching strategies and measures to meet students' learning needs and expectations.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance

Interviewer: Teacher Zhang, the last question is about the learning effects of students in the sustainable development of lifelong learning in adult education in Zhejiang Province, and how to promote the learning effect strategies for sustainable development. We especially want to talk about the current situation around improving problem-solving ability, improving vocational and technical ability, improving comprehensive quality ability, achieving predetermined learning goals, improving learning participation and initiative, and students' satisfaction with their own learning effect through learning, and listen to your views and specific measures in this regard.

Mr.Zhang: Hello! I am very happy to discuss these topics with you. Regarding the learning effects of students in the sustainable development of

lifelong learning in adult education in Zhejiang Province, and the promotion strategies, the following are some of my views and specific suggestions.

1. Current situation of students' learning effects

Improving problem-solving ability through learning:

Current situation: Some students can use the knowledge they have learned to solve practical problems in their studies, but the overall ability level is uneven.

Analysis: This may be related to the students' basic knowledge, learning methods and practical experience.

Improving their own vocational and technical abilities through learning:

Current situation: Students have achieved certain results in improving their vocational and technical abilities, but there is still a certain gap compared with actual work needs.

Analysis: It is necessary to further strengthen the connection between courses and occupational standards to improve the pertinence and effectiveness of practice.

Improve their comprehensive quality and ability through learning:

Current situation: Students have made some progress in improving their comprehensive quality and ability, but they still need to strengthen their innovative thinking and teamwork.

Analysis: It is necessary to focus on cultivating students' comprehensive quality and strengthen the teaching and practical activities of relevant courses.

Achieve the predetermined learning goals through learning:

Current situation: Most students can achieve the predetermined learning goals, but some students have unclear learning goals and lack learning motivation.

Analysis: It is necessary to strengthen the learning guidance and goal setting for students to stimulate students' learning enthusiasm and initiative.

Improve learning participation and initiative through learning:

Current situation: Students' learning participation and initiative have improved, but there are still some students who passively learn and lack autonomous learning ability.

Analysis: It is necessary to reform teaching methods and means, improve the fun and interactivity of teaching, and stimulate students' interest in learning.

Satisfaction with students' own learning effect:

Current situation: Students are generally satisfied with their own learning effect, but some students still express dissatisfaction with the learning results.

Analysis: It is necessary to strengthen feedback and evaluation of students' learning effect to help students understand their learning situation in a timely manner and adjust their learning strategies.

2. Learning effect strategies to promote sustainable development

Improve problem-solving ability:

Specific measures: Strengthen case teaching, introduce practical problems, guide students to use the knowledge they have learned to analyze and solve them; carry out project-based learning, so that students can exercise their problem-solving ability in practice.

Improve vocational and technical ability:

Specific measures: Cooperate with industry enterprises to jointly develop courses to ensure that the course content is closely connected with professional standards; increase internship and training links to improve students' practical operation ability.

Improve comprehensive quality ability:

Specific measures: Offer relevant courses such as innovative thinking and teamwork to cultivate students' comprehensive quality; organize extracurricular activities and social practice to broaden students' horizons and experience.

Achieve predetermined learning goals:

Specific measures: Strengthen learning guidance for students to help students clarify their learning goals; establish a learning incentive mechanism to stimulate students' learning motivation.

Improve learning participation and initiative:

Specific measures: Reform teaching methods and means, adopt a combination of online and offline teaching methods, improve the fun and interactivity of teaching; encourage students to participate in classroom discussions and cooperative learning to improve students' learning participation.

Improve students' satisfaction with learning effect:

Specific measures: Establish a learning outcome feedback mechanism to promptly feedback learning status to students; carry out learning outcome display and exchange activities to make students feel that their learning effect are recognized and valued.

Interviewer: Teacher Zhang, the specific measures you mentioned are very operational. So, in the process of implementing these measures, how do you think the college should ensure the effective implementation of these measures?

Mr.Zhang: To ensure the effective implementation of these measures, I think the college needs to take the following safeguards. First, we must strengthen teacher training, improve teachers' teaching level and ability, and ensure that teachers are competent for new teaching requirements. Secondly, we must strengthen teaching management and supervision to ensure the standardization and effectiveness of the teaching process. At the same time, we must establish a student evaluation mechanism to promptly understand

students' feedback and opinions on teaching measures, and constantly adjust and optimize teaching strategies. Finally, we must strengthen cooperation with industry enterprises, jointly promote teaching reform and practice, and ensure that teaching content is closely connected with professional needs.

Interviewer: Thank you very much for Teacher Zhang's detailed answers and valuable suggestions. I believe that with your efforts, the learning effect of students in the sustainable development of lifelong learning in adult education at the School of Continuing Education of Zhejiang Ocean University will be significantly improved.

Through this interview, we have gained an in-depth understanding of the current status of student learning effect for lifelong learning sustainable development in adult academic education in Zhejiang Province and strategies for promoting sustainable development of learning effect. Teacher Zhang analyzed in detail the current status of student learning effect from multiple aspects, including improving problem-solving skills, improving professional and technical skills, improving comprehensive quality, achieving predetermined learning goals, improving learning participation and initiative, and improving students' satisfaction with their own learning effect, and proposed specific targeted measures. At the same time, Teacher Zhang also put forward his own views and suggestions on how to ensure the effective implementation of these measures. These insights and suggestions are of great reference value for improving the teaching quality of adult academic education and promoting the sustainable development of student learning effect. Thank you.

Interviewer 7: Ms.Sun, School of Continuing Education,Wenzhou University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Sun! Thank you very much for accepting our interview. We interviewed four aspects. The first is the current status of

curriculum design for sustainable development of lifelong learning in adult education, and your views on how to promote sustainable development curriculum design strategies. We will discuss the curriculum setting, curriculum structure, course schedule, course content and actual work needs, and the impact of course content on future personal lifelong learning. At the same time, we also hope that you can put forward your views on the introduction of relevant policies, clarifying training goals, optimizing training programs, strengthening practical needs, integrating lifelong learning concepts, and strengthening funding guarantees.

Mr. Sun: Hello! I am very happy to discuss these important topics with you. The following is my opinion on the current status of curriculum design for sustainable development of lifelong learning in adult education, as well as some strategic suggestions for promoting sustainable development curriculum design.

1. Current status of curriculum design

Curriculum setting: Current status: Although the current curriculum setting of adult education covers multiple fields, some courses lack pertinence and foresight, and it is difficult to meet the needs of rapid social development. Analysis: It is necessary to strengthen the investigation of social needs, adjust the curriculum setting in a timely manner, and ensure that the curriculum is closely linked to social needs.

Course structure: Current situation: The course structure is relatively fixed, lacking flexibility and diversity, and it is difficult to meet the diverse learning needs of adult learners. Analysis: It is necessary to optimize the course structure, increase elective courses and modular courses, and improve the flexibility and adaptability of the course.

Course schedule: Current situation: The course schedule is sometimes too uniform, ignoring the time constraints of adult learners in work and life. Analysis: It is necessary to arrange the course schedule reasonably and provide

flexible learning methods, such as online learning, hybrid learning, etc., to meet the time needs of adult learners.

The relationship between course content and actual work needs: Current situation: Some course content is out of touch with actual work needs, making it difficult for learners to apply what they have learned to actual work. Analysis: It is necessary to strengthen cooperation with enterprises and industries to jointly develop course content to ensure the practicality and pertinence of course content.

The impact of course content on future personal lifelong learning: Current situation: Some course content focuses too much on short-term skill training and ignores the cultivation of learners' lifelong learning ability. Analysis: It is necessary to integrate the concept of lifelong learning into course design and focus on cultivating learners' autonomous learning ability, critical thinking and innovation ability.

2. Strategies to promote sustainable development curriculum design

Issue policies for the sustainable development of adult education: Strategy: The government should issue relevant policies to support the sustainable development of adult education, including funding, teacher training, curriculum development and other aspects. Implementation: Schools should actively respond to policies, formulate specific implementation plans, and ensure that the policies are implemented.

Clearly cultivate the goal of talents that meet social needs: Strategy: Schools should maintain close contact with all sectors of society, keep abreast of changes in social needs, clarify training goals, and ensure that the talents cultivated meet social needs.

Implementation: The training goals and training programs can be jointly determined through school-enterprise cooperation, industry-university-research integration, etc.

Optimize professional talent training programs: Strategy: According to social needs and learner characteristics, optimize professional talent training programs, including curriculum setting, curriculum structure, teaching methods and other aspects. Implementation: Experts can be organized to train teachers and guide teachers on how to design and implement optimized training programs.

Strengthen the practical needs of curriculum design: Strategy: Strengthen practical needs in curriculum design, increase practical links, and improve learners' practical and application abilities.

Implementation: Cooperate with enterprises to jointly develop practical courses and provide practical opportunities and practical guidance.

Integrate the concept of lifelong learning into the curriculum: Strategy: Integrate the concept of lifelong learning into the curriculum design, focus on cultivating learners' independent learning ability, critical thinking and innovation ability, and guide learners to form the habit of lifelong learning. Implementation: Teachers can stimulate learners' learning interest and motivation through teaching reforms, such as flipped classrooms, project-based learning and other teaching methods.

Strengthen funding guarantee: Strategy: The government and schools should increase funding for adult academic education to ensure the smooth implementation of curriculum development and the continuous improvement of teaching quality. Implementation: A diversified funding mechanism can be established, including government grants, social donations, corporate cooperation and other methods to ensure sufficient and stable funds.

Interviewer: Teacher Sun, the strategies you mentioned are very forward-looking and feasible. So, in the process of implementing these strategies, what advantages do you think Wenzhou University can play? What challenges may it face?

Mr. Sun: Wenzhou University has rich experience and resources in adult academic education. We have an excellent faculty, complete teaching facilities and a good foundation for school-enterprise cooperation. These advantages provide strong support for our implementation of sustainable development curriculum design.

However, in the implementation process, we may also face some challenges. For example, how to ensure that the curriculum is targeted and forward-looking, how to optimize the curriculum structure to meet the diverse needs of adult learners, how to strengthen cooperation with enterprises and industries to jointly develop course content, etc. All these require us to continuously explore and practice, and continuously improve and optimize the curriculum design.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Mr. Sun, the second question is about the situation of Wenzhou University Continuing Education College in higher education, especially teaching organization and management, teachers' teaching ability, teaching methods, teachers' comprehensive quality, course assessment methods, classroom interactive discussions, clarity of teaching objectives, and student learning support and guidance. Can you talk about your views?

Mr. Sun: Of course, I am happy to share some of my observations and thoughts with you.

Regarding teaching organization and management, our college has done relatively steadily in this regard, but there is also some room for improvement. For example, the flexibility of course arrangement needs to be improved. Sometimes, due to some emergencies, the course adjustment is not timely enough, which affects the students' learning rhythm. In addition, the allocation

of teaching resources also needs to be more scientific and reasonable to ensure that every student can obtain sufficient learning resources.

In terms of teachers' teaching ability, teachers in our college generally have a high academic level and rich practical experience. They can not only impart theoretical knowledge, but also provide students with practical guidance and suggestions based on actual conditions. However, some teachers still need to improve their guidance skills, such as how to better guide students to learn and think independently, and how to more effectively solve problems encountered by students in the learning process.

In terms of teaching methods, our college encourages teachers to adopt diversified teaching methods to meet the learning needs of different students. However, in actual operation, some teachers may still rely too much on traditional teaching methods and lack interaction and communication with students. This has affected students' learning effect and enthusiasm to a certain extent.

In terms of comprehensive quality of teachers, most teachers in our college have good professional ethics and professionalism. They are serious and responsible in their work and care about their students. At the same time, they are constantly learning and improving their professional quality to adapt to the development of the times and the changes in education.

In terms of course assessment methods, our college focuses on the examination of students' comprehensive abilities, not just limited to paper scores. However, there are also some challenges in the specific implementation process. For example, how to ensure the fairness and objectivity of the assessment, how to avoid subjective factors and human interference in the assessment process, etc.

In terms of classroom interactive discussion, our college encourages active interaction and communication between teachers and students. This not only helps to stimulate students' interest in learning and thinking vitality, but also promotes understanding and trust between teachers and students.

However, in actual operation, some classes may still lack sufficient interaction and discussion, which may be related to factors such as the teacher's guidance method, students' willingness to participate, and classroom environment.

In terms of the clarity of teaching objectives, our college focuses on setting clear teaching objectives to ensure the pertinence and effectiveness of teaching activities. However, in the actual implementation process, sometimes the teaching objectives are not clear enough or too general, which may affect the teaching effect and students' learning effect.

Finally, in terms of student learning support and counseling, our college provides students with various forms of learning support and counseling services. For example, a counselor system is set up to provide students with help and guidance in life and study; a learning support center is opened to provide students with consultation and services on learning resources and learning methods. However, with the increase in the number of students and the diversification of learning needs, we also need to continuously explore and innovate more effective learning support and counseling methods.

Interviewer: Thank you very much for Mr. Sun's detailed sharing. So, in response to some of the problems you just mentioned, what measures do you think we should take to improve them?

Mr. Sun: I think that for the problems in teaching organization and management, we can further optimize the management process and improve management efficiency. For example, we can introduce an information management system to realize the automation and intelligence of course arrangement; we can strengthen the overall planning and coordination of teaching resources to ensure the rational allocation and utilization of resources.

In terms of teachers' teaching ability, we can strengthen the training and development of teachers to improve their guidance skills and teaching level. For example, we can regularly organize teachers to participate in teaching seminars and training courses to learn advanced teaching concepts and

methods; we can encourage teachers to participate in teaching research and reform projects to improve their teaching ability and innovation ability.

In terms of teaching methods, we can encourage teachers to adopt more diverse teaching means and methods to stimulate students' learning interest and thinking vitality. For example, we can promote new teaching models such as flipped classrooms and project-based learning to allow students to learn and grow in practice; we can use modern information technology means, such as online teaching platforms and virtual laboratories, to provide students with a richer and more convenient learning experience.

In terms of course assessment methods, we can further improve the assessment mechanism and standards to ensure the fairness and objectivity of the assessment. For example, we can establish a diversified assessment and evaluation system to comprehensively consider students' knowledge mastery, ability development level, learning attitude and other factors; we can strengthen the supervision and management of the assessment process to avoid the influence of subjective factors and human interference.

In terms of classroom interactive discussion, we can create a more positive and open classroom atmosphere and encourage students to actively participate in interaction and communication. For example, we can set up classroom discussion sessions to guide students to think and speak around specific topics; we can adopt group cooperative learning methods to allow students to collaborate and communicate with each other in the team.

In terms of the clarity of teaching objectives, we can formulate and express teaching objectives more clearly to ensure the pertinence and effectiveness of teaching activities. For example, we can clearly list the specific objectives and requirements of each course in the course outline; we can promptly communicate teaching objectives and key and difficult content to students during the teaching process.

Finally, in terms of student learning support and counseling, we can continue to strengthen and improve the learning support and counseling

service system. For example, we can add learning counseling sites or online counseling platforms to provide students with more convenient and timely counseling services; we can strengthen the construction and training of the counselor team to improve their professional quality and service capabilities.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Hello, Mr. Sun! The third aspect is the current situation of students' learning process in the sustainable development of lifelong learning in adult education, and the strategies to promote this process. Can you talk about the current situation and give some suggestions from the aspects of students' learning attitude, learning methods, learning habits, and communication between teachers and students?

Mr. Sun: Of course, I am very happy to discuss this topic with you.

In the context of lifelong learning in adult education in Zhejiang Province, the current situation of students' learning process presents diversified characteristics. Most students have a positive learning attitude. They recognize the importance of learning for personal growth and career development, so they are willing to invest time and energy in learning. In terms of learning methods, students also present a variety of choices, some tend to learn independently, and some prefer participatory learning. However, in terms of learning habits, some students still have some shortcomings, such as unreasonable time management and unclear learning plans.

In terms of communication between teachers and students, most students can actively communicate with teachers to seek help and guidance in learning. When they encounter something they don't understand, they will also take the initiative to take action to find relevant information and help. This proactive learning attitude is worthy of recognition. At the same time, some students also show strong self-discipline in the learning process. They can consciously complete learning tasks without pressure from others.

However, to promote the sustainable development of the learning process, we still need to adopt some strategies.

First, we must establish a positive learning concept. Adult students often face pressure from work, family and other aspects, so they need to clarify the meaning and value of learning and regard learning as a way to improve themselves and grow.

Secondly, it is recommended that students actively participate in activities, lectures and forums organized by the school. These activities can not only broaden students' horizons, but also enhance their interest and motivation in learning.

Furthermore, it is very important to set clear learning goals. Goals can guide students' learning direction and enable them to choose learning content and methods more targeted.

At the same time, communicating more with teachers and actively participating in classroom interactions are also effective ways to improve learning results. Through communication with teachers, students can get feedback and suggestions in time and adjust their learning strategies. Interaction with classmates can promote learning and communication among students and form a good learning atmosphere.

In addition, finding a learning method that suits you is also the key. Every student has his or her own learning style and habits. Finding a learning method that suits you can improve learning efficiency and quality.

It is also essential to strengthen your own learning time management ability. Adult students need to arrange their time reasonably, balance the relationship between work, study and life, and ensure that they can study continuously and stably.

Finally, the establishment of incentive mechanisms such as student scholarships can also stimulate students' enthusiasm and initiative in learning.

By rewarding outstanding students, you can set an example and motivate other students to study hard.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Mr. Sun, the last aspect is the current status of the learning effect of students in the sustainable development of lifelong learning in adult education, and the strategies to promote this sustainable development learning effect. Can you talk about the current situation from the aspects of learning to improve problem-solving ability, vocational and technical ability, comprehensive quality ability, achieving learning goals, improving learning participation and initiative, and students' own satisfaction with learning effect?

Mr. Sun: Of course, I am happy to share my observations with you.

In the system of lifelong learning in adult education in Zhejiang Province, the overall learning effect of students shows a positive trend. Through learning, many students have significantly improved their problem-solving ability. They can apply what they have learned to practical work and effectively cope with various challenges. In terms of vocational and technical ability, students have also mastered more professional skills through systematic learning and practice, laying a solid foundation for the development of their careers. At the same time, learning also promotes the improvement of students' comprehensive quality ability, including communication and collaboration ability, innovative thinking ability, etc., which are crucial to their personal growth.

In terms of achieving the predetermined learning goals, most students can complete the learning tasks as planned and achieve the goals they set themselves. Learning participation and initiative have also improved. Students cherish learning opportunities more and actively participate in various learning activities. Most students are relatively satisfied with their learning effect, and they believe that learning has brought tangible gains.

However, to further promote the learning effect of sustainable development, we still need to adopt a series of strategies.

First, it is crucial to establish a scientific teaching quality evaluation system. By regularly evaluating the teaching quality, we can find problems in time, adjust teaching strategies, and ensure that students have a high-quality learning experience.

Secondly, it is also necessary to formulate the skill standards that students should master. This helps to clarify learning goals, so that students can improve themselves in a targeted manner, and also provides a clear direction for teaching.

Conducting a learning satisfaction survey is also an important way to understand students' learning needs and improve teaching. Through the survey, we can collect students' feedback and adjust the teaching plan in time to meet students' learning expectations.

In addition, continuous attention to students' all-round development is also the key to promoting sustainable development learning effects. We should not only pay attention to students' academic performance, but also pay attention to their physical and mental health, interests and hobbies, etc., to help them achieve all-round development.

Finally, using Internet technology to establish a quality evaluation platform is an innovative measure. Through the platform, we can realize the real-time collection and analysis of teaching data, and provide strong support for teaching quality evaluation. At the same time, the platform can also provide students with more learning resources and communication opportunities to promote their independent learning and cooperative learning.

In short, promoting the sustainable development of lifelong learning in adult education in Zhejiang Province requires multi-faceted efforts and strategies. We believe that through continuous exploration and practice, we will

be able to provide students with a better learning experience and help them achieve personal growth and career development.

Thank you for your interview.

Interviewer 8: Ms.Luo, School of Continuing Education,Wenzhou University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Ms. Luo! Thank you very much for accepting our interview. This time we want to understand the following four aspects. The first is the current status of curriculum design for sustainable development of lifelong learning in adult education, and how to promote curriculum design strategies for sustainable development. Can you talk about the current situation in terms of curriculum setting, curriculum structure, curriculum schedule, the relationship between curriculum content and actual work needs, and the impact of curriculum content on future personal lifelong learning?

Ms. Luo: Hello, I am very happy to discuss this topic with you.

In terms of curriculum design for lifelong learning in adult education, we are currently facing some challenges and opportunities. From the perspective of curriculum setting, although we have tried to cover a wide range of knowledge areas, there are still some courses that are out of touch with actual work needs. In terms of curriculum structure, the connection between some courses is not close enough, which makes it difficult for students to form a systematic knowledge system when studying. In terms of course schedule, sometimes it is difficult to ensure a continuous and stable learning progress due to students' work and life pressure.

In terms of the relationship between course content and actual work needs, we have been working hard to make the course content closer to the actual work scene, but there are still some gaps. At the same time, we also

realize that the course content should not only meet the current work needs, but also have a positive impact on future personal lifelong learning, and we still need to strengthen this aspect.

In order to promote sustainable development of curriculum design, I think we can start from the following aspects:

First, it is necessary to introduce relevant policies for the sustainable development of adult education to provide clear guidance and support for curriculum design. Policies can clarify the direction and goals of curriculum design and encourage innovation and practice.

Second, we must clarify the goal of cultivating talents for social needs. By cooperating with industry enterprises, we can understand the market demand for talents, integrate these needs into curriculum design, and make the course content closer to reality.

In terms of optimizing professional talent training programs, we must pay attention to the systematicness and coherence of the curriculum to ensure that students can form a complete knowledge system. At the same time, we must also pay attention to the personalized development of students and provide a variety of course options.

It is also crucial to strengthen the practical needs of curriculum design. We must increase practical links to allow students to learn and master knowledge in practice and improve their practical operation capabilities.

In addition, it is also very important to integrate the concept of lifelong learning into the curriculum. We must guide students to establish the concept of lifelong learning and cultivate their self-study ability and continuous learning habits.

Finally, strengthening funding guarantees is also the key to promoting sustainable development of curriculum design. We must ensure that there is sufficient funding to support the development and implementation of

curriculum design and provide a good teaching and learning environment for teachers and students.

In short, curriculum design that promotes the sustainable development of lifelong learning in adult education requires multi-faceted efforts and strategies. We believe that through continuous exploration and practice, we can design courses that are more in line with actual needs and conducive to personal lifelong development, and make greater contributions to the development of adult education.

2. What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Ms. Luo, the second question is that we want to understand the current status of the implementation of sustainable development teaching in lifelong learning in adult education, as well as strategies to promote the implementation of sustainable development teaching. Can you talk about the current situation in terms of school teaching organization and management, teachers' teaching ability, teaching methods, comprehensive literacy, course assessment methods, interactive discussions of teachers in class, clarity of teaching objectives, and students' satisfaction with learning support and counseling?

Ms. Luo: In the implementation of lifelong learning teaching in adult education, we have made some achievements, but there are also some challenges. From the perspective of school teaching organization and management, the overall framework is sound, but in the specific implementation process, there are sometimes poor coordination and low efficiency. In terms of teachers' teaching ability, most teachers have rich theoretical knowledge and certain practical experience, but their guidance skills need to be improved, especially how to closely combine theoretical

knowledge with practical work so that students can better understand and apply it.

In terms of teaching methods, we have been exploring more reasonable and effective ways, but there are still some traditional and single teaching methods that are difficult to fully stimulate students' interest and enthusiasm in learning. In terms of comprehensive quality of teachers, most teachers have good professional ethics and professional quality, but some teachers need to further improve themselves.

In terms of course assessment methods, we are working hard to make the assessment more comprehensive and objective, but the current assessment method still focuses on the examination of theoretical knowledge, and the assessment of practical ability is not sufficient. In terms of interactive discussion during class, although teachers are working hard to increase classroom interaction, the interactive effect needs to be improved due to factors such as the number of students and class time.

In terms of the clarity of teaching objectives, we have always emphasized the clarity and specificity of teaching objectives, but in actual operation, sometimes the objectives are vague and not specific enough. In terms of students' satisfaction with learning support and tutoring, most students are satisfied with the school's tutoring and support, but some students also hope to get more personalized tutoring and support.

In order to promote the implementation of sustainable development teaching, I think we can start from the following aspects:

First, improve the teaching organization and management system, improve management efficiency and coordination. Clarify the management responsibilities at all levels, optimize the management process, and ensure the smooth progress of teaching work.

Secondly, strengthen teacher training and improve teachers' teaching ability and guidance skills. Through regular training, seminars and other means,

teachers can continuously update their knowledge and improve their teaching level.

It is also very important to promote communication and cooperation among teachers. By building a communication platform, teachers are encouraged to share experiences and cooperate with each other to jointly improve the quality of teaching.

At the same time, we should pay attention to the teacher's professional ethics education and cultivate teachers' professional ethics and sense of responsibility. We should improve the assessment and incentive mechanism for teachers and stimulate teachers' enthusiasm and initiative in teaching.

Strengthen teachers' training in enterprises and improve their practical experience and ability. Through cooperation with enterprises, teachers can have a deep understanding of industry needs and integrate practical experience into teaching.

Finally, we should strengthen teachers' information technology capabilities and use modern educational technology to innovate teaching methods. Through modern technical means such as multimedia and the Internet, we can enrich teaching methods and improve teaching effects.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Ms. Luo, the third question is the current situation of students' learning process and how to promote sustainable development learning process strategies. Can you talk about the current situation in terms of students' learning attitudes, learning methods, learning habits, communication with teachers, help-seeking behavior when encountering difficulties, and self-discipline?

Ms. Luo: Under the background of lifelong learning in adult education in Zhejiang Province, students' learning process presents diverse characteristics,

but there are also some common problems. From the perspective of learning attitude, most students show a positive learning attitude. They are eager to improve their academic qualifications and skills through continuing education to better adapt to the development of society. However, some students are not firm in their learning attitude and lack the motivation to continue learning due to work, family and other reasons.

In terms of learning methods, students adopt different methods. Some students can effectively use online resources, such as online courses, e-books, etc., for independent learning; while others prefer traditional face-to-face teaching, and master knowledge through teachers' explanations and guidance. But overall, students are still somewhat blind in finding a learning method that suits them.

In terms of learning habits, most students can arrange their study time reasonably and insist on regular review and preview. However, some students lack good study habits and lack planning in their studies, which leads to low learning efficiency.

In terms of communication with teachers, most students can actively participate in classroom interactions and take the initiative to ask questions and consult teachers. However, some students are reluctant to communicate with teachers because of shyness or lack of confidence, which leads to the inability to solve learning confusion in time.

When encountering difficult problems, most students will take the initiative to take action to find relevant help, such as consulting materials, asking classmates or teachers, etc. However, some students choose to escape or give up, lacking the courage and determination to solve problems.

In terms of self-discipline, most students show strong self-management ability, can complete learning tasks on time, and maintain a good learning state. However, some students lack self-discipline and are easily disturbed by external factors, which hinders their learning progress.

In order to promote the learning process of sustainable development, I think we can start from the following aspects:

First, we must establish a positive learning concept, guide students to realize the importance of lifelong learning, and stimulate their internal learning motivation. Through lectures, forums and other activities, let students understand the concept and practical cases of lifelong learning and enhance their learning confidence.

Secondly, encourage students to actively participate in activities, lectures and forums organized by the school to broaden their horizons and increase opportunities to communicate with others. These activities can not only enrich students' learning life, but also promote their all-round development.

In terms of setting clear learning goals, we should help students develop practical learning plans according to their actual situation and needs, and regularly check their learning progress to ensure the smooth realization of their learning goals.

It is also very important to communicate more with teachers and actively participate in classroom interactions. Through classroom discussions, questions and other methods, students can have a deeper understanding of knowledge and improve their thinking and expression abilities. At the same time, teachers can also understand students' learning situation in a timely manner and provide targeted guidance and help.

Interacting more with classmates and finding a learning method that suits them is also an effective way to improve learning efficiency. Students can learn from each other's experience and make progress together through group discussions, cooperative learning and other methods.

It is also essential to strengthen their own learning time management ability. Students should learn to arrange their time reasonably, make full use of fragmented time to study, and improve their learning efficiency.

Finally, establish incentive mechanisms such as student scholarships to commend outstanding students and stimulate the learning enthusiasm and creativity of all students. This can not only improve students' learning motivation, but also create a good learning atmosphere.

In short, promoting the sustainable development of lifelong learning in adult education in Zhejiang Province requires multi-faceted efforts and strategies. We believe that through continuous exploration and practice, we can help students better adapt to the needs of social development and maximize their personal values.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Ms. Luo, the last question is to ask you to discuss the learning effect of students in the context of sustainable development of lifelong learning in adult education in Zhejiang Province, and how to promote the learning effect strategy of sustainable development. Can you talk about the current situation from the aspects of improving problem-solving ability, improving one's own professional and technical ability, improving one's own comprehensive quality ability, achieving predetermined learning goals, improving learning participation and initiative, and students' own satisfaction with learning effect?

Ms. Luo: In the practice of lifelong learning in adult education in Zhejiang Province, students' learning effects show diverse characteristics. From the perspective of improving problem-solving ability, most students can master certain knowledge and skills through learning, and use these knowledge to solve problems in actual work. However, some students, although they have mastered the knowledge, still seem to be unable to do so in actual application and lack the ability to transform knowledge into practice.

In terms of improving their own professional and technical abilities, most students can update their professional skills through continuing education and

improve their competitiveness in the workplace. Especially for those students who choose professional courses closely related to their own professions, the improvement of their professional and technical abilities is particularly obvious. However, some students have limited improvement in their professional and technical abilities due to improper professional selection or insufficient learning.

In terms of improving their comprehensive quality and ability, students not only acquired professional knowledge through learning, but also improved their thinking ability, communication ability, teamwork ability and other aspects. However, due to individual differences and different learning inputs, the degree of improvement of students' comprehensive quality and ability also varies.

In terms of achieving the predetermined learning goals, most students can gradually achieve their goals according to the learning plan, but some students fail to complete their learning goals as scheduled due to various reasons. This may be related to their learning methods, time management, self-discipline and other factors.

In terms of improving learning participation and initiative, most students show high enthusiasm and participation in learning, and can actively participate in classroom discussions and extracurricular learning activities. However, some students have low learning participation and initiative due to work, family and other reasons.

As for the students' own satisfaction with their learning effect, most of them said that they were satisfied or basically satisfied with their learning effect, and believed that they had achieved substantial improvement through learning. However, some students were dissatisfied with their learning effect because their expectations were too high or the learning results did not meet expectations.

In order to promote sustainable learning results, I think we can start from the following aspects:

First, establish a scientific teaching quality evaluation system to conduct a comprehensive and objective evaluation of the teaching process and results. This helps us to understand students' learning situation in a timely manner, find problems in teaching, and take targeted measures to improve them.

Secondly, formulate the skill standards that students should master and clarify the skills and ability levels that students should have after completing their studies. This helps to guide students to learn in a targeted manner and improve the pertinence and effectiveness of learning.

It is also very important to conduct a learning satisfaction survey. By regularly collecting students' feedback on teaching, we can understand students' learning needs and expectations and provide important references for improving teaching.

Continuously paying attention to the all-round development of students is also a task that we cannot ignore. We must pay attention to the all-round development of students in terms of knowledge, skills, and quality, and help them achieve the unity of personal value and social value.

Finally, use Internet technology to establish a quality assessment platform to achieve online monitoring and evaluation of teaching quality. This can not only improve the efficiency and accuracy of the assessment, but also promote the sharing and optimal allocation of teaching resources.

In short, promoting the learning effect of sustainable development of lifelong learning in adult education in Zhejiang Province requires multi-faceted efforts and strategies. We must focus on students, pay attention to their learning needs and growth and development, and provide them with high-quality educational services and learning support. At the same time, we must continue to explore and innovate teaching methods and means, improve the pertinence and effectiveness of teaching, and contribute to building a learning society.

Thank you for your interview.

Interviewer 9: Mr. Luo, School of Continuing Education, Zhejiang Normal University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Mr. Luo! Thank you very much for taking the time to accept our interview. This time we want to focus on the curriculum design of lifelong learning sustainable development in adult education, and discuss the current situation and curriculum design strategies to promote sustainable development. Can you talk about the current situation in terms of curriculum setting, curriculum structure, course schedule, the relationship between course content and actual work needs, and the impact of course content on future personal lifelong learning?

Mr. Luo: Hello, I am very happy to communicate with you on this topic.

In the curriculum design of lifelong learning in adult education, we do face some current situations. From the perspective of curriculum setting, although we have tried to cover multiple fields, it is sometimes difficult to meet the diverse needs of all students. In terms of curriculum structure, the ratio of theoretical courses to practical courses needs to be further optimized to ensure that students can master a solid theoretical foundation and have practical operation capabilities.

In terms of course schedule, we try to be reasonable and compact, but sometimes due to students' work, family and other reasons, the progress is difficult to proceed completely as planned. We have been working hard on the connection between course content and actual work needs, but we need to further strengthen it to ensure that what students learn can be truly used in work.

As for the impact of course content on individual lifelong learning in the future, we think it is very important. Good course content can not only meet

students' current learning needs, but also stimulate their interest in learning, cultivate their learning ability, and lay a solid foundation for lifelong learning in the future.

In order to promote sustainable development of curriculum design, I think we can start from the following aspects:

First, it is necessary to introduce relevant policies for the sustainable development of adult academic education to provide clear guidance and support for curriculum design. Policies can clarify the direction and goals of curriculum design and ensure that curriculum design meets the needs of social development.

Second, it is necessary to clarify the goal of cultivating talents for social needs. We must have a deep understanding of the society's demand for talents, design courses according to the needs, and ensure that the students trained can adapt to the development of society.

It is also very important to optimize professional talent training programs. We must formulate more scientific and reasonable talent training programs based on the characteristics of the profession and the needs of students to ensure that students can fully and systematically master professional knowledge and skills.

In the process of curriculum design, practical needs must be strengthened. We must strengthen cooperation with enterprises, understand the actual needs of enterprises, integrate actual needs into curriculum design, and ensure that the course content is closely linked to actual work.

At the same time, the concept of lifelong learning should be integrated into the curriculum. We should guide students to establish the concept of lifelong learning, cultivate their self-study and learning abilities, and prepare for lifelong learning in the future.

Finally, we should strengthen financial support. Course design requires certain financial support, and we should ensure sufficient funds to provide strong support for course design.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Mr. Luo, the second question is to explore the problems in the implementation of teaching for the sustainable development of lifelong learning in adult education, and what strategies can be used to promote its sustainable development. Can you talk about the current situation in terms of the school's teaching organization and management, teachers' teaching ability, teaching methods, comprehensive literacy, course assessment methods, classroom interactive discussions, clarity of teaching objectives, and students' satisfaction with learning support and counseling?

Mr. Luo: Hello, I am very happy to have an in-depth exchange on this topic.

In the implementation of teaching for lifelong learning in adult education, we do face some challenges. First of all, from the perspective of the school's teaching organization and management, it is orderly overall, but there are also some deficiencies in details, such as insufficient flexibility in course arrangements, which makes it difficult to meet the personalized needs of some students.

In terms of teachers' teaching ability, most teachers have rich practical experience and guidance skills, but some teachers do not update their knowledge in certain professional fields in a timely manner, and their teaching methods are relatively single. In terms of the rationality of teaching methods, although teachers are trying to innovate, how to find the most suitable teaching method for adult students is still a difficult problem.

The comprehensive literacy of teachers is generally high, but teacher ethics education still needs to be strengthened to better guide students. In terms of course assessment methods, we are working hard to explore more diversified evaluation methods to more comprehensively evaluate students' learning effect.

The overall interactive discussion in the classroom is good, but some students are not very involved due to work and other reasons. In terms of teaching objectives, most courses have clear teaching objectives, but how to better combine these objectives with students' actual needs needs further exploration.

In terms of students' satisfaction with learning support counseling, most students are satisfied with the counseling and support provided by the school, but some students also hope to get more personalized counseling.

In order to promote the implementation of sustainable development teaching, I think we can start from the following aspects:

First, we must improve the teaching organization and management system, increase the flexibility of course arrangements, and meet the personalized needs of students. At the same time, strengthen the supervision and management of the teaching process to ensure the quality of teaching.

Secondly, strengthen teacher training and improve teachers' professional quality and teaching ability. In particular, we must strengthen teachers' knowledge update in emerging fields to ensure that they can keep pace with the times.

It is also important to promote communication and cooperation among teachers. By organizing activities such as teacher seminars and teaching observations, we can promote experience sharing and exchanges among teachers and jointly improve the teaching level.

Focus on teachers' moral education and guide teachers to establish correct educational concepts to better guide students' growth.

Improve the assessment and incentive mechanism for teachers to stimulate teachers' teaching enthusiasm and innovative spirit. Encourage teachers to continuously improve the quality of teaching by setting up teaching awards and providing promotion opportunities.

Strengthen teachers' training in enterprises to improve their practical experience and guidance skills. Through cooperation with enterprises, teachers can have a deep understanding of industry trends and needs and better guide students' learning.

Finally, strengthen teachers' information technology capabilities and use modern educational technology to innovate teaching methods. Strengthen through multimedia, the Internet, etc.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Mr. Luo, the third question is to understand the learning process of students in the context of sustainable development of lifelong learning in adult education in Zhejiang Province, and what strategies can be used to promote the learning process of sustainable development. Can you talk about the current situation in terms of students' learning attitudes, learning methods, learning habits, communication with teachers, and students' initiative and self-discipline in the learning process?

Mr. Luo: Hello, I am very happy to share my observations and thoughts with you.

In the practice of lifelong learning in adult education in Zhejiang Province, students' learning process presents diverse characteristics. First of all, from the perspective of learning attitude, most students show a positive learning attitude. They recognize the importance of lifelong learning and are willing to invest time and energy to improve themselves. The learning methods they adopt are also diverse. Some students learn by themselves through online courses, some

students participate in offline tutoring classes, and some students acquire knowledge through reading books, watching videos, etc.

In terms of learning habits, some students have formed good learning habits. They can arrange study time regularly and persist in learning, but some students do not have regular study time due to work, family and other reasons, and their learning habits need to be developed.

In terms of communication with teachers, most students are willing to communicate with teachers and seek help and guidance. They will ask teachers for advice in time when they encounter problems, and will seriously consider and try to improve when teachers make suggestions. However, some students have less communication with teachers because of shyness or other reasons.

In terms of students' initiative and self-discipline in the learning process, I found that most students have strong initiative and self-discipline. They will actively seek relevant help when they encounter something they don't understand, such as looking up materials, asking classmates or teachers. At the same time, they can also restrain themselves and persist in learning without pressure from others. But some students are weak in this regard and need more guidance and motivation.

In order to promote the learning process of sustainable development, I think we can start from the following aspects:

First, we must establish a positive learning concept. We should guide students to realize the importance of lifelong learning and let them understand that learning is a continuous process, not a temporary task.

Second, encourage students to actively participate in activities, lectures and forums organized by the school. These activities can not only broaden students' horizons, but also stimulate their interest and motivation in learning.

At the same time, it is also important to set clear learning goals. Students should set specific and feasible learning goals according to their actual situation and needs, and work hard for them.

In addition, communicating more with teachers and actively participating in classroom interactions are also effective ways to improve learning effect. Students should cherish the opportunity to communicate with teachers, actively participate in classroom discussions, and put forward their own views and questions.

Interaction between classmates is also very important. Students should communicate their learning experiences and experiences with their classmates, help and support each other, and make progress together.

In addition, finding a learning method that suits you and strengthening your learning time management ability are also the key to improving learning effect. Students should find the most suitable learning method for themselves according to their own learning characteristics and habits, and arrange their study time reasonably.

Finally, setting up student scholarships can motivate students' learning enthusiasm. By rewarding outstanding students, it can stimulate the learning motivation and competitive awareness of other students and form a good learning atmosphere.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Hello, Mr. Luo! Thank you very much for taking the time to accept our interview. This time we want to understand four aspects of the problem. The last question is to understand the learning effect of students in the context of sustainable development of lifelong learning in adult education in Zhejiang Province, and what strategies can promote the learning effect of sustainable development. Can you talk about the current situation from the aspects of improving problem-solving ability through learning, improving one's own professional and technical ability, improving one's own comprehensive quality ability, achieving predetermined learning goals, improving learning participation and initiative, and students' own satisfaction with learning effect?

Mr. Luo: Hello, I am very happy to discuss this topic with you.

In the practice of lifelong learning in adult education in Zhejiang Province, the learning effect of students is generally positive. Through learning, most students' problem-solving ability has been significantly improved. They can apply what they have learned to actual work and effectively cope with various challenges. In terms of professional and technical ability, students have mastered more practical skills through professional learning and improved their workplace competitiveness. At the same time, their comprehensive quality ability has also been comprehensively improved, including thinking ability, communication ability, teamwork ability, etc.

In terms of achieving the predetermined learning goals, most students can move forward step by step according to their own plans and finally achieve their goals. This is due to their clear learning goals and firm learning beliefs. In addition, students' learning participation and initiative are relatively high. They actively participate in class discussions, actively seek learning resources, and show a strong enthusiasm for learning.

However, some students are not satisfied with their learning results. This may be related to their learning methods, time management or self-discipline. Some students may not have found a learning method that suits them, resulting in low learning efficiency; some students may not be able to fully devote themselves to learning due to work, family and other reasons, which affects the learning effect.

In order to promote sustainable learning effects, I think we can start from the following aspects:

First, it is crucial to establish a scientific teaching quality evaluation system. We should conduct a comprehensive and objective evaluation of the teaching process and results, promptly discover and solve problems in teaching, and ensure that the teaching quality is steadily improved.

Secondly, it is also critical to formulate the skill standards that students should master. We should clarify the skills and ability levels that students should have after completing their studies, guide them to learn in a targeted manner, and improve the pertinence and effectiveness of learning.

At the same time, it is also necessary to conduct a learning satisfaction survey. We should regularly collect students' feedback on teaching, understand their learning needs and expectations, and provide important references for improving teaching.

In addition, it is also important to continue to pay attention to the all-round development of students. We should pay attention to the all-round development of students in terms of knowledge, skills, quality, etc., provide them with diversified learning opportunities and resources, and help them realize their personal values.

Finally, we can use Internet technology to establish a quality assessment platform to realize online monitoring and evaluation of teaching quality. This will help improve the efficiency and accuracy of the assessment and promote the sharing and optimal allocation of teaching resources.

Interviewer 10: Mr.Zhong, School of Continuing Education, Zhejiang Normal University

1.What are the current issues in curriculum design for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to promote sustainable curriculum design?

Interviewer: Hello, Teacher Zhong! Thank you very much for accepting our interview. This time I would like to ask you about four aspects. First, we will discuss in depth the current status, existing problems and promotion strategies of curriculum design for sustainable development of lifelong learning in adult education. Could you please talk about the current situation from the aspects of curriculum setting, curriculum structure, course schedule, the relationship

between course content and actual work needs, and the impact of course content on future personal lifelong learning?

Teacher Zhong: Hello, I am very happy to have this opportunity to communicate with you. The curriculum design of lifelong learning in adult education is indeed a topic worthy of in-depth discussion.

From the perspective of curriculum setting, we currently strive to fully cover various subject areas to meet the needs of different learners. However, in actual operation, we find that it is still difficult to fully meet the personalized needs of different learners. With the rapid development of society and the continuous updating of knowledge, new subject areas and knowledge points continue to emerge, which poses a higher challenge to our curriculum setting.

In terms of curriculum structure, we strive to balance the ratio of theoretical courses and practical courses to cultivate students' comprehensive qualities. But sometimes, due to limitations such as teaching resources and time arrangements, the development of practical courses is not as smooth as expected. The integration of theoretical courses and practical courses also needs to be improved to better promote the all-round development of students.

In terms of course schedule, we try to take into account the particularities of adult learners, such as work, family and other responsibilities, but sometimes it is difficult to avoid conflicts with students' personal plans. How to arrange the course schedule more flexibly to adapt to the rhythm of different learners is a problem we need to continue to explore.

In terms of the relationship between course content and actual work needs, we have been working hard to closely integrate course content with actual work. By cooperating with enterprises and inviting industry experts to teach, we strive to make the course content more practical and targeted. However, it is undeniable that due to the rapid and diverse development of the industry, it is still difficult to fully connect the course content with actual work.

As for the impact of course content on future personal lifelong learning, I think this is one of the core goals of course design. We hope to stimulate students' interest in learning and independent learning ability through rich and diverse course content, and lay a solid foundation for their future lifelong learning. However, how to ensure the cutting-edge and sustainability of course content to adapt to future social changes is a problem we need to keep thinking about.

In response to the above problems, I believe that the curriculum design strategy to promote the sustainable development of lifelong learning in adult education can start from the following aspects:

First, relevant policies for the sustainable development of adult education should be issued to provide clear guidance and support for curriculum design. Policies can guide the direction of curriculum design and ensure that it is consistent with the needs of social development.

Second, clarify the goal of cultivating talents for social needs. We must have a deep understanding of the society's needs for talents in various industries, and use this as a guide to design courses to ensure that the students trained can meet the actual needs of society.

It is also crucial to optimize professional talent training programs. We must formulate scientific and reasonable talent training programs based on the characteristics of the profession and the development trends of the industry to ensure the systematic and cutting-edge nature of the course content.

The practical needs of strengthening curriculum design should not be ignored. We must strengthen cooperation with enterprises, understand the actual needs of enterprises, integrate practical elements into curriculum design, and enhance students' practical ability and professional quality.

In addition, it is also essential to integrate the concept of lifelong learning into the curriculum. We must guide students to establish the concept

of lifelong learning and cultivate their self-study ability and motivation for continuous learning.

Finally, strengthening funding guarantees is an important part of ensuring the sustainable and healthy development of curriculum design. By providing sufficient financial support, we can ensure the smooth progress of all aspects of curriculum design, including research and development, implementation and evaluation, and provide a solid foundation for the continuous innovation and optimization of curriculum design, thereby promoting its sustainable development.

2.What are the issues related to the implementation of teaching for the sustainable development of lifelong learning in adult higher education in Zhejiang, and what strategies can be employed to promote sustainable teaching and learning implementation?

Interviewer: Teacher Zhong, the second question is to discuss in depth the problems and promotion strategies of the implementation of sustainable development teaching in lifelong learning in adult education. Could you please talk about the current situation from the aspects of satisfaction with the school's teaching organization and management, teachers' teaching ability (including practical experience and guidance skills), reasonable teaching methods, comprehensive quality of teachers, course assessment methods, interactive discussions of teachers in class, whether the teaching objectives are clear, and students' satisfaction with learning support and guidance?

Teacher Zhong: Hello, I am very happy to have this opportunity to communicate with you. Regarding the current situation of the implementation of sustainable development teaching in lifelong learning in adult education, there are indeed some issues worthy of attention and discussion.

Judging from the satisfaction with the school's teaching organization and management, although we are constantly optimizing the teaching process and management mechanism, some students and teachers are still dissatisfied with the efficiency and quality of teaching organization. This may be related to the

fact that our management system is not perfect enough and information communication is not smooth.

In terms of teachers' teaching ability, most of our teachers have a solid theoretical foundation, but they still need to improve their practical experience and guidance skills. Especially in adult education, students often come to study with problems in actual work, which puts higher demands on teachers' practical guidance ability.

In terms of teaching methods, although teachers are trying to use a variety of teaching methods to stimulate students' interest in learning, sometimes the selection and application of methods are not reasonable enough and it is difficult to fully meet students' learning needs.

In terms of comprehensive quality of teachers, we have always emphasized teachers' professional ethics and professional quality, but in actual teaching, some teachers still have deficiencies in teaching attitude and sense of responsibility.

In terms of course assessment methods, we are working hard to explore more scientific and reasonable assessment methods to comprehensively and objectively evaluate students' learning effect. However, at present, the assessment methods are still relatively single and it is difficult to fully reflect students' true abilities and levels.

In class, although teachers are working hard to create an atmosphere of interactive discussion, sometimes the interactive effect is not ideal due to low student participation or insufficient discussion topics.

In terms of teaching objectives, we have clearly put forward the goal of cultivating talents for social needs, but in actual teaching, sometimes the teaching objectives are out of touch with students' actual needs.

As for students' satisfaction with learning support and tutoring, although we are constantly improving the learning support system, some students still do not get timely and effective help when they encounter learning difficulties.

In response to the above problems, I think the strategies to promote the implementation of sustainable development teaching for lifelong learning in adult education can be started from the following aspects:

First, we should improve the teaching organization and management system, optimize the teaching process, and improve management efficiency and quality. At the same time, strengthen information communication to ensure that students and teachers can obtain the required teaching information in a timely manner.

Secondly, strengthen teacher training and improve teachers' practical experience and guidance skills. By organizing teachers to participate in corporate practice, teaching seminars and other activities, help teachers better understand industry trends and students' learning needs.

It is also very important to promote communication and cooperation among teachers. By organizing communication activities between teachers, sharing teaching experience and insights, and improving teachers' teaching level and innovation ability.

At the same time, we should pay attention to teachers' teacher ethics education and strengthen teachers' sense of responsibility and mission. By regularly carrying out teacher ethics and style construction activities, we can improve teachers' professional quality and moral level.

It is also necessary to improve the assessment and incentive mechanism of teachers. Through scientific and reasonable assessment and incentive mechanisms, we can stimulate teachers' work enthusiasm and creativity and improve teaching quality.

In addition, strengthening teachers' training in enterprises is also an important way to improve teachers' teaching ability. By allowing teachers to go deep into the front line of enterprises to understand industry dynamics and practical needs, we can help teachers better combine theoretical knowledge with practice.

Strengthening teachers' information technology capabilities is also an important trend in the current development of education. By training teachers to master modern educational technologies such as multimedia and the Internet, we can innovate teaching methods and improve teaching effectiveness.

3.How is the learning process for lifelong learning in adult higher education in Zhejiang,and what strategies can be implemented to advance the sustainable learning process?

Interviewer: Teacher Zhong, the third question is the current situation of the learning process of students in lifelong learning and sustainable development in adult education in Zhejiang Province, and how to promote the learning process strategy of sustainable development. Could you please talk about the current situation from the aspects of students' learning attitude, learning methods, learning habits, communication between students and teachers, and students' active help seeking and self-discipline in learning when they encounter difficulties in the learning process?

Teacher Zhong: Hello, I am very happy to discuss this topic with you. In adult education, students' learning process does show some unique characteristics.

From the perspective of learning attitude, most students show high learning enthusiasm and initiative. They are well aware of the importance of learning and have a strong desire for knowledge. However, some students have insufficient learning attitude and lack continuous learning motivation due to pressure from work and family.

In terms of learning methods, students have adopted a variety of methods. Some students tend to learn independently and acquire knowledge through online courses, self-study textbooks, etc.; some students prefer to participate in classroom discussions and deepen their understanding through communication with teachers and classmates. But overall, some students still have a certain degree of blindness in their learning methods, lacking systematicity and scientificity.

In terms of study habits, most students can arrange their time reasonably and persist in studying. However, some students have difficulty in implementing their study plans due to improper time management, resulting in poor learning results.

In terms of communication with teachers, most students are willing to actively communicate with teachers to seek help and guidance. However, some students are afraid to communicate with teachers due to shyness or inferiority complex, and miss many learning opportunities.

When students encounter something they don't understand during the learning process, most students will take the initiative to find relevant help, such as consulting materials, asking teachers or classmates. But some students will choose to give up or escape, which affects their learning results and progress.

In terms of learning self-discipline, most students can restrain themselves without pressure from others. They have clear learning goals and plans and can implement them consciously. However, some students lack self-discipline and need external supervision and motivation to maintain their learning state.

In view of the above situation, I believe that the learning process strategy for promoting sustainable development can start from the following aspects:

First, we must establish a positive learning concept. We must guide students to correctly understand the value and significance of learning and stimulate their interest and motivation in learning. Through publicity and education, role model leadership and other means, create a positive learning atmosphere.

Secondly, encourage students to actively participate in activities, lectures and forums organized by the school. These activities can not only broaden students' horizons, but also enhance their learning ability and comprehensive quality.

It is also very important to set clear learning goals. We should help students develop reasonable learning plans, clarify learning goals and time nodes, and guide them to study in an orderly manner.

At the same time, we should strengthen communication with teachers. Students should take the initiative to communicate with teachers to seek help and guidance; teachers should also pay attention to students' learning situation and give feedback and suggestions in time. Through classroom interaction, after-school tutoring and other methods, enhance the understanding and trust between teachers and students.

In addition, more interaction between classmates should be encouraged. Students can communicate and learn from each other through group discussions, cooperative learning and other methods, and improve together.

It is also essential to strengthen their own learning time management ability. Students should learn to arrange their time reasonably, balance the relationship between work, study and life, and ensure that they have enough time and energy to invest in learning.

Finally, the establishment of incentive mechanisms such as student scholarships is also an effective means to promote the sustainable development learning process. By rewarding outstanding students, stimulate their learning enthusiasm and creativity, and form a good learning style.

4.How are the learning effect for lifelong learning in adult higher education in Zhejiang, and what strategies can be implemented to enhance sustainable learning effect?

Interviewer: Teacher Zhong, the last question is about the learning effects of students in lifelong learning for sustainable development in adult education in Zhejiang Province, and how to promote the learning effect strategies for sustainable development. Could you please talk about the current status of students in learning to improve their problem-solving ability, professional and technical ability, comprehensive quality ability, achieving

predetermined learning goals, as well as learning participation and initiative, and satisfaction with their own learning effect?

Teacher Zhong: Hello, I am very happy to discuss these important topics with you. In adult education, we have observed that students have made certain progress in many aspects, but there are also some challenges.

In terms of improving problem-solving ability through learning, most students show strong practical awareness and application ability. They are able to apply what they have learned to actual work and solve some specific problems. However, there are also some students whose abilities in this regard need to be improved. They may focus more on memorizing theoretical knowledge and lack practical experience.

Improving their own professional and technical abilities after learning is an aspect that students generally pay attention to. We found that many students have significantly improved their professional and technical abilities after completing their studies, which helps them develop better in the workplace. But at the same time, some students also reflected that there was a certain disconnect between what they learned and the needs of the workplace, and it was necessary to further strengthen the combination of practice and theory.

In terms of improving comprehensive quality and ability, adult education provides students with a wide range of learning resources and platforms. Students have exercised their organizational and coordination skills, communication and cooperation skills, etc. by participating in various activities and projects. However, some students also said that due to limited time and energy, it is difficult to fully participate in all activities, and the improvement of comprehensive quality is affected to a certain extent.

Regarding the achievement of learning goals, most students can clarify their learning goals and work hard for them. However, some students have unclear goals or lack continuous motivation in the learning process, resulting in poor learning results.

In terms of learning participation and initiative, we observed that most students can actively participate in the learning process and actively seek learning opportunities. However, some students show a passive learning attitude and need external motivation and promotion to invest in learning.

Regarding the satisfaction of students' own learning effect, most students are satisfied or basically satisfied. They believe that through adult education, they have improved their knowledge, skills, quality, etc. However, some students are dissatisfied with their learning effect, believing that the content they have learned does not meet actual needs, or that the teaching methods are not flexible and diverse enough.

In view of these current situations, I think that the learning effect strategy to promote sustainable development can start from the following aspects:

First, it is crucial to establish a scientific teaching quality evaluation system. We must understand students' learning effects and teaching quality through regular teaching evaluation, find problems in time and make improvements.

Second, it is also important to formulate the skill standards that students should master. We must clarify the skills and abilities that students should have according to the needs of the workplace and the development needs of students, and ensure that the teaching content is closely integrated with the actual workplace.

It is also necessary to conduct a learning satisfaction survey. We must understand students' satisfaction and opinions and suggestions on teaching, management, services, etc. through surveys to provide a basis for improving teaching work.

At the same time, we must continue to pay attention to the comprehensive development of students. In addition to the cultivation of professional knowledge and skills, we must also pay attention to the development of students' physical and mental health, interpersonal

communication, innovative thinking, etc., and cultivate students' comprehensive qualities and abilities.

Finally, establishing a quality evaluation platform based on Internet technology is an innovative measure. We can use modern information technology to establish an online evaluation platform to facilitate students to conduct self-evaluation and mutual evaluation, and improve the accuracy and efficiency of evaluation.

In short, promoting the learning effect of sustainable development of lifelong learning in adult education in Zhejiang Province requires multi-faceted efforts and collaboration. I believe that through our joint efforts and continuous innovation, we will be able to provide adult learners with a better and more efficient learning experience, helping them achieve greater success in their careers and lives.

Interviewer: Thank you for your interview.

Appendix E

Certificate of English

BS RU BANSOMDEJCHAOPRAYA RAJABHAT UNIVERSITY
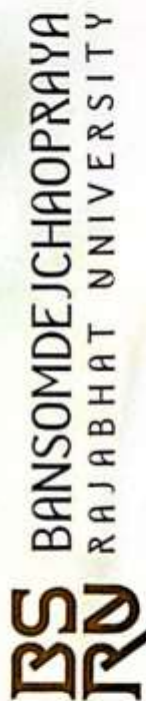
This is to certify that

Mr.Xu Zhongyan

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C1

Given on 3rd November 2023

(Assistant Professor Dr Kulsirin Aphiratvoradej)

Director

Appendix F

The Document for Acceptance Research

The Editorial Board of Higher Education Studies
Canadian Center of Science and Education
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April 1, 2025

Dear Xu Zhongyan,

Thanks for your submission to *Higher Education Studies*.

We have the pleasure to inform you that your manuscript has been accepted for publication. It will be published in the issue of Vol. 15, No. 2, in June 2025.

Title: Strategies for Promoting of lifelong learning in Adult Higher Education in ZheJing Province

Authors: Xu Zhongyan, Sunate Thaveethavornsawat, Touchakorn Suwancharas & Areeya Juijumlong

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

Sincerely,

Sherry Lin

CANADIAN CENTER OF SCIENCE AND EDUCATION

On behalf of,
The Editorial Board of *Higher Education Studies*
Canadian Center of Science and Education

Higher Education Studies

Vol. 15, No. 2 June 2025

HIGHER EDUCATION STUDIES

An International Peer-reviewed and Open Access Journal for Higher Education

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CONTENTS

Strategies for Promoting of lifelong learning in Adult Higher Education in ZheJing Province

Xu Zhongyan[1], Sunate Thaveethavornsawat[1], Touchakorn Suwancharas[1] & Areeya Juijumlong[1]

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Abstract

The objectives of this research were 1) to explore the current situation of sustainable development for lifelong learning of adult higher education in Zhejiang Province and 2) to propose strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province and 3) evaluating the effectiveness of the strategy for sustainable development of lifelong learning of adult higher education in Zhejiang Province. The sample group of this study consisted of 384 students and 10 interview experts.10 focus group discussion experts and 5 strategy assessment experts. The research tools included 1) questionnaires; 2) interviews;and 3) strategies; and 4) assessment forms. Statistical methods used to analyze the data included percentage, mean, standard deviation, modified Priority Needs Index (PNImodified) and content analysis. The reasearch instruments included 1) questionnaires; 2) interviews; and 3) strategies, and 4) evaluation form. The statistics to analyze the data were percentages. mean, stand deviations, Modified Prionrity Needs Index; (PNImodified) and content analysis strategies for promoting lifelong learning in adult education in Zhejiang Province, including 4 strategies, build institutional measures, including 6 strategies, improve the mangement system, including 8 strategies, enhance learning motivation, including 7 strategies, and evaluate education quality, inculding 5 strategies.

Keywords: strategies developing, lifelong learning, sustainable development, adult higher education

1. Introduction

1.1 Introduce the Problem

Adult academic continuing education is a component of China's education system, serving as a supplement to full-time education. It primarily targets adults who seek to enhance their academic qualifications after entering the workforce, in order to improve their professional and work-related skills. In line with China's proposal to coordinate the collaborative innovation of vocational education, higher education, and continuing education, and to build a lifelong learning society and a learning-oriented society, adult higher education in China holds great promise (Zhang, 2019).

The aspirations of adult learners for development are significant. With the profound transformations in various sectors of China's economy and society, as well as the adjustments to the industrial structure and reforms to the employment system, higher requirements have been placed on adults' knowledge structure and ability levels. This growing demand underscores the urgency of lifelong learning among adult learners. In this context, adult learners hope to genuinely enhance their knowledge and skills through academic continuing education provided by regular universities, thereby promoting their overall development. According to the statistical bulletins on the development of China's education cause released by the Ministry of Education over the past three years, the number of enrollments in adult higher education was 3.7858 million in 2021, with 8.3265 million students enrolled and 2.7795 million graduates. In 2022, the number of enrollments rose to 4.4002 million, with 9.3365 million students enrolled and 3.3007 million graduates. In 2023, the number of enrollments reached 4.4594 million, with 10.0823 million students enrolled and 3.7858 million graduates. The numbers continue to grow, indicating a strong demand for learning among adult learners (Statistical Bulletins on the Development of China's Education Cause for 2021, 2022, and 2023). To meet the development aspirations of adult learners and promote their comprehensive development, institutions providing adult higher education should comprehensively understand and analyze the learning situation of adult learners. Based on this analysis, targeted

improvement measures should be taken to genuinely orient education towards meeting the needs of adult learners, with a focus on enhancing professional competencies. By improving the quality of education, these institutions can better contribute to promoting social development (Li, 2022).

The need for quality development in adult academic continuing education in regular universities. Throughout the over 60-year history of academic continuing education in China's regular universities, beginning with the pioneering of correspondence education by Renmin University of China in 1953, the field has grown from scratch, gradually expanding in scale and cultivating a large number of high-quality talents and workers, making significant contributions to China's economic and social construction and development. While the expansion of scale has achieved the popularization of higher education and accelerated the development process, it has also brought about issues of declining quality. he emphasis on expanding scale rather than improving quality, and outward growth rather than internal development, has significantly impacted the stability and long-term viability of academic continuing education in regular universities. This has led to a series of problems, such as a decline in the quality of students due to lower admission thresholds, a shortage of teachers and insufficient professional levels, unreasonable discipline and program settings, inadequate software and hardware facilities to meet teaching needs, and an overemphasis on teachers' "teaching" while neglecting students' "learning".

Under such circumstances, the learning situation of adult learners is not optimistic, mainly manifested in prominent contradictions between work and study, low attendance rates, inappropriate learning methods, poor classroom learning effects, serious utilitarian attitudes, and low learning efficiency. The decline in educational quality and Learning Effect has seriously affected the social reputation of higher academic continuing education. Therefore, the focus of academic continuing education in regular universities should shift from teachers' "teaching" to adult learners' "learning" (Zhang, 2019).

The Importance of Building a Learning Society for Lifelong Learning. Lifelong learning is no longer merely a stage within the educational system, but rather a continuous cognitive process and an inevitable choice for adapting to the transformations of modern society. The impact of lifelong learning on personal sense of achievement is profound. Lifelong learning is not just a means to acquire new knowledge and skills, but a crucial factor in personal sense of achievement and self-realization. In the process of learning, individuals continuously gain new knowledge, skills, and experiences, and this sense of growth and progress injects motivation and confidence into them. Every learning experience is a challenge, and the process of overcoming difficulties and making progress allows individuals to feel the unleashing of their own potential, enhancing their self-esteem and self-confidence. Lifelong learning also provides individuals with opportunities for continuous development. In modern society, where skills and knowledge are updated at a rapid pace, individuals who possess the ability to learn continuously are more likely to adapt to new workplace demands, improve their competitiveness, and achieve career advancement. As personal skills continue to improve, their sense of satisfaction and achievement in the workplace also increases. Furthermore, lifelong learning encourages individuals to seek knowledge in multiple fields, enriching the content of their lives. Learning is not limited to the workplace, but also encompasses various aspects such as culture, art, and health. Through learning, individuals can broaden their horizons, cultivate hobbies and interests, improve their quality of life, and enhance their sense of life satisfaction and happiness. Therefore, lifelong learning is not only an inevitable choice for personal development, but also a key pathway to enhancing personal sense of achievement and quality of life. In the process of building a learning society, individuals achieve comprehensive development through continuous learning, and also make positive contributions to social progress and prosperity.

The researcher is interested in the problem of lifelong learning for adult higher education. It meets the growing learning needs of adult learners as a result of social change and provides an important avenue for their professional development and personal growth. At the same time, as a supplement to full-time education, adult higher education plays a key role in promoting social progress and the all-round development of human beings. General colleges and universities have improved the quality of training by clarifying their development orientation and focusing on connotation building to meet the challenges of the new era. In addition, paying attention to the learning of adult learners and adopting targted measures will help improve their vocational ability and meet their development needs. Improving the quality of adult higher continuing education in general colleges and universities and solving the existing problems can enhance the quality of education and the effectiveness of learning. Therefore, strategies can be formulated for the sustainable development of lifelong learning of adult higher education and promotes the all-round development of the individual and contributes to the progress and prosperity of society in Zhejiang Province.

1.2 Research Questions

1. What is the current situation and expectations of adult higher education in Zhejiang Province?

2. What strategies can be formulated for the sustainable development of lifelong learning of adult higher education in Zhejiang Province?

3. What were the level of adaptability and feasibility of the strategy for the sustainable development of lifelong learning of adult higher education in Zhejiang Province?

1.3 Objectives

1. To investigate the current situation and expected trend of sustainable development of lifelong learning in adult higher education in Zhejiang Province;

2. To develop strategies for the sustainable development of lifelong learning of adult higher education in Zhejiang Province;

3. To evaluate the adaptability and feasibility of the strategies sustainable development for lifelong learning of adult higher education in Zhejiang Province.

1.4 Literature Review

Concept and Theory of Lifelong Learning

The researcher has analyzed relevant documents, concepts, theories, and research findings related to adult higher academic education.

Candy (1991) argues that lifelong learning encompasses formal education (such as vocational training, continuing education), informal education (such as seminars, community education), and self-study. The core elements include autonomy, continuity, and diversity, which run throughout an individual's life and promote comprehensive development. Various forms of learning collectively constitute the rich connotation of lifelong learning.

Tough (1979) points out that lifelong learning is driven by technological advances, changes in occupational demands, and personal development needs. Technological progress makes learning more convenient, and emerging technologies such as AI and big data enrich learning methods. Changes in occupational demands require continuous updating of skills, while personal development needs motivate self-improvement. These factors intertwine and jointly promote the popularization and development of lifelong learning.

Field (2006) notes that education policies and planning provide institutional support for lifelong learning. Effective strategies include formulating clear policies, setting long-term goals, providing financial support to reduce the cost of learning, and establishing cooperation mechanisms among governments, educational institutions, and enterprises to integrate resources. These measures collectively promote the widespread implementation of lifelong learning.

Merriam & Bierema (2014) emphasize the importance of the diversity of learning resources and environmental optimization for lifelong learning. Strategies include providing rich learning resources such as online courses and video tutorials, optimizing the learning environment such as modern learning centers, and providing personalized learning support such as tutoring and feedback. These measures meet the needs of learners, enhance the learning experience, and promote the implementation of lifelong learning.

"China's National Medium- and Long-Term Education Reform and Development Plan Outline (2010-2020)" proposes to establish a lifelong education system covering all age groups by 2020, including basic education, vocational education, continuing education, and adult education. The goal is to promote universal and systematic learning, providing multi-level and multi-form opportunities to adapt to social and economic development. Specific measures include improving policies and regulations, balancing resource allocation, supporting continuing education and vocational training, promoting technology application and innovation, and establishing evaluation and incentive mechanisms. During implementation, a monitoring and evaluation mechanism will be established to ensure that the lifelong education system adapts to changes in demand. Higher education institutions: Many universities have established continuing education colleges and adult education centers, offering various non-degree education courses and vocational training. For example, Zhang Wei (2018) mentions that the continuing education colleges of Peking University and Tsinghua University provide diversified training programs for adults, such as MBA courses and professional certification training.

Concept of Sustainable Development

In 1987, the report "Our Common Future" first introduced the concept of "sustainable development,"

emphasizing the need to meet the needs of the present generation without compromising the ability of future generations. UNESCO defines Education for Sustainable Development (ESD) as enabling individuals to make decisions and take actions that improve environmental, economic, and social well-being while respecting cultural diversity. Its core objectives include: raising awareness about the importance of sustainable development, fostering an understanding of global challenges; helping learners acquire the necessary knowledge, skills, attitudes, and values; and encouraging and guiding individuals and communities to take practical actions to achieve sustainable development goals.

Jickling & Wals (2008) point out the theoretical foundation of Education for Sustainable Development in constructivist learning theory: Piaget's and Vygotsky's constructivist theories are widely applied in ESD. ESD emphasizes learners' active construction of knowledge, collaborative learning, and reflective practice to promote the internalization of sustainable development concepts.

Mogren et al. (2019) discuss the interdisciplinary teaching practice model of Education for Sustainable Development: As sustainable development issues span multiple domains, many schools and universities have started promoting interdisciplinary teaching. For example, environmental science, economics, and sociology are integrated to jointly explore issues such as resource management, climate change, and social equity.

Sun (2020) highlights the challenges faced by sustainable development in adult academic education. Significant regional and socio-economic disparities exist: In economically developed areas, adult academic education is relatively mature, while in rural and underdeveloped areas, educational resources are insufficient, and learning opportunities are limited. Such imbalances have widened the gap in educational attainment between urban and rural areas, as well as between different regions, affecting educational equity.

Zhu Min (2023) notes that promoting Education for Sustainable Development is a crucial task for current education in China. The "National Medium- and Long-Term Education Reform and Development Plan Outline (2010-2020)" explicitly states the importance of conducting Education for Sustainable Development.

Li Yang & Wang Jie (2021) believe that the sustainable development of adult academic education institutions typically refers to the overall level of educational services provided by these institutions, including the quality of teaching content, teaching methods, faculty, learning resources, student support services, and other aspects. The quality of education directly impacts educational outcomes and learner satisfaction. High-quality adult academic education should meet learners' educational needs and help them effectively enhance their professional and academic skills.

The Concept of Adult Higher Education

Wang (2019) emphasizes the flexibility of adult higher education, allowing learners to study amidst the gaps in their work and life, catering to the time arrangements and needs of different adult learners. Chen (2018) further points out that this embodies the concept of lifelong learning, encouraging adults to continuously update their knowledge and enhance their skills.

Li & Wang (2021) propose that adult higher education is career-oriented, with courses closely related to career development, aimed at improving vocational skills and competitiveness. Liu (2020) adds that its primary goal is to enhance the overall quality of adults, including academic literacy and professional ability, promoting their comprehensive development.

However, the development of adult higher education in China also faces challenges. Wang & Liu (2019) point out the imbalance of educational resources, particularly in remote areas. Zhang (2020) believes that there is still a gap in social recognition compared to full-time education. Li & Wang (2021) mention that adult learners' motivation and self-management abilities significantly impact Learning Effect, but challenges exist in practical operation.

Looking ahead, Wang & Chen (2022) predict that adult higher education will further develop with technological innovation and policy support, becoming more personalized and intelligent. National policies will continue to drive its development, promoting educational equity and optimizing resource allocation.

Looking back at history, Xin Shujie (2018) notes that early adult education broadly referred to all types of education provided for adults. In 1987, the "Decision of the State Education Commission on the Reform and Development of Adult Education" clarified the target audience, purpose, and tasks of adult education, emphasizing the improvement of workers' quality to directly enhance economic benefits and work efficiency. Adult education encompasses various aspects such as job training, basic education, cultural and professional education, continuing education, and social, cultural, and life education.

The Concept of Sustainable Development in China's Adult Academic Education

Institutional Guarantees

Li Hua (2017): Policy and Institutional Innovation: Improve and innovate policies and systems related to lifelong learning to address issues of unequal educational resources and insufficient learning opportunities. The government can promote the widespread implementation of lifelong learning by formulating more supportive policies and providing funding.

Yang Lijun & Zhang Liang (2015): To meet the requirements of training objectives, higher academic continuing education must accurately grasp the characteristics of adult students, cater to industry and job demands, and advance curriculum system and teaching content reforms based on the principle of applying what is learned and integrating learning with practice. Efforts should be made to cultivate the job performance ability, learning ability, and innovation ability of on-the-job personnel, promoting the integration of continuing education and vocational education.

Li Yang & Wang Jie (2021): National policies will continue to support the development of adult academic education and promote the standardization of educational quality. Policy support helps improve the efficiency of educational resource allocation and promotes educational equity.

Brookfield (1986): The depth and breadth of curriculum content are equally crucial in adult academic education, encompassing sufficient theoretical foundations while possessing profound practicality and applicability. Depth of content: Research shows that adult learners expect learning content to meet their higher cognitive levels and actual needs. Therefore, curriculum design needs to balance the difficulty of the content with learners' practical experience. Adult learners often have rich background knowledge in certain fields, and the curriculum should not just repeat basic knowledge but provide in-depth exploration.

Li Xiao & Zhang Hua (2020): Teaching content and curriculum design are also important factors affecting educational quality. The curriculum design of adult academic education needs to align with actual demands, emphasizing practicality and cutting-edge relevance. Curriculum content should be combined with industry development trends and vocational skill requirements to ensure learners can achieve tangible career advancement.

Li Yang & Wang Jie (2021): Attention should also be paid to the degree of matching between the curriculum content of adult academic education and market demand. Some courses may not keep pace with industry development, resulting in a disconnect between teaching content and actual needs.

Management System

Wang Xin & Liu Jie (2019): Teacher quality is one of the core factors affecting educational quality. High-quality teachers not only possess rich professional knowledge but also should have good teaching abilities and communication skills. Teachers' academic qualifications, teaching experience, research capabilities, and understanding and adaptability to adult education all directly impact educational quality.

Chen Yong (2018): The richness of learning resources and the modernization level of teaching facilities also have a significant impact on educational quality, including the quality of textbooks, the functions of online learning platforms, and the availability of learning tools. Modern teaching facilities and resources can improve Learning Effect and enhance learners' learning experiences.

Liu San (2020): The internationalization and cooperation of adult academic education are also future development directions. By introducing internationally advanced educational concepts and teaching modes, educational quality can be further improved.

Wang Li & Chen Hao (2022): Technological innovation will have a positive impact on the educational quality of adult academic education. Big data, artificial intelligence, and other technologies can help educational institutions better understand student needs and provide personalized learning support.

Learning Motivation

Qin Weiwei (2006): Further rectify the learning motivation of adult learners and guide it towards higher-level development. As the core factor of non-intellectual factors, learning motivation directly affects the exertion of other non-intellectual factors. Therefore, adult learning attitudes and motivation are the most critical issues in the cultivation of non-intellectual factors in adults. Adult educators should attach great importance to adult learning motivation, attitudes, and methods in specific educational and teaching practices, so that adults can maintain appropriate learning motivation during the learning process and successfully achieve learning goals.

Candy (1991): Applied it to research on lifelong learning. This theory focuses on learners' intrinsic and extrinsic motivation, mainly including the following aspects: Intrinsic motivation refers to the learning drive generated by interest and satisfaction in the learning content itself. Learners actively learn due to curiosity and enthusiasm for a certain topic or skill.

Deci & Ryan (1985): Personal motivation and self-management abilities are crucial for the success of lifelong learning.

Wang Qiang (2018): Learning motivation and participation are important issues faced by lifelong learning among adult learners. Many people find it difficult to persist in learning due to work pressure, family responsibilities, and other reasons. Additionally, the awareness of lifelong learning is still not strong in some populations.

Chen Xiaoming & Zhang Hua (2020): Enhance learning motivation and engagement by increasing publicity for lifelong learning, establishing incentive mechanisms, and providing personalized learning support. Learning motivation can be enhanced through reward mechanisms, learning certification, and other means.

Li Yang & Wang Jie (2021): Emphasize that student support services include academic guidance, career counseling, learning support, and psychological counseling. High-quality support services can help students better overcome difficulties in learning and improve their learning enthusiasm and success rates.

Quality Evaluation

Wang Li (2019) believes that teaching evaluation is an important method for assessing the quality of educational provision. This includes student course feedback, exam results, and evaluations of teaching quality. Through regular teaching evaluations, issues in teaching can be promptly identified and addressed, thereby improving teaching quality.

Zhang Min (2020) points out that student satisfaction is one of the key indicators for measuring the quality of educational provision. By collecting feedback from students through questionnaires, interviews, and other means on aspects such as teaching content, teaching methods, faculty strength, and learning environment, the quality of educational provision can be assessed.

Liu San (2020) argues that the quality of adult academic education can also be evaluated through student employment rates and career development. High-quality adult education should effectively enhance students' employability and career development opportunities.

2. Methods

2.1 Definition

The term "adult academic education" mentioned in this paper refers to students who are admitted to higher education institutions through China's National Adult Higher Education Entrance Examination. This education is primarily aimed at adults seeking to enhance their academic qualifications after entering the workforce, with the goal of improving their professional skills and overall quality to meet job requirements.

2.2 Research Framework

The theoretical foundations of adult academic education provide a framework for formulating educational strategies. Knowles' (1980) theory of adult learning (Andragogy) emphasizes the autonomy of adult learners and the utilization of their experiences. Mezirow's (1991) theory of transformative learning proposes that adult learning involves not only the accumulation of knowledge but also a shift in thinking patterns. These theories offer theoretical support for developing learner-centered educational strategies.

Educational strategies for adult academic education can be classified from multiple dimensions, including teaching methods, curriculum design, and evaluation mechanisms. Garrison & Vaughan (2008) suggest that adult education should adopt flexible teaching methods to accommodate the needs of adult learners. For example, combining online learning with face-to-face classroom instruction can effectively enhance learner engagement. Additionally, Kolb (1984) highlights that case-based teaching and project-oriented learning are also considered effective strategies for improving the effectiveness of adult learning.

Based on the fundamental theories of adult academic education, a survey questionnaire has been designed to explore the current situation and expectations regarding the sustainable development of curriculum design, Teaching and Learning Implementation, learning process, and Learning Effect in adult academic education. The questionnaire consists of a total of 27 questions, including 5 questions on curriculum design, 8 questions on Teaching and Learning Implementation, 6 questions on the learning process, and 8 questions on learning effect.

Stage 1: Obj.1: To study the current situation of the sustainable development of lifelong learning in adult education in Zhejiang Province.	1.Sample Group 384 students 2.Research Instruments Questionnaire 3.Data Collection Through We-chat, Internet, mail, researchers 4.Data Analysis Mean, S.D	Result: As a result of the questionnaire survey, the following issues were identified
Stage 2: Obj.2 : Developing a strategy for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.	1.Sample Group 10 key informants 2.Research Instruments Structure interview and focus group discussions 3.Data Collection Email or other means 4.Data Analysis Content Analysis	Result: After the structured interviews, sustainable development strategies were summarised and sorted out.
Stage 3: Obj.3 Evaluating the feasibility of lifelong learning sustainable development strategies for adult higher education in Zhejiang Province.	1.Sample Group, 5 experts 2.Research Instruments Evaluation Form 3.Data Collection Requirement letter 4.Data Analysis Mean, S.D.	Result: A thorough evaluation of the strategy is conducted.

During the interviews, I mainly designed the following questions:

1) What is the current situation regarding curriculum design for sustainable development in lifelong learning in adult higher education in Zhejiang Province? And what strategies can be adopted to promote sustainable curriculum design?

2) What is your perspective on the issues related to Teaching and Learning Implementation for sustainable development in lifelong learning in adult higher education in Zhejiang Province? And what strategies can be implemented to promote sustainable teaching practices?

3) How is the learning process of students in terms of sustainable development in lifelong learning in adult higher education in Zhejiang Province? And what strategies can be adopted to advance sustainable learning processes?

4) What is the learning outcome of students in terms of sustainable development in lifelong learning in adult higher education in Zhejiang Province? And what strategies can be implemented to enhance sustainable Learning Effect?

This study employs SWOT, TOWS, and PEST analysis methods. SWOT is a method that can relatively objectively and accurately analyze and examine the actual situation of an organization. The origins of SWOT analysis can be traced back to the 1960s, when a team led by Professor Albert S. Humphrey from Harvard Business School conducted a research project called the "Long Range Planning Project" at SRI International. TOWS analysis is a situational analysis method that systematically identifies and evaluates the internal strengths and weaknesses, as well as the external opportunities and threats, of a company or project, helping it formulate appropriate development strategies. Unlike SWOT analysis (which analyzes internal factors first, followed by external factors), TOWS analysis prioritizes external opportunities and threats before considering internal strengths and weaknesses. This order aligns more closely with the actual decision-making process, as people tend to consider the market environment first when formulating strategies and then make decisions based on their own conditions. PEST analysis is a strategic analysis tool used to assess the external macro-environment of a company. By analyzing factors in the political, economic, sociocultural, and technological domains, it helps companies understand the trends in the external environment and provides an important basis for formulating development strategies. This study utilizes SWOT, TOWS, and PEST analyses to explore the sustainable development strategies of adult higher education in Zhejiang Province.

2.3 Research Design

A survey was conducted to investigate the current status and expectations of 384 students from five universities in Zhejiang Province regarding the sustainable development of lifelong learning in adult higher education. For the interpretation criteria of the mean value classification, the researcher used the measurement criteria based on

the concept of John W. Best (1997: 190). Means were categorised into levels of 1.00-1.49, 1.50-2.49, 2.50-3.49, 3.50-4.49, 4.5-5.00. levels of 1.00-1.49. Meanwhile, 10 teachers and educational management experts from the same five universities were also contacted to participate in one-on-one online interviews. Through the current status survey questionnaire and interviews, we aimed to understand the existing strengths and weaknesses. By utilizing SWOT, TOWS in conjunction with PEST analysis, we were able to identify the opportunities and threats present and propose improvement strategies. Finally, the proposed strategies were discussed through focus groups.

2.4 Data Analysis

This study employs a combined quantitative and qualitative data analysis approach to comprehensively assess the sustainable development of lifelong learning in adult higher education in Zhejiang Province. Quantitative data from the questionnaire survey were analyzed using descriptive statistics (including means and standard deviations) to examine the current and expected states. The Priority Needs Index (PNI) was utilized to quantify the gap between the current and expected states, identifying areas in need of improvement. For the qualitative data, content analysis was conducted on the responses from the structured interviews with 10 experts. The interviews focused on the same four dimensions, aiming to uncover key themes and actionable strategies. To ensure accuracy and validity, the results of the quantitative and qualitative analyses were integrated. This approach enables the study to formulate evidence-based strategies to enhance the sustainable development of adult higher education.

3. Results

This study conducted a comprehensive analysis of the current status and expected level of sustainable development of lifelong learning in adult higher education in Zhejiang Province. The research findings include: (1) the current status and expectations of various elements related to the sustainable development of adult academic education; (2) priority needs analysis using the Priority Needs Index (PNI) improvement index; and (3) strategies derived from SWOT and PEST analyses.

3.1 Data Analysis

A total of 384 valid questionnaires were received for this survey on the current and expected situations. Among the respondents, there were 170 males (44.3%) and 214 females (55.7%). There were 207 first-year students (53.9%) and 177 second-year students (46.1%). In terms of student classification, 204 were from liberal arts (53.1%) and 180 were from science majors (46.9%). Regarding employment status, 359 were employed (93.5%) and 25 were seeking employment (6.5%). The distribution of the survey population in terms of demographics, discipline classification, and employment status was even.

After conducting a survey on the current status of sustainable development of lifelong learning in adult higher education in Zhejiang Province, the data revealed that, on average, respondents rated the sustainable development of lifelong learning in Zhejiang's adult higher education as being at a moderate level (x=3.26, S.D.=0.94) across four key dimensions. All dimensions scored moderately, with the average scores from highest to lowest being: Teaching and Learning Implementation (x=3.32, S.D.=0.93), Learning Effect (x=3.31, S.D.=0.94), Curriculum Design (x=3.23, S.D.=0.97), and Learning Process (x=3.18, S.D.=0.90).

The surveyed students' expectations for the sustainable development of lifelong learning in Zhejiang's adult higher education were generally at a high level (x=4.13, S.D.=0.90). The average levels from highest to lowest were: Teaching and Learning Implementation (x=4.23, S.D.=0.91), Learning Effect (x=4.18, S.D.=0.88), Curriculum Design (x=4.10, S.D.=0.89), and Learning Process (x=4.01, S.D.=0.93). Currently, there exists a notable gap between the current status and the expected situation of sustainable development of lifelong learning in Zhejiang's adult higher education. This indicates that further development is still needed in the area of adult higher academic education. This is evident from the overall PNI value (PNI=0.22), with the scores from highest to lowest being: Teaching and Learning Implementation (PNI=0.230), Learning Effect (PNI=0.219), Learning Process (PNI=0.217), and Curriculum Design (PNI=0.214). This underscores the need for improvements in all four dimensions for the development of adult higher academic education.

The SWOT analysis of the sustainable development of lifelong learning in adult higher education in Zhejiang Province reveals strengths in Curriculum Design and Learning Process, which align with current expectations. However, weaknesses lie in Teaching and Learning Implementation and Learning Effect, requiring attention to effectively cultivate sustainable talent development quality. Opportunities exist in strengthening Teaching and Learning Implementation and enhancing Learning Effect. Meanwhile, threats include addressing issues arising from the current Teaching and Learning Implementation process and improving Learning Effectiveness. To

address these issues, it is crucial to Establish institutional safeguards, Enhance the management system, enhance learning motivation, and Reinforce quality assessment for the sustainable development of lifelong learning in adult higher education in Zhejiang Province.

Table 1. SWOT analysis results

S	W
S1 Providing institutional safeguards and introducing policies for the sustainable development of adult qualification education	W1 Improvement of management system
S2 Clarifying the goal of cultivating human resources that are in demand by society	W2 Further enhancement of teachers' pedagogical skills through training and development programs
S3 Strengthening the match between course content and actual needs	W3 Sound teaching organization and management system
S4 Enhancement of student satisfaction with the curriculum by maintaining a rational schedule and curriculum of courses	W4 Focusing on teachers' moral education
S5 Utilize outside resources and learning activities to enhance study habits	W5 Enhance classroom interaction, thereby increasing student engagement and satisfaction with the program
S6 Improved motivation to learn and increased self-discipline can be better utilized to your advantage	W6 Strengthening teachers' information technology skills
S7 Integration of lifelong learning in the curriculum	W7 Improving the assessment and incentive mechanism for teachers
S8 Strengthen your own concept of time management for learning	W8 Promoting teacher exchange and cooperation
S9 Strengthening financial security	W9 Setting standards for skills that students should master
O	T
O1 Optimization of professional talent training programs	T1 Enhancement of course content that contributes to future individual lifelong learning
O2 Enhancement of practical courses and teaching sessions	T2 Improve the course assessment methods to make them more reasonable and avoid the negative impacts caused by unreasonable assessment methods.
O3 Improvement of teachers' pedagogical skills through systematic training and coaching	T3 Proper study methods can help cope with study fatigue
O4 Improvement of study habits	T4 Establishment of a scientific teaching quality assessment system
O5 Solve problems by asking more questions of teachers and classmates and using online resources.	T5 Conducting a survey on learning satisfaction
O6 Establishment of a quality assessment platform using Internet technology	T6 Continuous attention to the overall development of students
O7 Establishment of student scholarships	

PEST analysis provides external factors that influence strategic planning:

1) Political aspect: Policy support. The government has introduced a series of policies to promote the development of adult academic education, such as providing tuition fee reductions, scholarships, and other incentive measures, creating a favorable policy environment for adult academic education. The improvement of education laws and regulations provides legal safeguards for adult academic education, promoting education equity and quality enhancement. Policy changes, such as reductions in enrollment majors and stricter document reviews, impose higher requirements on adult academic education but also prompt educational institutions to continuously improve teaching quality and service levels.

2) Economic aspect: Economic development. With the sustained economic development and industrial structure adjustment, the demand for high-quality talents in society continues to increase, providing a broad market space for adult academic education. The improvement of residents' income levels enables more people to afford the costs of adult academic education, promoting the prosperity of the education market. Economic pressure: Adult academic education often comes with higher tuition fees and living costs, posing a certain pressure on students with poorer economic conditions. Improving teachers' salaries is necessary. Economic fluctuations may affect students' employment and income, thereby affecting their ability and willingness to continue learning.

3) Social aspect: Social demand. The importance of lifelong learning is increasingly recognized by society, and adult academic education, as an integral part of the lifelong learning system, has received more and more attention and recognition. Employers continuously raise their requirements for employees' educational background and skills, prompting more people to choose to participate in adult academic education to enhance

their competitiveness. Social perceptions: Traditional beliefs consider adult education as a "second-tier degree," which to some extent affects the social recognition of adult academic education. Society's expectations for adult academic education continue to rise, requiring schools to provide higher-quality teaching and services.

4)Technological aspect: Technological progress. The rapid development of technologies such as the internet, big data, and artificial intelligence provides richer and more convenient teaching means and resources for adult academic education. The rise of online education platforms allows students to receive education anytime and anywhere, improving learning flexibility and efficiency. Technology application: Educational institutions should fully utilize modern technological means to innovate teaching methods and approaches, enhancing teaching effectiveness and student satisfaction. At the same time, attention should be paid to the challenges brought by technological updates, such as network security and data privacy issues.

3.2 Deriving Strategies

Through focus groups, strategies for promoting the sustainable development of lifelong learning in adult higher education in Zhejiang Province were discussed. Ten experts from five universities participated in the discussion. The experts' task was to review the initial draft of the strategies, assess their necessity, and provide improvement suggestions. The discussion framework covered four dimensions: providing institutional guarantees, improving the management system, enhancing learning motivation, and strengthening quality assessment, with a total of 26 initiatives. Key findings: All ten experts affirmed the necessity of the proposed strategies, with the average score for each strategy exceeding 90%.

Table 2. List of Strategies

NO	Aspects of Strategies	Numbers of Measures
1	Establish institutional safeguards	6
2	Enhance the management system	8
3	Enhance learning motivation	7
4	Reinforce quality assessment	5

Table 3. Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Establish institutional safeguards	1. Introduce policies for the sustainable development of adult education.
	2. Define talent development goals aligned with societal needs.
	3. Optimize professional talent development plans.
	4. Strengthen the practical requirements of curriculum design.
	5. Integrate the concept of lifelong learning into the curriculum.
	6. Strengthening financial guarantees

Table 3. Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Enhance the management system	1. Establish a robust teaching organization and management system.
	2. Enhance teacher training.
	3. Promote teacher exchanges and cooperation.
	4. Focus on teacher ethics education.
	5. Enhance the teacher evaluation and incentive system.
	6. Strengthen teacher training through experience in enterprises.
	7. Enhance teachers' information technology skills.
	8. Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.

Table 4. Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Enhance learning motivation	1. Developing the concept of lifelong learning
	2. Actively participate in school-organized activities, lectures, and forums.
	3. Set clear learning goals.
	4. Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom
	5. Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves
	6. Create a detailed study plan and use time management tools to strengthen your study time management skills.
	7. Establish student scholarships.

Table 5. Strategies for Improving Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province

Strategies	Measures
Reinforce quality assessment	1. Establish a scientific teaching quality assessment system.
	2. Develop standards for the skills that students should master.
	3. Conduct a learning satisfaction survey.
	4. Continuously focus on the overall development of students.
	5. Establish a quality assessment platform using internet technology.

3.3 Strategy Evaluation

Results of Feasibility and Adaptability Evaluation for the Sustainable Development Strategies of Lifelong Learning in Adult Higher Education in Zhejiang Province

The data presented in the table are derived from expert evaluations, aiming to assess the feasibility and adaptability of the strategies proposed to promote the sustainable development of lifelong learning in adult higher education in Zhejiang Province. Experts from various institutions of higher learning participated in the evaluation, providing insights into the applicability and feasibility of each proposed strategy. These evaluations serve as a foundation for refining and implementing targeted interventions within the educational and social contexts.

Table 6. Analytical Results of the Strategic Assessment

Sustainable Development Strategies for Lifelong Learning of Adult Higher Education in ZheJiang	Adaptability			Feasibility		
	X	S.D.	result	X	S.D.	result
1.Establish institutional safeguards	4.50	0.46	highest	4.61	0.22	highest
2.Enhance the management system	4.45	0.42	high	4.52	0.24	highest
3.Enhance learning motivation	4.35	0.31	high	4.48	0.19	high
4.Reinforce quality assessment	4.42	0.27	high	4.51	0.16	highest
Total	4.43	0.36	high	4.53	0.20	highest

According to what is provided in Table 6 the mean value of adaptability of the four strategies to promote the sustainable development of lifelong learning in adult higher education in Zhejiang Province ranges from 4.35 to 4.50, and the mean value of feasibility ranges from 4.48 to 4.61, which are at the high to the highest level, which indicates that the research strategy has a high level of adaptability and feasibility.

4. Discussion

In order to continuously improve the sustainable development of lifelong learning in adult higher education in Zhejiang Province, this paper investigates the current status of sustainable development of lifelong learning in adult higher education in five higher education institutions in Zhejiang, China, and concludes that their overall level is currently at a medium level. Through this survey, we identified the current weaknesses of sustainable development of lifelong learning in adult higher education, pointed out the areas that need attention and improvement, and proposed relevant strategies. The main contributions of this study are twofold. First, it is a

comprehensive survey of the current situation of adult higher education operation in five higher education institutions in Zhejiang, which understands and grasps the situation of higher education operation and students' learning, and is of reference value for the relevant research on operation in other regions. The second is that this study starts from the basic theory of adult higher education, and on the premise of the current situation investigation, and uses SWOT-PEST to conduct a strategy analysis, proposes a sustainable development strategy for lifelong learning in adult higher education in Zhejiang Province, and evaluates the applicability and feasibility of the strategy.

Establish institutional safeguards: In order to promote the widespread implementation of lifelong learning and to accelerate the building of a learning society, Governments should strengthen policy support and financial investment. In particular, at the national and local levels, more financial and resource support should be provided to less developed regions to ensure the equalization of lifelong learning opportunities. At the same time, continuously improving and innovating the relevant policies and systems of adult higher education for lifelong learning is the key to promoting the in-depth development of the learning society. Scholars hold consistent views on this, such as Cui Luyao (2022), who believes that adult higher education needs to incorporate the concept of lifelong learning, clarify the cultivation objectives and optimize the program. Wu Qing'er (2024), on the other hand, emphasizes the key role of practical teaching in improving the quality of adult academic education. Yang Hui et al. (2024) further pointed out that the teaching reform of adult education should pay attention to the diversity of adult learners, use modern technology to enhance teaching and learning interaction, and establish a comprehensive assessment system to meet their individualized learning needs. These studies all emphasize the importance of institutional safeguards, practical needs and personalized teaching in promoting the construction of a lifelong learning system and the formation of a learning society, which coincide with the concept of this study, and together they are committed to exploring the path of lifelong learning and educational innovation under the influence of the wider society.

Enhance the management system: A sound teaching organization and management system is the prerequisite and foundation for promoting overall teaching quality assurance, and is also an important part of the construction of a learning society. Xu Ying (2024) suggests that it is necessary to deepen the reform of adult higher education from multiple dimensions, such as updating the concept of education, establishing a management system, and strengthening quality assessment, in order to improve the quality of education and meet the learning needs of the information age, and to provide strong support for the construction of a learning society. Xu Donghong (2019), on the other hand, emphasized the importance of a high-quality professional teaching management team, pointing out that teachers are the core factor in improving teaching quality, and their professionalism and teaching ability directly affect the effectiveness of the construction of a learning society. Wang Xin & Liu Jie (2019) further pointed out the key impact of teacher quality on the quality of schooling, emphasizing that teachers should have rich professional knowledge, teaching ability and communication skills to meet the demand for diversified and high-quality educational services in a learning society. Zhou (2019) suggested building a deepened teacher training system to enhance teachers' educational literacy for sustainable development and to ensure that they are able to adapt to the ever-evolving and changing educational environments in a learning society. Zhang Lichun (1988), on the other hand, emphasized strict management and standardization of schools to enhance the capacity and level of the teaching force and provide stable and high-quality educational resources for the construction of a learning society. With the rapid development of information technology, the blended teaching mode will dominate in higher education continuing education. Yang Lijun and Zhang Liang (2015) pointed out that teachers should be skilled in information technology capabilities and use modern educational technology to carry out teaching. This requires that adult higher education must pay attention to teachers' training in information technology and assessment and incentive mechanism when improving the management system, so as to promote the innovation of teaching mode and the improvement of teaching quality, and then promote the comprehensive development of a learning society.

Enhance learning motivation: Enhancing learning motivation is an inherent logical need to achieve learning goals and a key element in building a learning society. scholars such as Deci & Ryan (1985) emphasized the key role of personal motivation and self-management ability in lifelong learning, pointing out that by setting clear learning goals and providing incentives, the intrinsic motivation of learners can be effectively stimulated to give impetus to the sustainable development of a learning society. Sun (2020), on the other hand, suggests that by strengthening the promotion and social publicity of the concept of lifelong learning, such as using organizations such as communities and trade unions to hold relevant activities on a regular basis, it is possible to raise the importance of the whole population to academic education, which will in turn enhance the motivation of students to learn and promote the formation of the atmosphere of a learning society. Candy (1991) advocates that lifelong

learning is a process of continuous learning and development of the individual, and encourages students to Candy (1991) advocates that lifelong learning is a process of continuous personal learning and development, and encourages students to participate in activities such as lectures, forums and community discussions at school for self-improvement, which are also important components in the construction of a learning society. Tough (1979) further points out that technological advances, changes in occupational demands and personal development needs are important factors in promoting lifelong learning, and emphasizes the importance of self-directed learning, which fits with the concept of self-directed and lifelong learning emphasized by a learning society. which is in line with the concept of learning society emphasizing on self-directed learning and lifelong learning. In the reform of adult education teaching, Yang Hui et al. (2024) emphasized that attention should be paid to the diversity of adult learners, and that a comprehensive assessment system should be established through the deep integration of modern technology in order to enhance teaching interactions and improve the learning experience, as well as to satisfy the diversified and individualized learning needs of adult learners, so as to strengthen the motivation for learning, which also provides a strong support for the construction of the learning society. Wang (2019)), on the other hand, proposes to encourage more adults to participate in academic education through the establishment of scholarships and other incentives, which further promotes the construction and development of a learning society.

Reinforce quality assessment: Conducting quality assessment is an important method of assessing the quality of schooling and a key link in promoting the construction of a learning society. Several scholars have emphasized teaching evaluation as an important method to assess the quality of adult higher education. Yang Hui et al. (2024) proposed the establishment of a comprehensive assessment system to continuously ensure the quality of teaching and optimize the teaching objectives, which can help to improve the overall quality and effectiveness of education in a learning society. Li & Zhang (2019) suggested the introduction of a third-party assessment agency to standardize teaching standards and ensure the fairness and transparency of education, so as to create a fair and just educational environment for a learning society. Li Yang & Wang Jie (2021) pointed out that the quality of schooling involves many aspects, which directly affects the effect of education and learner satisfaction, and emphasized that in a learning society, it is necessary to comprehensively improve the quality of education to meet the diversified needs of the learners. Li Xiao & Zhang Hua (2020) emphasized the practicability and cutting-edge of the teaching content and curriculum design, and ensured that the educational content is closely related to the the development of the times and provide continuously updated knowledge resources for the learning society. Zhang Min (2020) suggests that student satisfaction is a key indicator for measuring the quality of schooling, emphasizing that in the learning society, it is necessary to pay attention to the feedback and needs of learners, and to continuously improve the level of educational services. The Implementation Opinions of the Chinese Ministry of Education require the establishment of an online service management and monitoring platform, which further strengthens the science and effectiveness of quality assessment. These initiatives will effectively improve quality assessment, promote the sustainable development of adult higher education, enhance the quality of education and learner satisfaction, and provide a solid guarantee for the construction and development of a learning society.

5. Case

In the practice of adult higher education, Zhejiang A&F University has actively responded to government calls by strengthening institutional guarantees. The university has introduced a series of policies and measures to promote lifelong learning, providing robust policy support and financial backing for adult higher education. Simultaneously, the university emphasizes improving its management system, continuously updating educational philosophies, and establishing a well-structured teaching organizational framework to ensure steady enhancement of teaching quality. To boost learning motivation, Zhejiang A&F University has effectively stimulated learners' intrinsic motivation by setting clear learning objectives, offering incentives, and intensifying the promotion of lifelong learning concepts. The university encourages adult learners to participate in lectures, forums, and community discussions, enriching their learning experiences and self-development capabilities, thereby further strengthening their drive to learn. Additionally, the university places high priority on quality evaluation, establishing a comprehensive assessment system and introducing third-party evaluation agencies to standardize teaching criteria, ensuring educational fairness and transparency. Zhejiang A&F University focuses on the practicality and cutting-edge nature of teaching content and curriculum design, continuously optimizing educational goals and content to meet learners' diverse needs, thereby elevating educational quality and learner satisfaction.

Through the implementation of these strategies, Zhejiang A&F University has achieved remarkable results in adult higher education. Not only has it improved teaching quality and learner motivation, but it has also

contributed actively to the construction and development of a learning society. The university's practices effectively validate the efficacy of the aforementioned strategies, offering valuable references and insights for other institutions and advancing the sustainable development of lifelong learning in adult higher education across Zhejiang Province.

6. Recommendation

Establish institutional safeguards: Formulate and adjust relevant policies to provide legal and policy support for adult higher education and lay a solid policy foundation for the construction of a learning society. Setting up a special fund to support the innovation and development of adult higher education and promote the continuous optimization of educational resources in a learning society. Promote the establishment of a dynamic adjustment mechanism for tuition standards and a credit-based fee management model to meet the diversified and flexible educational needs of a learning society. Optimize professional talent training programs according to market demands and changes to ensure a close match between educational content and the development of a learning society. Teachers and teaching team: Participate in curriculum design to ensure that the teaching content meets the practical needs and the concept of lifelong learning, and cultivate talents with practical ability and innovative spirit for the learning society. Focus on cultivating students' innovative thinking and problem-solving ability in teaching, and help the overall development of individuals in a learning society.

Enhance the management system: Improve the teaching organization and management system, clarify the responsibilities and authority of management departments at all levels, and provide a clear and efficient framework for education management in a learning society. Formulate and improve teaching rules and regulations to ensure that teaching activities are standardized and efficient, and to guarantee the steady improvement of the quality of education in a learning society. Teacher Development Center: Organize teacher training, improve teachers' teaching level and professionalism, and provide a high-quality education team for the learning society. Establish mechanisms for teacher exchange and cooperation, promote the sharing of teaching experience and methods, and facilitate the sharing and complementation of educational resources in a learning society. Establishing and improving teacher assessment and incentive mechanisms to stimulate teachers' motivation and energize the development of education in a learning society.

Enhance learning motivation: Establishing the concept of lifelong learning, stimulating students' enthusiasm for learning through ideological education and role model leadership, and creating a positive learning atmosphere for the construction of a learning society. Organize various activities, lectures and forums to provide students with rich learning resources and communication platforms, and promote the wide dissemination and sharing of knowledge in a learning society. Teachers and teaching teams: set up interactive classroom sessions, encourage students to ask questions, discuss and participate, enhance students' motivation to learn, and cultivate independent learning and cooperative learning abilities required in a learning society. Teachers and teaching teams: Establish a good teacher-student relationship with students, provide targeted guidance and assistance, and help students achieve personalized development in a learning society. Students themselves: set clear learning goals, plan their own study time and improve their learning efficiency; actively participate in activities such as study groups and find suitable learning methods for themselves, so as to contribute to the sustainable development of a learning society.

Reinforce quality assessment: Establishing a scientific teaching quality assessment system to ensure the continuous improvement of teaching quality and provide a strong guarantee for the quality of education in a learning society. Establishing a quality assessment platform using Internet technology, responsible for implementing teaching quality assessment, realizing the transparency and digitization of the assessment process, and helping the precise management of education quality in a learning society. Through quality assessment, teaching contents and methods are continuously optimized to promote the continuous innovation and development of education in a learning society.

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Appendix A

The Sustainable Development Status and Expected Situation of Lifelong Learning in Adult Higher Education in Zhejiang Province

Table 1. Analysis of the Current Status of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Research on the Sustainable Development of Lifelong Learning in Adult Higher Education in Zhejiang Province $\bar{X}$)	Current Situation			Expected Situation (I) $\bar{X}$			PNImodified (I − D)/D	Rank
		S.D.	result	S.D.		result		
1. Curriculum design	3.23	0.97	moderate	4.11	0.89	high	0.214	4
2. Teaching and learning implementation	3.32	0.93	moderate	4.31	0.91	high	0.230	1
3. Learning process	3.18	0.90	moderate	4.06	0.93	high	0.217	3
4. Learning effect	3.31	0.94	moderate	4.24	0.88	high	0.219	2
Total	3.26	0.94	moderate	4.18	0.90	high	0.220	

Table 2. Analysis of the Current Status of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Curriculum Design	Current Situation (D) $\bar{X}$			Expected Situation $\bar{X}$			PNImodified (I − D)/D	Rank
		S.D.	result		S.D.	result		
1. You think the curriculum design of your major is reasonable(including the ratio of required courses, elective courses, and practical skills courses) is reasonable.	3.24	0.96	moderate	4.04	0.89	high	0.198	4
2. You think the course structure (i.e., the balance between theoretical courses, social practice courses, and the integration of both) is reasonable	3.10	0.99	moderate	4.11	0.91	high	0.246	1
3. You think the course schedule is reasonable	3.35	0.97	moderate	4.13	0.92	high	0.189	5
4. You think the course content aligns with actual work requirements	3.21	0.98	moderate	4.07	0.91	high	0.211	2
5. Whether you found the course content helpful in influencing future personal lifelong learning	3.27	0.96	moderate	4.08	0.95	high	0.199	3
Total	3.23	0.97	moderate	4.08	0.91	high	0.208	

Table 3. Analysis of the Current Status of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Teaching and Learning Implementation	Current Situation (D) $\bar{X}$			Expected Situation $\bar{X}$			PNImodified (I − D)/D	Rank
		S.D.	result		S.D.	result		
1. How satisfied are you with the school's teaching organization and management	3.43	1.06	moderate	4.03	0.99	high	0.149	7
2. You think the teachers' teaching abilities (including practical experience and guidance skills) are good	3.23	0.94	moderate	4.08	0.87	high	0.208	4
3. You think the teachers' instructional methods are reasonable	3.35	0.89	moderate	4.13	0.92	high	0.189	5
4. You think the teachers' overall competence is good	3.72	0.98	high	4.10	0.93	high	0.093	8
5. You think the assessment methods for the course are reasonable	3.36	0.96	moderate	4.04	0.95	high	0.168	6
6. You think the interactive discussions in class led by the teacher are reasonable	3.11	0.96	moderate	4.12	0.92	high	0.247	2
7. You think the learning objectives of the tasks are clear	3.17	0.94	moderate	4.02	0.90	high	0.211	3
8. Are you satisfied with the learning support and guidance	3.20	0.82	moderate	4.26	0.88	high	0.249	1
Total	3.32	0.94	moderate	4.10	0.92	high	0.189	

Table 4. Analysis of the Current Status of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Learning Process	Current Situation $\bar{x}$(D)			Expected Situation $\bar{x}$(I)			PNImodified $(I-D)/D$	Rank
		S.D.	result		S.D.	result		
1. Are you satisfied with your own learning attitude	3.30	0.82	moderate	4.21	0.91	high	0.216	5
2. You think the learning methods you use are reasonable	3.20	0.94	moderate	4.15	0.89	high	0.229	2
3. Are you satisfied with your own study habits	3.22	0.93	moderate	4.17	0.92	high	0.228	3
4. You have frequent communication with your teachers	3.18	0.94	moderate	4.05	0.98	high	0.215	6
5. Do you actively seek help when you encounter difficulties in your studies	3.10	0.85	moderate	4.01	0.95	high	0.227	4
6. You primarily self-regulate your learning and do not need others to apply pressure	3.09	0.91	moderate	4.02	0.96	high	0.231	1
Total	3.18	0.90	moderate	4.09	0.94	high	0.224	

Table 5. Analysis of the Current Status of Sustainable Development for Lifelong Learning in Adult Higher Education in Zhejiang Province

(n=384)

Learning Effect	$\bar{x}$Current Situation (D)			$\bar{x}$Expected Situation (I)			PNImodified $(I-D)/D$	Rank
		S.D.	result		S.D.	result		
1. You enhance your problem-solving skills through learning	3.19	0.95	moderate	4.04	0.96	high	0.210	4
2. You improve your professional skills through learning	3.27	0.98	moderate	4.13	0.89	high	0.208	5
3. You enhance your overall competence through learning	3.25	0.92	moderate	4.14	0.97	high	0.215	3
4. You achieve your set learning goals through studying	3.23	0.94	moderate	4.21	1.02	high	0.233	2
5. You enhance your engagement and initiative in learning through studying	3.39	0.96	moderate	4.03	0.91	high	0.161	8
6. Your satisfaction with your own learning effect	3.21	0.98	moderate	4.20	0.94	high	0.236	1
7. You think lifelong learning is very important	3.47	0.99	moderate	4.30	0.93	high	0.193	7
8. You are generally satisfied with your overall learning	3.45	0.84	moderate	4.32	0.90	high	0.201	6
Total	3.31	0.95	moderate	4.17	0.93	high	0.207	

Appendix B

Evaluation Results of Sustainable Development Strategies for Lifelong Learning in Adult Higher Education in Zhejiang Province

Table 6. Results of the evaluation and analysis of strategies for establish institutional safeguards

Assessment checklist	Adaptability			Feasibility		
	$\bar{x}$	S.D.	result	$\bar{x}$	S.D.	result
Establish Institutional Safeguards						
1. Introduce policies for the sustainable development of adult education.	4.66	0.50	highest	4.70	0.25	highest
2. Define talent development goals aligned with societal needs.	4.64	0.32	highest	4.46	0.21	high
3. Optimize professional talent development plans.	4.72	0.27	highest	4.50	0.23	highest
4. Strengthen the practical requirements of curriculum design.	4.40	0.65	high	4.66	0.24	highest
5. Integrate the concept of lifelong learning into the curriculum.	4.24	0.56	high	4.84	0.14	highest
6. Strengthening financial guarantees	4.35	0.50	high	4.54	0.26	highest
Total	4.50	0.47	highest	4.61	0.22	highest

Table 7. Results of evaluation and analysis of strategies for enhance the management systems

Assessment checklist	Adaptability			Feasibility		
	$\bar{x}$	S.D.	result	$\bar{x}$	S.D.	result
Enhance the Management System						
1. Establish a robust teaching organization and management system.	4.31	0.42	high	4.78	0.22	highest
2. Enhance teacher training.	4.24	0.58	high	4.56	0.23	highest
3. Promote teacher exchanges and cooperation.	4.48	0.51	high	4.41	0.20	high
4. Focus on teacher ethics education.	4.38	0.33	high	4.48	0.23	high
5. Enhance the teacher evaluation and incentive system.	4.62	0.35	high	4.52	0.17	highest
6. Strengthen teacher training through experience in enterprises.	4.44	0.47	high	4.44	0.26	high
7. Enhance teachers' information technology skills.	4.62	0.28	highest	4.52	0.34	highest
8. Utilize modern educational technologies, such as multimedia and the internet, to innovate teaching methods.	4.52	0.44	highest	4.46	0.28	high

	$\bar{x}$	S.D.	result	$\bar{x}$	S.D.	result
Total	4.45	0.42	high	4.52	0.24	highest

Table 8. Results of the assessment and analysis of strategies to enhance learning motivation

Assessment checklist	Adaptability			Feasibility		
	$\bar{x}$	S.D.	result	$\bar{x}$	S.D.	result
Enhance Learning Motivation						
1. Developing the concept of lifelong learning	4.48	0.40	high	4.62	0.12	highest
2. Actively participate in school-organized activities, lectures, and forums.	4.44	0.32	high	4.33	0.14	high
3. Set clear learning goals.	4.32	0.35	high	4.43	0.16	high
4. Establishment of interactive classroom sessions, encouragement of questions and discussions, and active participation in the classroom	4.26	0.05	high	4.34	0.19	high
5. Organize group cooperative learning, sharing learning experience will interact more with classmates to find suitable learning methods for themselves	4.12	0.28	high	4.68	0.24	highest
6. Create a detailed study plan and use time management tools to strengthen your study time management skills.	4.34	0.40	high	4.58	0.35	highest
7.Establish student scholarships.	4.50	0.34	highest	4.42	0.15	high
Total	4.35	0.31	high	4.48	0.19	high

Table 9. Results of the assessment analysis of the Reinforce Quality Assessment

Assessment checklist	Adaptability			Feasibility		
	$\bar{x}$	S.D.	result	$\bar{x}$	S.D.	result
Reinforce Quality Assessment						
1.Establish a scientific teaching quality assessment system.	4.61	0.32	highest	4.78	0.15	highest
2.Develop standards for the skills that students should master.	4.38	0.22	high	4.46	0.14	high
3.Conduct a learning satisfaction survey.	4.34	0.35	high	4.30	0.24	high
4.Continuously focus on the overall development of students.	4.44	0.21	high	4.59	0.16	highest
5.Establish a quality assessment platform using internet technology.	4.36	0.29	high	4.42	0.14	high
Total	4.43	0.28	high	4.51	0.16	highest

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