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Research on High-Quality Development of Non-Formal Education: Constructing High-Quality Standards and Assessment Systems

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Abstract: With the deepening of lifelong learning concepts and the development of a learning society, non-formal education, as an important component of lifelong education systems, has become a key issue in educational reform for achieving high-quality development. Based on lifelong learning theory and human capital theory, this study constructs a theoretical framework for the high-quality development of non-formal education and explores both the process and outcome dimensions of quality. The research proposes a complete quality standards system covering process dimensions including training needs analysis, curriculum design and development, faculty team building, teaching implementation management, and student support services, as well as result dimensions including learning effect assessment, satisfaction evaluation, application transformation effects, and social impact assessment. Meanwhile, the study explores the application model of ISO9001 quality management system in non-formal education, establishing standardized quality management mechanisms through system design, document compilation, internal audit, management review, and third-party certification.

Keywords: non-formal education; high-quality development; quality standards; assessment system; ISO9001 quality management system

1. Introduction

With the deepening development of global integration and knowledge economy, establishing high-quality education systems has become a significant objective for educational reforms across nations. Against the backdrop of continuously deepening lifelong learning concepts and learning society development, non-formal education has emerged as a vital component of lifelong education systems. It plays a crucial role in human capital development, economic advancement, and meeting diversified educational demands. Non-formal education refers to organized educational activities con-ducted outside the formal degree-granting system, encompassing vocational training, community education, continuing education, and skill development programs. However, current non-formal education development faces challenges including imperfect quality assurance mechanisms, inadequate standard systems, and lack of scientific evaluation frameworks, which adversely affect educational outcomes and social recognition. As talent demands become increasingly diversified, societal needs for non-formal education continue to grow. Therefore, constructing scientifically effective quality standards and evaluation systems for non-formal education is conducive to promoting sustainable development in this field. Establishing comprehensive quality standards and evaluation systems can not only enhance the quality and effectiveness of non-formal education but also facilitate its standardized development.

2. Literature Review and Theoretical Foundation

2.1. Theoretical Evolution of High-Quality Development in Non-Formal Education

As lifelong learning concepts continue to deepen and demographic changes become more prominent, non-formal education, as a crucial component of lifelong education systems, has become a central issue in educational reform for achieving high-quality development [1]. Through systematic review of relevant research, the theoretical understanding of high-quality development in non-formal education has evolved through three stages: instrumentalization, systematization, and humanization. During the instrumentalization stage (2000–2010), non-formal education was primarily viewed as an extension of vocational training, emphasizing skill acquisition and employment orientation with relatively singular quality standards [2]. In the systematization stage (2011–2020), non-formal education began integrating into lifelong education systems, encompassing diverse forms such as community education and elderly education, with progressively enriched quality connotations [3]. In the current humanization stage (2021–present), theoretical discourse has shifted toward the value reconstruction of "learner-centered development," emphasizing the intrinsic characteristics of high-quality development [4,5]. This theoretical evolution reflects a deepening societal understanding of non-formal education and highlights its trans-formation from skill-based training to holistic quality improvement, from standardized delivery to personalized services, and from short-term impacts to sustainable development.

2.2. Current Research on Quality Standards in Non-Formal Education

Current research can be categorized into three major theoretical pathways. The skill supply-demand driven pathway advocates meeting industrial needs through competency-based education, forming an "education-employment" closed loop. Industry demand-oriented approaches emphasize that the alignment between skill supply and market demand is a critical factor in determining educational effectiveness, highlighting the strong connection between professional education and industry requirements. Rural revitalization empowerment approaches focus on enhancing skills for specific populations, emphasizing the cultivation of new-generation agricultural professionals by incorporating goals such as commitment to agriculture, agricultural literacy, and rural development capacity into curriculum design. These approaches also include talent development models tailored for grassroots healthcare services. The social structure adaptation pathway focuses on educational adaptive adjustments to social changes, forming multidimensional quality perspectives. Community governance perspectives consider community education as the foundation of lifelong learning networks, emphasizing synergy between policy, practice, and action research to promote effective implementation. Demographic structure perspectives analyze educational transformation needs based on population change data, proposing the necessity of constructing "new lifelong education systems." Technology empowerment perspectives explore how educational digitalization can bridge the urban-rural education divide, while also cautioning against the potential risk of digital governance weakening real-world social ties. The systematized governance pathway constructs educational development frameworks from a global perspective, presenting integration trends between national standard paradigms and global governance paradigms. National standard paradigms promote quality enhancement through balanced public education service systems, emphasizing collaboration between science and education sectors to drive high-quality development, while also exploring quality assurance from the perspective of system resilience. Global governance paradigms emphasize using the Sustainable Development Goals (SDGs) as a foundational framework for educational evaluation. However, they also highlight challenges such as data availability and the adaptability of evaluation systems.

2.3. Research Progress on Non-Formal Education Evaluation Systems

Current evaluation system research mainly focuses on three aspects: evaluation concepts, indicator construction, and implementation mechanisms. Regarding evaluation concepts, researchers emphasize that evaluation should reflect core values such as social responsibility and equity, thereby helping to build new social contracts for educational development. From the perspective of sustainable development, recent studies have highlighted the multidimensional nature of educational quality evaluation and examined how emerging technologies influence sustainability and the corresponding evaluation processes. In terms of evaluation indicator construction, researchers have explored quality evaluation indicator systems from different perspectives. Some research has emphasized that human capital development plays a key role in achieving sustainable competitive advantage, thereby offering a theoretical basis for designing outcome-oriented evaluation systems. However, evaluation indicator system construction faces challenges in data acquisition and system adaptability. In terms of implementation mechanisms, studies have examined how internal audit models from corporate management can be applied to education to support quality monitoring and provide methodological guidance for implementing large-scale evaluations. Although these studies have contributed significantly to refining evaluation concepts, optimizing indicator systems, and innovating implementation mechanisms, further efforts are needed to improve the systematic design and practical application of evaluation frameworks.

3. Conceptual Definition of High-Quality Development in Non-Formal Education

High-quality development in non-formal education is a complex, multidimensional concept that requires systematic interpretation from both theoretical and practical perspectives. From a theoretical perspective, high-quality development manifests as modernization of educational concepts, contemporization of educational content, diversification of educational methods, and sustainability of educational effects. From a practical perspective, high-quality development is characterized by precision in educational supply, standardization of educational processes, measurability of educational outcomes, and socialization of educational impact.

3.1. Basic Conceptual Definition

Based on lifelong learning theory and human capital theory, this study defines high-quality development in non-formal education as: a development state that centers on learner development, is guided by social needs, and achieves scientific educational processes, systematic educational content, and maximized educational effects through optimizing educational resource allocation, innovating educational supply methods, and improving quality assurance mechanisms.

3.2. Dual Connotation of High-Quality Process and High-Quality Results

High-quality development in non-formal education essentially encompasses two core dimensions: high-quality process and high-quality results. High-quality process emphasizes the scientificity, standardization, and effectiveness of educational implementation, primarily manifested in the rationality and adequacy of educational resource allocation, standardization and professionalism of educational organization and management, scientificity and systematicity of educational implementation processes, and quality and personalization of educational service provision. High-quality results emphasize the excellence, practicality, and sustainability of educational outputs and effects, primarily manifested in effective enhancement of learners' knowledge and skills, com-prehensive development of learners' overall qualities, social recognition and practical application of educational outcomes, and sustained influence and long-term value of educational effects. These two dimensions are interdependent and mutually reinforcing. High-quality process serves as the foundation and guarantee for high-quality results, while high-quality results

represent the goal and verification of high-quality process, jointly constituting the complete connotation of high-quality development.

Based on the above analysis, high-quality development in non-formal education has the following core characteristics: learner-centeredness, prioritizing learner needs as the starting point and emphasizing personalized and differentiated development to reflect the humanistic value of education; social adaptability, closely integrating with socioeconomic development needs and contributing to public interests and social development to reflect the social function of education; process standardization, establishing scientific educational management systems and quality monitoring mechanisms to ensure orderly conduct of educational activities; outcome effectiveness, emphasizing the practicality and transferability of educational outcomes and stressing actual effects and application value of education; development sustainability, balancing short-term benefits with long-term development to achieve virtuous cycles and continuous improvement in educational ecosystems. High-quality development in non-formal education is a systematic project that requires coordinated advancement from multiple dimensions, providing a theoretical foundation for con-structing a scientific quality standards system.

4. Construction of High-Quality Standards System for Non-Formal Education

Constructing a high-quality standards system for non-formal education is fundamental to achieving standardized educational development. Constructing a comprehensive system including process quality standards and result quality standards provides scientific basis and operational guidelines for non-formal education quality management.

4.1. Process Quality Standards System

4.1.1. Training Needs Analysis Standards

Training needs analysis is the prerequisite for ensuring training relevance and effectiveness. Analysis standards include: scientificity of research methods, requiring the use of various methods such as questionnaires, interviews, and observations to ensure data comprehensiveness and accuracy; representativeness of research subjects, requiring coverage of stakeholders from different levels and backgrounds; systematicity of research content, requiring analysis from multiple dimensions including knowledge, skills, and attitudes; applicability of research results, requiring transformation of re-search findings into specific training objectives and content [6].

4.1.2. Curriculum Design and Development Standards

Curriculum design and development forms the foundation of training quality. Related standards include: clarity of curriculum objectives, re-quiring clear, specific, and measurable objective statements; appropriateness of curriculum content, requiring content to align with objectives, meet learner needs, and link theory with practice; rationality of curriculum structure, requiring scientific module design, clear logic, and distinct levels; richness of curriculum resources, requiring diversified and high-quality resources including textbooks, cases, and tools.

4.1.3. Faculty Development Standards

Faculty serves as a crucial pillar of training quality. Faculty standards include: qualification requirements, requiring appropriate educational back-ground, professional qualifications, and practical experience; competency requirements, requiring solid professional knowledge, rich practical experience, and good teaching abilities; quality requirements, requiring good professional ethics, dedication, and innovative consciousness; development requirements, requiring continuous learning, ongoing improvement, and alignment with current educational trends.

4.1.4. Teaching Implementation Management Standards

Teaching implementation management is key to ensuring orderly training conduct [7]. Management standards include: completeness of teaching plans, requiring detailed teaching plans with clear objectives, content, methods, and schedules; standardization of teaching processes, requiring strict implementation according to teaching plans to ensure teaching quality; responsiveness and accessibility of teaching support services, requiring comprehensive teaching services to meet learner needs; effectiveness of teaching monitoring, requiring establishment of monitoring mechanisms to identify and resolve problems promptly.

4.1.5. Learner Support Service Standards

Learner support services are important aspects of enhancing training experience. Service standards include: timeliness of information services, requiring timely provision of training-related information to ensure learners' right to know; effectiveness of learning support, requiring provision of necessary learning resources and technical support; convenience of life services, requiring accessible logistical support to help learners concentrate on their studies; responsiveness of feedback services, requiring timely responses to learner opinions and suggestions to improve service quality [8].

4.2. Result Quality Standards System

4.2.1. Learning Effect Assessment Standards

Learning effects are direct manifestations of training quality. Assessment standards include: knowledge mastery level, evaluating learners' understanding and mastery of knowledge through examinations and tests; skill application ability, evaluating learners' skill utilization through practical operations and case analysis; attitudinal shifts, evaluating learners' attitude changes through questionnaires and behavioral observation; comprehensive quality improvement, evaluating learners' overall quality enhancement through 360-degree assessments.

4.2.2. Satisfaction Assessment Standards

Satisfaction is an important indicator for measuring training quality. Assessment standards include: curriculum content satisfaction, evaluating learners' recognition of curriculum content; teaching quality satisfaction, evaluating learners' satisfaction with teaching methods and effects; service guarantee satisfaction, evaluating learners' satisfaction with various services; comprehensive experience satisfaction, evaluating learners' overall assessment of the entire training process.

4.2.3. Application and Transformation Effect Standards

Application and transformation represent the ultimate manifestation of training value. Assessment standards include: knowledge and skill application rate, evaluating the extent to which learners apply learned knowledge and skills to actual work; work performance improvement degree, evaluating training's enhancement effect on learners' work performance; innovation capability enhancement degree, evaluating training's promotional effect on learners' innovation capabilities; teamwork improvement degree, evaluating training's enhancement effect on learners' teamwork abilities.

4.2.4. Social Impact Assessment Standards

Social impact reflects the social value of training. Assessment standards include: industry influence, evaluating training's reputation and influence in related industries; media attention, evaluating the extent of media coverage and social attention received by training; demonstration and leadership role, evaluating training's demonstration and

leadership role among similar institutions; brand value enhancement, evaluating training's enhancement effect on institutional brand value.

5. Design of High-Quality Assessment System for Non-Formal Education

Constructing a scientific high-quality assessment system for non-formal education is a key component in ensuring continuous improvement of educational quality. The assessment system design must follow the principles of scientificity, objectivity, operability, and development, establishing a multi-dimensional, multi-level, and multistakeholder assessment framework to provide strong support for educational quality diagnosis, improvement, and enhancement.

5.1. Basic Framework of Assessment System

The assessment system adopts a hierarchical structure design, divided into three levels: first-level indicators, second-level indicators, and third-level indicators. First-level indicators reflect the main dimensions of assessment, second-level indicators reflect the specific content of each dimension, and third-level indicators provide specific measurement standards. The entire indicator system ensures both comprehensiveness of assessment and feasibility of operation.

5.2. Construction of Assessment Indicator System

5.2.1. First-Level Indicator Design

Based on the characteristics and quality requirements of non-formal education, three first-level indicators are designed: process quality, result quality, and impact quality. Process quality mainly assesses various aspects of the training implementation process, result quality mainly assesses the direct effects after training completion, and impact quality mainly assesses the long-term influence and social value of training.

5.2.2. Second-Level Indicator Design

Based on the first-level indicators, they are further refined into second-level indicators. Process quality includes second-level indicators such as needs analysis, curriculum design, faculty allocation, teaching implementation, and service guarantee; result quality includes second-level indicators such as learning effects, satisfaction, and ap-plication transformation; impact quality includes second-level indicators such as social influence, brand value, and sustained effects.

5.2.3. Third-Level Indicator Design

Third-level indicators further refine and specify the second-level indicators. Needs analysis includes comprehensiveness, accuracy, and practicality of needs research; curriculum design includes objective clarity, content appropriateness, and structural rationality; faculty allocation includes quantity adequacy, quality excellence, and structural rationality; teaching implementation includes process standardization, method scientificity, and effect significance; service guarantee includes information services, learning support, and logistical support. Learning effects include knowledge mastery, skill enhancement, and attitude transformation; satisfaction includes content satisfaction, teaching satisfaction, and service satisfaction; application transformation includes knowledge application, skill utilization, and performance improvement. Social influence includes industry influence, media attention, and demonstration effect; brand value includes reputation enhancement, credibility strengthening, and recognition expansion; sustained effects include long-term development capability, innovation-driven capability, and sustainable development capability.

5.2.4. Indicator Weight Design

Based on the characteristics and practical needs of non-formal education, appropriate weights are assigned to indicators at all levels. Among first-level indicators, process quality has a weight of 40%, result quality has a weight of 35%, and impact quality has a weight of 25%. Second-level indicator weights are determined based on their importance within the corresponding first-level indicators, and third-level indicator weights are determined based on their contribution to second-level indicators. The weight design reflects the assessment philosophy of emphasizing both process and results, and balancing short-term effects with long-term impacts.

6. Application of ISO9001 Quality Management System in Non-Formal Education

ISO9001 is a quality management system standard developed by the International Organization for Standardization (ISO), which provides organizations with a systematic quality management framework, emphasizing customer focus, involvement of people, process approach, and continuous improvement. Non-formal education, as a service industry, has characteristics such as obvious customer orientation, complex and diverse processes, and high-quality requirements, which are highly compatible with the concepts of ISO9001 standards.

6.1. System Design

Based on ISO9001 standard requirements and combined with the characteristics of non-formal education, a quality management system covering seven aspects including organizational context, leadership, planning, support, operation, performance evaluation, and improvement has been designed. Each aspect has clear requirements and specifications to ensure system integrity and effectiveness. In system design, the operation module focuses on process quality control, while the performance evaluation module focuses on result quality achievement, forming a quality management closed loop where process and results mutually promote each other.

6.2. Document Compilation

According to ISO9001 standard requirements, a series of documents including quality manual, procedure documents, work instructions, and record forms have been compiled to form a complete document system. Document compilation requires clear hierarchy, accurate content, and strong operability to ensure all work has a basis to follow. Procedure documents specify in detail the execution standards for each educational process, while record forms design data collection modes for process monitoring and result evaluation, achieving effective process control and result achievement.

6.3. Internal Audit

An internal audit system has been established to regularly review the quality management system's operations. Internal audits require objectivity and fairness, comprehensiveness and systematicity, timely identification of problems and improvement suggestions. Audit results must form reports and serve as input for management review. Internal audits adopt a combination of process auditing and result auditing, focusing on both the standardization of training implementation processes and the achievement of result indicators such as learning effects and satisfaction.

6.4. Management Review

A management review system has been established to regularly review the suitability, adequacy, and effectiveness of the quality management system. Management review requires participation of senior leadership, comprehensive evaluation of system operation status, and formulation of improvement measures. Management review comprehensively

considers the implementation of process quality management and the achievement of result quality, formulating comprehensive measures for process improvement and result enhancement.

6.5. Third-Party Certification

Through audit by third-party certification bodies, ISO9001 quality management system certification certificates are obtained. Third-party certification requires strict adherence to standard requirements to ensure system conformity and effectiveness. Certification bodies comprehensively assess compliance with both process quality management and result quality achievement. This provides non-formal education institutions with assurance of standardized processes and outstanding outcomes.

7. Conclusion

This study constructs a theoretical framework and practical pathway for high-quality development of non-formal education. First, it establishes an assessment indicator system covering process quality and result quality, providing systematic theoretical frameworks and practical tools for non-formal education quality evaluation. Second, it proposes an application model of ISO9001 quality management system in non-formal education, establishing standardized quality management mechanisms through system design, document compilation, internal audit, management review, and third-party certification. Third, it clarifies the internal logic of mutual promotion and coordinated development between process quality and result quality, providing actionable quality improvement pathways for non-formal education institutions. Future research can focus on constructing intelligent quality assessment systems, innovating personalized quality management models, and building quality culture to promote higher quality development of non-formal education in the new era.

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