

A Study on the Construction of an Evaluation Index System for Service-Oriented Education in Higher Education Institutions from the Perspective of Lifelong Education

Zeng Ruirang¹, Guo Yahui², Qiu Qiaohui^{1,*}

¹ Ningbo University, Ningbo, 315832, China

² Ningbo City College of Vocational Technology, Ningbo, 315100, China

*Corresponding Author

Abstract: In the context of China's "Education Modernization 2035" initiative, the concept of lifelong education introduces new demands for the long-term development of university education. As a key component of the "Ten Major Education Systems," university service-oriented education requires a robust evaluation framework to guide its progress. This study, adopting a lifelong education perspective and incorporating the CIPP evaluation model, proposes an indicator system for assessing the quality of service-oriented education in universities. By examining how the perspective of lifelong education reshapes the value of service-oriented education in universities, the study emphasizes scientific rigor, systematic approach, and practical relevance. It also highlights the importance of forward-thinking, holistic, and interactive characteristics. The study identifies key evaluation indicators across four dimensions—context, input, process, and product—focusing on typical service scenarios such as libraries, cafeterias, and dormitories. The evaluation framework developed provides both theoretical foundations and practical guidance for universities, enabling them to assess service-oriented education quality, optimize service systems, and improve educational effectiveness.

Keywords: Lifelong Education; Service-Oriented Education in Higher Education; CIPP Evaluation Model; Evaluation Indicator System

1. Problem Statement

China's "Education Modernization 2035" emphasizes lifelong education as a key focus for future development, requiring education to address both present and future needs.^[1] Universities, as primary institutions for talent cultivation, must integrate lifelong education into their frameworks and processes to enhance educational quality. A core part of this vision is service-oriented education, which involves university logistics departments optimizing services like dining, accommodation, and maintenance. These services support students' moral and behavioral development.^[2] With ongoing higher education reforms, the role of service-oriented education has grown in importance, not just for academic and daily support but also for value guidance and skill development. To improve its effectiveness, a scientific evaluation system is necessary. Evaluation helps guide, diagnose, and motivate improvements in service-oriented education. Most current research focuses on the conceptual aspects of service-oriented education, but there is a lack of systematic evaluation, especially one rooted in lifelong education principles covering the entire process.

2. Redefining the Value of Service-Oriented Education in Higher Education Institutions from a Lifelong Education Perspective

2.1 Conceptual Upgrade: From Short-Term Education to Lifelong Impact

The philosophy of lifelong education seeks a balance between immediate and long-term growth while addressing rapid societal changes. Its goal is to cultivate students' ability to learn continuously, helping them adapt to evolving demands.^[3] University service-oriented education, viewed from this lens, extends beyond on-campus development to influence lifelong growth. Traditional service-oriented education often focuses on behavior and constraints, struggling to meet societal demands for innovation.

In contrast, the lifelong education perspective emphasizes core competencies, enabling students to face future challenges and maintain continuous learning. Service-oriented education in higher education subtly integrates educational values into everyday service scenarios, rather than through direct instruction.^[4] Actions like a librarian offering guidance or a dorm supervisor greeting students can foster responsibility and empathy. This influence extends beyond campus life, shaping students' development and empowering them to inspire and create change in the world.

2.2 Expanding Spaces: From Classroom Boundaries to Campus-Wide

Lifelong education theory advocates for education beyond the classroom, covering all stages of individual growth to meet the demand for continuous learning. University service-oriented education plays a key role by integrating into all aspects of campus life, reaching every part of student experience, including cafeterias, libraries, and dormitories. In these spaces, every service provided by service staff becomes a potential learning opportunity. For example, when a librarian helps a student find a book, they're not just solving a problem but teaching valuable information retrieval skills—enhancing lifelong education. Similarly, cafeteria staff promote sustainability through initiatives like the campaigns encouraging food conservation, gathering feedback through suggestion boards and engaging with student committees to align with a people-centered value system. Thus, every service interaction—from dining to borrowing books—becomes a powerful, subtle opportunity for contextual education, creating learning experiences across campus.

2.3 Pathway Upgrade: From Unidirectional Provision to Bidirectional Interaction

Lifelong education theory centers the learner, advocating for participatory education where true educational value emerges through active engagement.^[5] This philosophy aligns with the goals of service-oriented education in higher learning, aiming to foster autonomous lifelong education skills through interactive participation. To achieve this, universities must shift from traditional linear service models to a two-way interactive approach. The key transformation is moving from "doing for students" to "doing with students." This shift is evident in service scenarios where collaboration between service staff and students turns each service interaction into an educational opportunity. For example, libraries involve students in co-creating services through initiatives like reader salons and student assistant programs, enhancing their capabilities. Dormitory management engages students in self-governance committees, allowing them to participate in environmental development and conflict resolution, fostering responsibility. In this way, the interactive service-oriented education model transforms students from passive recipients to active participants, aligning with the principles of lifelong education and integrating service with education.

3. Fundamental Principles for Constructing Service-Oriented Education Indicator Systems in Higher Education Institutions from a Lifelong Education Perspective

3.1 Forward-Looking Principle

The forward-looking principle emphasizes that indicators should address both students' immediate needs during their academic years and their long-term personal development. Lifelong education stresses that learning extends throughout a person's life, so service-oriented education indicators must balance current realities with future possibilities, supporting students during university and preparing them for the next decades of their lives. This ensures service-oriented education drives ongoing development and societal growth. For example, in library services, evaluations should go beyond resource availability and ease of borrowing. They should assess whether information literacy training equips students with the skills to search, evaluate, and select information effectively, fostering lifelong, self-directed learning. In dormitory management, evaluations should not only focus on cleanliness and safety but also on whether initiatives like student self-governance and model dormitory programs help develop skills such as organization, responsibility, and communication. These competencies benefit students at university and remain crucial in navigating post-graduation societal challenges.

3.2 Holistic Principle

The holistic principle emphasizes that university services for education should extend beyond traditional classroom settings to include all campus spaces, recognizing that "every place is educational

and every activity can nurture." From a lifelong education perspective, service-oriented education in higher education forms a multidimensional, integrated system. Support facilities like libraries, cafeterias, and dormitories are just as important for education as classrooms. Therefore, evaluation metrics should remove spatial boundaries and recognize the educational value of all service areas on campus, viewing every service interaction as a learning opportunity. For example, in libraries, evaluations should go beyond resource availability and reading environments to include the educational value of information literacy training and reader engagement activities. In cafeterias, assessments should not only cover food safety and quality but also value-driven functions like conservation education, feedback systems, and co-governance initiatives. In dormitories, educational results should be assessed from multiple angles, including environmental development, cultural atmosphere, and student self-governance.

3.3 Principle of Interactivity

The interactivity principle emphasizes that university services should move beyond the traditional one-way service model, creating a two-way interactive system where students actively participate in co-constructing services. Lifelong education highlights the importance of learner agency, asserting that real educational value emerges through active engagement. Therefore, when developing indicator systems, a multi-interactive framework involving students, staff, and administrators should be established, focusing on student participation, co-construction, and the interactivity of service processes. For example, in library services, initiatives like reader salons, resource co-creation, and student assistant programs not only improve service efficiency but also help students develop skills in collaboration, communication, and self-management, transforming them from "service recipients" to "co-creators." In dormitory management, student self-governance committees, civilized dormitory evaluations, and conflict mediation mechanisms allow students to take an active role in environmental development and cultural shaping. In cafeterias, student involvement in decision-making happens through food committees, feedback platforms, and collaborative menu creation.

4. Selection of Evaluation Indicators for Higher Education Institutions' Service-Oriented Education from a Lifelong Education Perspective

The CIPP evaluation model was first proposed by D. L. Stufflebeam in 1966 and was initially applied to the evaluation of instructional programs in primary and secondary schools as well as kindergartens^[6]. The model consists of four dimensions: Context, Input, Process, and Product. It is designed to provide decision-making support for the entire lifecycle of educational programs through a logical chain of "diagnosis–decision–improvement–feedback." Compared with traditional evaluation approaches that focus primarily on outcomes, the CIPP model places greater emphasis on dynamism, developmental orientation, and systematic analysis^[7]. Owing to these characteristics, it has been widely applied in areas such as curriculum evaluation in basic education, governance and management assessment in higher education, evaluation of vocational education programs, and the construction of curriculum evaluation systems in senior and adult education, demonstrating strong applicability and stability across diverse educational contexts^[8]. The selection of indicators should reflect the CIPP model's logical chain of context, input, process, and product, while also aligning with lifelong education's core focus on "learner needs," "sustainable development," and "optimized learning environments." This study uses typical scenarios like libraries, cafeterias, and dormitories. By balancing overarching goals, resource allocation, operational practices, and outcome feedback, it distills practical indicators across the four dimensions. This framework ensures the indicator system both reflects the foundation of university service-oriented education and drives its long-term improvement.

4.1 Selection of Evaluation Indicators for Higher Education Institutions' Service-Oriented Education Based on Context Evaluation

In the context of Context Evaluation, the rationality of higher education institutions' service-oriented educational goals should be analyzed in relation to the institutional environment, foundational demands, and implementation conditions. From a lifelong education perspective, service-oriented education focuses on learners' continuous development and is influenced by factors like policy arrangements, student demographics, and available resources. At the institutional level, the development of a systematic framework for service-oriented education policies, along with the

integration of lifelong education principles like learner-centeredness and continuous development, affects the clarity and continuity of educational goals. This dimension is defined by the strength of the policy framework and the integration of lifelong education concepts. From the demand perspective, service-oriented education goals must align with the diverse needs of students. Lifelong education stresses respecting learner differences and supporting varied development paths. This dimension is reflected through the scope of student needs surveys and the recognition of differentiated needs across student groups. From the conditions perspective, the quality of infrastructure in learning and living spaces, such as libraries and dormitories, along with campus culture values, influences the effectiveness of service-oriented education. This dimension is evaluated through infrastructure quality and cultural values. In summary, the evaluation framework for service-oriented education in higher education institutions is built on three dimensions: institutional foundation, demand foundation, and conditions foundation, as shown in Table 1.

Table 1: Evaluation Indicators for Higher Education Institutions' Service-Oriented Education Context from a Lifelong Education Perspective

Primary Indicators	Secondary Indicators	Indicator Description
Comprehensiveness of Educational Policy Environment	Soundness of Institutional Policies for Service-Oriented Education	Evaluates whether universities have established systematic policy documents and supporting institutional arrangements for service-oriented education.
	Integration of Lifelong Education Concepts in Policies	Evaluates the extent to which policies incorporate lifelong education principles, such as learner-centeredness, continuous development, and competency enhancement.
Alignment with Student Characteristics and Needs	Comprehensiveness of Surveys on Basic Student Needs	Evaluates whether the scope and comprehensiveness of university surveys addressing students' academic, social, and living needs, such as reading habits, dining preferences, and accommodation conditions.
	Identification of Differentiated Needs Among Student Groups	Evaluates whether institutions recognize and analyze the distinct needs of various student groups (e.g., students with disabilities, graduate students, freshmen)
Resource and Environmental Infrastructure	Current State of Learning and Living Environment Infrastructure	Evaluates whether the current condition of learning and living infrastructure, including library spaces, cafeterias, and dormitory facilities.
	Campus Culture and Service-Oriented Educational Values	Evaluates whether the campus culture promotes values that support independent learning, responsibility, and sustainable development.

4.2 Selection of Higher Education Institutions' Service-Oriented Education Evaluation Indicators Based on Input Evaluation

Input Evaluation focuses on the key resources invested by universities to achieve service-oriented education goals, emphasizing whether investments in personnel, material resources, and institutional frameworks align with these objectives. From a lifelong education perspective, service-oriented education depends not only on design but also on sustained, stable resource support. Its effectiveness hinges on the rationality of the input structure and operational safeguards. At the human resources level, service staff in domains like libraries, cafeterias, and dormitories are the direct implementers of service-oriented education concepts. The staffing ratios, competence, and educational capabilities of these personnel are crucial for fulfilling educational functions. This dimension evaluates personnel quantity, allocation, competence, and training. Regarding material resources, the construction and maintenance of facilities impact students' academic and living experiences. With digital learning

gaining importance in lifelong education, the quality of digital platforms also plays a key role in supporting self-directed learning. This dimension assesses the development of learning facilities and the quality of digital platforms. At the institutional level, the systematization of service standards and processes affects stability and enforceability, while mechanisms for student participation, feedback, and decision-making influence service governance and continuous improvement mechanisms. Lifelong education emphasizes learner agency, and incorporating student input enhances management and fosters responsibility. In summary, this study constructs an evaluation system for service-oriented education input in higher education, focusing on three dimensions: human resources, material resources, and institutional safeguards, as shown in Table 2.

Table 2: Evaluation Indicators for Service-Oriented Education Input in Higher Education Institutions from a Lifelong Education Perspective

Primary Indicators	Secondary Indicators	Indicator Description
Rationality of Human Resource Allocation	Adequacy of Service Staff Numbers and Ratios	Evaluates whether the quantity and structural composition of service staff are adequate.
	Educational Capabilities and Professional Training of Service Staff	Evaluates whether the professional training and competency levels of service staff in areas such as communication skills, service awareness, and educational expertise.
Effectiveness of Material Resource Investment	Level of Construction and Renewal of Learning and Living Facilities	Evaluates whether the construction and renewal status of learning and living facilities, including reading spaces, dining environments, and dormitory study areas.
	Quality of Information and Digital Platform Development	Evaluates whether the development and operational standards of information and digital platforms, including library management systems, online meal ordering systems, and dormitory maintenance reporting platforms.
Level of Institutional and Management Mechanism Support	Institutionalization of Service Standards and Processes	Evaluates whether the clarity and enforceability of service standards and procedures, including borrowing regulations, dining management systems, and dormitory safety protocols.
	Effectiveness of Student Feedback and Service Governance Mechanisms	Evaluates whether the mechanisms for collecting student feedback and the establishment and operation of student participation in service governance mechanisms.

4.3 Selection of Process Evaluation Indicators for Higher Education Institutions' Service-Oriented Education

From a lifelong education perspective, process evaluation focuses on the operational status and educational quality of university service-oriented education during its implementation. It emphasizes learner participation, collaborative operation, and continuous improvement. Unlike context or input evaluations that prioritize conditions, process evaluation highlights the dynamic nature of service generation, assessing how services are implemented, engaged with, and optimized. At the operational level, service domains such as libraries, cafeterias, and dormitories directly impact students' service experiences. Key factors include adherence to service norms, timely responses, and clear communication. This dimension evaluates the standardization of service procedures, responsiveness, and communication quality. From the interaction perspective, lifelong education emphasizes learner agency. Service-oriented education should encourage active student involvement in service governance mechanisms. The depth of student participation and the quality of interaction with service staff reflect whether the service process is learner-centered. This dimension evaluates the sophistication of participation mechanisms, engagement depth, and quality of interactions. From the system operation perspective, service-oriented education often involves multiple departments and service scenarios. Its effectiveness depends on efficient information-sharing and cross-scenario collaboration. This dimension evaluates the level of coordination among departments and collaborative educational activities. From a developmental perspective, process evaluation examines service improvement mechanisms, focusing on how student feedback is used to optimize services. This determines whether the service can establish a sustainable, self-improving operational system. In summary, the evaluation framework for service-oriented education is built around service implementation, stakeholder

interaction, system coordination, and process improvement, with specific indicators outlined in Table 3.

Table 3: Process Evaluation Indicators for Service-Oriented Education in Higher Education Institutions from a Lifelong Education Perspective

Primary Indicators	Secondary Indicators	Indicator Description
Service Implementation Quality	Compliance with Service Process Standards	Evaluates whether service processes in libraries, cafeterias, dormitories, and other service domains are implemented according to established systems and standards during actual operation.
	Timeliness and Effectiveness of Service Response	Evaluates whether the timeliness and effectiveness of addressing student needs, inquiries, and issues during service interactions.
	Service Communication Quality	Evaluates whether the attitude, communication methods, and clarity of information conveyed by service staff during interactions with students.
Quality of Student Participation and Interaction	Effectiveness of Student Participation Mechanisms	Evaluates whether platforms and mechanisms for student participation in service governance mechanisms (e.g., reader committees, dining committees, and dormitory self-governance) have been established.
	Depth and Autonomy of Student Participation	Evaluates whether the extent and level of autonomy students have in decision-making, consultation, and service improvement during service delivery.
	Frequency and Quality of Two-Way Interaction	Evaluates whether the frequency of feedback exchanges between service staff and students, as well as the thoroughness of the interaction process.
Departmental Coordination and Synergy	Information Sharing Mechanisms Among Service Departments	Evaluates whether the operational effectiveness of information communication and sharing mechanisms among service departments, such as libraries, cafeterias, and dormitories.
	Implementation of Scenario-Based Collaborative Education Activities	Evaluates whether cross-departmental and cross-setting collaborative educational activities are conducted across different service scenarios.
Process Improvement and Development	Student Feedback Collection and Utilization Mechanism	Evaluates whether institutions systematically collect student feedback on services and establish corresponding processing and feedback mechanisms.
	Degree of Continuous Optimization in Service Processes	Evaluates whether service processes and content are continuously adjusted and improved based on student feedback and operational performance.

4.4 Selection of Higher Education Institutions' Service-Oriented Education Evaluation Indicators Based on Product Evaluation

Product Evaluation focuses on the outcomes and overall impact of service-oriented education in higher education institutions. From a lifelong education perspective, the results and developmental impacts of service-oriented education go beyond immediate experiences, encompassing student development, value formation, and the overall service system's effectiveness. Regarding student development, campus service scenarios influence students' daily lives, with their effectiveness impacting the formation of lifelong competencies. Changes in information literacy, learning abilities, self-care skills, and socialization/collaboration reflect service-oriented education's support for growth. This dimension evaluates improvements in these areas. From the service results perspective, students' experiences with services like libraries, cafeterias, and dormitories reflect the alignment with student

needs. Service equity and accessibility show how different student groups access resources. This dimension is assessed through student satisfaction and service accessibility. From the value guidance perspective, the cultural and behavioral norms within service environments impact campus culture and student behavior. This dimension is evaluated through achievements in cultural development and changes in student behavior and values. Overall, comprehensive service performance and social recognition reflect the broader results of service-oriented education. Internal and external feedback, as well as overall service effectiveness, reveal the impact of service-oriented education. In summary, the Product Evaluation framework for service-oriented education is constructed across four dimensions: student development, service experience, cultural development, and overall performance, with specific indicators outlined in Table 4.

Table 4: Product Evaluation Indicators for Service-Oriented Education in Higher Education Institutions from a Lifelong Education Perspective

Primary Indicators	Secondary Indicators	Indicator Description
Student Growth and Competency Enhancement	Information Literacy and Learning Ability Enhancement	Evaluates whether library services enhance students' information retrieval and filtering skills
	Self-Care Management and Skills Development	Evaluates whether cafeteria, dormitory, and other daily living services foster students' self-care and routine management skills
	Socialization and Collaborative Skills Development	Evaluates whether committee participation and dormitory self-governance enhance students' communication, collaboration, and sense of responsibility
Service Experience and Satisfaction	Student Satisfaction and Perceived Benefits	Evaluates whether students' overall satisfaction and sense of fulfillment regarding essential services such as reading, dining, and accommodation
	Service Equity and Accessibility	Evaluates whether different student groups have equitable access to services and resources
Cultivation of Educational Culture	Achievements in Spatial Cultural Development	Evaluates whether educational spaces such as libraries, dormitories, and cafeterias have fostered a stable cultural atmosphere and behavioral orientation
	Positive Changes in Student Behavior Habits and Values	Evaluates whether students have demonstrated changes in areas such as sense of responsibility, conservation awareness, and adherence to public conduct norms
Overall Service Performance and Social Recognition	Internal and external evaluations and recognition	Evaluates whether the recognition and approval of service-oriented education initiatives among relevant groups both within and outside the university
	Overall Effectiveness of Service-Oriented Education	Evaluates whether service-oriented education objectives have been achieved and whether the concept of lifelong education has been effectively implemented

5. Conclusion

Guided by lifelong education principles, service-oriented education in higher education has evolved from traditional logistical support to a key element promoting students' holistic development and learning potential. Based on the CIPP evaluation model, this paper constructs a quality assessment system across four dimensions: Context Evaluation, Input Evaluation, Process Evaluation, and Product Evaluation, forming a systematic analytical framework. The study highlights that everyday settings like libraries, cafeterias, and dormitories possess educational value, influencing not only immediate campus experiences but also students' future learning, social adaptability, and personal growth. Practically, universities can use this indicator system for regular self-assessments to identify service weaknesses, enabling coordinated efforts in resource integration, optimization, and cultural guidance, thereby enhancing students' fulfillment, happiness, and development. Service-oriented education is an ongoing,

complex system requiring both a scientific evaluation tool and collaborative participation from administrators, staff, and students. Future research should focus on testing the system's applicability across different universities, enhancing digital technology use in evaluations, and exploring mechanisms for deeper student involvement to drive service improvements. While this study can be refined, the proposed evaluation approach offers valuable guidance for enhancing service-oriented education quality in higher education institutions.

Acknowledgments

This research was supported by the 2024 Provincial Education Department Special Project on College Students' Ideological and Political Education, "Research on Enhancing the Quality of Service-Oriented Education in Higher Education Institutions Based on the CIPP Model" (Y202454900), and the 2026 Ningbo University Teaching Reform Project (JYXM2026108), "Construction of an Evaluation Index System for Ideological and Political Education in Navigation-Major Courses Based on the Cultivation of Industry Spirit."

References

- [1] Huang, J. (2019). *Looking ahead to the path of education modernization across time and space. Lifelong Education Research, 30(4), 3–7.*
- [2] Liu, X., & Wang, Y. (2023). *The internal logic and practical pathways of service-oriented education in higher education institutions in the new era. Ideological and Theoretical Education, (8), 107–111.*
- [3] Li, G. (2017). *Paul Lengrand and the theory of lifelong education: Implications of Western lifelong education theory for China's educational modernization. Educational Research, 38(6), 146–150, 158.*
- [4] Li, W. (2019). *An analysis of promoting the "curriculum-based ideological and political education" reform in higher education institutions from the perspective of teachers. Journal of Beijing Polytechnic, 18(2), 57–60.*
- [5] Jin, J. (2023). *Research on continuing education in adult higher education institutions based on the enhancement of learners' vocational competencies. Continuing Education Research, (9), 12–16.*
- [6] Xiao, Y. (2003). *An analysis of the CIPP educational evaluation model. Education Science, (3), 42–45.*
- [7] Gao, Z. (1998). *A review of the CIPP educational evaluation model. Teaching and Management, (Z1), 57–59.*
- [8] Zeng, R., & Sun, L. (2025). *Construction of an evaluation indicator system for senior education curricula based on the CIPP model. Vocational Education Forum, 41(5), 106–114.*