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Implementation and Evaluation of Service-Learning in Nursing Education: An International Comparative Analysis with Chinese Mainland as a Case

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Abstract: *Service-learning is an experiential teaching approach that integrates curricular learning with community service to foster students' professional competences and social awareness. However, its implementation and outcomes in nursing education vary substantially across countries. Using the Chinese mainland as a case, this study presents a literature-based comparative analysis of service-learning in nursing education between Chinese mainland and international contexts, with a focus on curriculum design, implementation and outcome assessment. The findings reveal that service-learning in nursing education remains at an exploratory stage worldwide, including in the Chinese mainland; it is applied mainly in community and geriatric nursing courses and is characterized by underdeveloped implementation mechanisms and non-standardized evaluation systems.Further efforts are needed to optimize practical frameworks, establish multidimensional evaluation systems, strengthen long-term effect assessment, and promote the standardized, sustainable development of service-learning in nursing education.*

Keywords: *Service-learning; Nursing education; Curriculum evaluation; International comparison; Comparative review*

1. Research Background

Strengthening the nursing workforce and promoting high-quality development are sustained priorities in healthcare. Nursing education is critical to building nursing human resources, professionalizing the workforce, and improving care quality [1] Student-centered and competency-based approaches are now widely recognized in nursing education. However, current practices still face problems such as a disconnect between theory and practice and insufficient assessment of value internalization. Although nursing curricula embody core educational philosophies and objectives, the integration of knowledge and skills remains inadequate in current designs, and existing evaluation mechanisms often lack scientific quantification of professional competence. Consequently, there is an urgent need to optimize the design and implementation of nursing curricula, strengthen the integration of theory and practice, establish a scientific evaluation system, and effectively enhance the quality of nursing talent. As a model among developing nations, China has pursued nursing education reform with distinctive approaches and values against the backdrop of higher education reform. This paper examines the issue through nursing curricula in the Chinese mainland.

Service-learning (SL) is an experiential educational philosophy that emphasizes the reciprocal importance of service and learning and aims to enhance students' knowledge, attitudes, and practical competencies through community engagement or clinical practice [2]. Originating in U.S. higher education in the mid-twentieth century, SL advocates combining classroom learning with community service to deepen professional knowledge, stimulate critical reflection, and cultivate civic responsibility [3]. In the Chinese mainland, SL has been gradually adopted in disciplines including the arts, law, and nursing [4-6]. SL has demonstrated substantial benefits for the comprehensive development of students in public health and medical education [7-9]. In nursing courses, especially geriatric and community nursing courses, SL has been shown in several studies to enhance students' research skills and health education capabilities [10-13], foster the development of professional identity among nursing students [13],

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and increase learning engagement and nursing awareness [14]. In course design, however, the link between service tasks and course objectives is often weak and the practical pathways unclear [15,16]. Many programs overemphasize service activities while neglecting reflection and theoretical grounding, which impedes the establishment of a sustainable "service–learning–reflection–re-practice" cycle. As a result, such programs yield limited outcomes in knowledge internalization and competency transformation and are accompanied by immature evaluation systems [16,17]. From a global comparative perspective, this study summarizes existing SL practices in nursing education in the Chinese mainland and proposes targeted optimization strategies, aiming to offer practical references for countries with comparable educational conditions.

2 Current State of Research on SL in Nursing Education

2.1 International Research Status of SL in Nursing

2.1.1 Curriculum Design of International SL in Nursing

Internationally, SL has been applied in nursing courses such as geriatric care, palliative care, and community health promotion, yielding robust research evidence. Review studies from Spain and Oman [18,19] confirm that SL delivers multifaceted educational and humanistic benefits and serves as a core pedagogical strategy for fostering nursing students' caring competencies. Most relevant courses are based on geriatric and community nursing [20-25] and predominantly target undergraduate nursing students, with some also including postgraduates and clinical nurses; the service content covers community health services, hospital nursing, patient care, and health promotion [26]. Course durations are generally long, with an emphasis on service continuity [20-25]. Prior to implementation, specialized training in communication and collaboration is routinely provided, and a joint supervision model involving lecturers, teaching assistants, and community professionals is adopted, ensuring a high degree of pedagogical standardization [22]. Nevertheless, most studies provide sparse details regarding faculty preparation or venue logistics [20,22]; few include control groups (apart from a limited number of quasi-experimental designs); sample sizes commonly range from 50 to 80 participants [23,25]; and single-center designs predominate, which inherently restricts generalizability. With respect to evaluation design, national differences exist in research focus: for example, U.S. studies prioritize changes in students' service attitudes and perceptions and often adopt longitudinal service frameworks [20,23], whereas Spanish studies center on students' experiential transformations and rely primarily on qualitative methods [21,22,25].

2.1.2 Implementation of International SL in Nursing

International SL in nursing courses emphasizes students' continuous participation and standardized delivery in real community contexts, supported by on-site, formative guidance from academic and community mentors [23,27,28]. In the United States, Horning et al. [29] required students to complete 60 hours of experiential SL following the sequence of pre-planning and preparation, on-site engagement, and debriefing and feedback. Keperling designed a framework of community needs assessment, preparatory training, on-site delivery, and structured reflection and synthesis. Students deliver ongoing services—including health assessment, health promotion, and health education—in settings serving vulnerable community populations. Academic staff and community partners provide joint guidance and ongoing supervision to ensure alignment between service activities and learning outcomes.

During and after service, students engage in multilevel reflection to foster learning internalization—a core element that distinguishes SL from conventional community volunteering [28]. Internationally, reflection practices are diverse and systematic. In the United States, Garbarino et al. [20] used group presentations, thank-you notes, and reflective journals. In Spain, Guerra-Marmolejo et al. [21] applied group discussions, reflective reports, and one-on-one interviews, with reflection focusing on practical experiences, clinical reasoning, and attitudinal changes [20,29].

For implementation quality, Yoong et al. in Singapore [30] assessed 21 community SL projects for older adults with a standardized instrument. Only 9 met the adequate-quality threshold and 12 remained at the initial stage. This indicates that most programs failed to uphold the core principles of SL—balance, systematic reflection, and reciprocity—resulting in low overall evidence quality.

2.1.3 Evaluation of International SL in Nursing

Internationally, evaluations of undergraduate nursing SL courses adopt a multidimensional approach

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that mainly covers student self-assessment, faculty evaluation, and service-recipient feedback.

From the students' perspective, competence development and subjective experiences are commonly measured through self-report questionnaires, reflective journals, and satisfaction surveys. In Iran, Emrani et al. [24] adopted a quasi-experimental design, assigning students to either an SL intervention group or a conventional placement control group. A health education competence scale covering three domains—knowledge, skills, and attitudes—was administered before and after the intervention, revealing significant improvements across all domains in the intervention group. In the United States, Keperling [28] used pre–post assessments and satisfaction surveys to evaluate community engagement, knowledge application, professional identity, and overall course satisfaction; the results indicated an upward trend in most indicators, with particularly marked improvements in knowledge transfer and professional role identity. Also in the United States, Horning et al. [29] integrated pre–post questionnaires, reflective journals, and classroom discussion records to analyze critical thinking, problem-solving, and attitudinal changes. In Spain, Pérez-Baena et al. [31] employed pre- and post-test quantitative analysis together with satisfaction surveys to assess students' knowledge acquisition and skill development, and reported improvements in both knowledge and competence.

From the faculty's perspective, students' holistic performance was evaluated through classroom observation, formative guidance logs, and qualitative interviews. In Spain, Morante-García et al. [25] found that faculty provided timely guidance by observing students' behavioral performance during community service and making corresponding adjustments and improvements to practical procedures; at the same time, they used observation records to give immediate feedback on students' community communication, reflecting the characteristics of formative assessment.

Some studies have extended the evaluation perspective to service recipients in order to reflect the "reciprocity" principle of SL. In their evaluation of a pharmacology course for nursing students in Spain, Pérez-Baena et al. [31] used multiple questionnaires and scales tailored to the characteristics (e.g., age and educational background) of child service recipients to assess changes in the children's health literacy. The results showed enhanced health literacy among the children, indicating that the study captured both educational benefits for the learners and practical contributions to the community.

In summary, international curriculum evaluation of SL has developed into a comprehensive, multi-stakeholder, and multidimensional system that takes into account student development, the teaching process, and the benefits of service provision.

2.2 Research Status of SL in Nursing in Chinese Mainland

2.2.1 Curriculum Design of SL in Nursing in Chinese Mainland

In terms of curriculum design, nursing SL courses in the Chinese mainland are primarily practice-based and include community nursing [10] and geriatric nursing [32]. These courses are mainly aimed at undergraduate students, and the service activities cover areas such as community health education, health assessment, and chronic disease management. The teaching period is typically designed to last 30–36 academic hours or several weeks, with a focus on short-term projects [33,34]. A collaborative supervision model involving academic faculty and clinical or community preceptors is commonly adopted [10,32], and teaching quality is ensured through standardized training. Placement sites are arranged in advance through university–community health center or hospital partnerships, and the target populations and service activities are defined before the course begins. Most studies employ quasi-experimental designs with control groups [14,32,35], but the research is often limited to a single institution or a single course, and sample sizes are generally small [10,32,35]. Reflection sessions primarily take the form of reflective reports and group discussions [14,36]. In recent years, information technology has begun to be integrated into curriculum design. For example, Liu Lizhen et al. [32] combined "Internet Plus" with SL to design a blended online–offline teaching model, and another study [35] introduced a community-oriented intelligent health promotion system to enable an intelligent, comprehensive assessment of health indicators and questionnaires. Overall, however, the deep integration of digital technology with SL remains relatively limited, and the effectiveness of such applications requires further validation. In terms of evaluation design, the evaluation tools are predominantly course grades, self-administered questionnaires, and reflective reports, which lack standardized scales and multidimensional evaluation systems. The dimensions used to evaluate the effectiveness of reflection are relatively limited [14,36], and long-term follow-up is lacking [33,34].

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2.2.2 Implementation of SL in Nursing in Chinese Mainland

In the Chinese mainland, nursing SL courses are goal-oriented and practice-task-based, generally presenting a cyclical learning structure [37,38] and following a "preparation–practice–reflection–evaluation" framework [38]. Guided by academic and community preceptors, students work in authentic community settings to perform health assessments, deliver health education, and practice basic nursing skills, thereby promoting the transfer of knowledge to practice [34,38]. Li et al. [37] applied a two-cycle practice model that enhanced learning and practice through iterative adjustments to the service plan. Wang et al. [14] integrated SL with team-based learning, organizing community needs assessments, nursing interventions, and health guidance through collaborative groups. Diverse implementation models have been developed in the Chinese mainland, including structured action-research cycles [37], stepwise phased-progression frameworks [38], and innovative models that integrate labor education with traditional Chinese culture; a notable example of the latter is the embedding of traditional Chinese medicine into teaching practice [34]. One study [33] used interviews and reflective journals to explore students' authentic experiences during service delivery and confirmed that students can achieve dual growth in both professional competence and humanistic care. Although most curricula include reflection, the activities are limited to basic reports, discussions, or journals and lack depth and systematic design; the integration between course objectives and service tasks also needs improvement [14,33].

2.2.3 Evaluation of SL in Nursing in Chinese Mainland

The evaluation of nursing SL courses in the Chinese mainland involves three core stakeholders: students, faculty, and service recipients. However, most studies focus primarily on student and faculty evaluations.

In the Chinese mainland, the evaluation of nursing SL programs is often conducted through satisfaction surveys, reflective journals, and semi-structured interviews to capture subjective experiences and competency development. Liu Na [11] used a structured satisfaction questionnaire and obtained an overall satisfaction score of 4.52/5, with "improved communication with older adults" scoring highest (4.71). Liu et al. [32] incorporated online engagement data and theory scores into final grades; online task completion reached 96.5%, and theory scores were significantly higher than those of the previous traditional cohort. With respect to qualitative evaluation, Li et al. [37] analyzed students' reflective journals to depict their experiences at service sites and their process of skill development. Yao et al. [33] used semi-structured interviews to assess the impact of SL on emotion, cognition, and professional development. Overall, evaluations from the students' perspective still rely primarily on satisfaction questionnaires and comparisons of grades, whereas the use of formats such as reflective diaries and interviews remains limited in depth, and reflective formats lack diversity.

Faculty perform dynamic assessments of learning progress and service quality through classroom observation, stage-based feedback, and peer evaluation. Wang et al. [36] note that teachers' observational records of the SL implementation process, together with phased feedback, are key methods for guiding adjustments to student learning. Suo Xin et al. [17] point out that process-based indicators, such as performance scores at service sites and the quality of reflection reports, are indispensable components of a comprehensive evaluation system. Zhang et al. [34] employed multiple methods—including observation of classroom performance, documentation of the service process, and student feedback on practical experiences—using multi-source, whole-process observation and reflection materials as the basis for evaluating effectiveness. Wang et al. [14] incorporated a dedicated reflection session into the practical process, in which students presented reports after group discussions. However, evaluations from the faculty's perspective often rely on non-standardized observation records and lack systematic evaluation tools and scoring criteria.

A few studies have begun to extend the evaluation perspective to service recipients, but such research remains scarce, and most studies still center on faculty evaluation. Some courses collect satisfaction ratings from service recipients regarding students' service attitude and quality as a supplementary evaluation measure [11,32,36], reflecting an attempt to gauge the practical value of learning outcomes from the perspective of external stakeholders. In addition, student self-assessment and peer assessment are gradually being incorporated into the evaluation system [11,32,36].

2.3 Summary of Differences: International Research and Studies from Chinese mainland

Table 1 compares International research and studies from Chinese mainland regarding nursing service-learning.

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Table 1: Comparison of Nursing SL Research.

Dimension	International Research	Research in the Chinese Mainland
Development Foundation	Early start; Mature models; Standardized systems	Late start; Predominantly experience-based; Underdeveloped local theories
Curriculum Design	Long-term, continuous delivery; Multi-stakeholder supervision; Focus on communication and teamwork training	Short-term delivery; Dual-supervision model; Limited exploration of Internet Plus integration
Course Implementation	Deep community engagement; Diverse reflection methods; Emphasis on experiential internalization	Standardized implementation procedures; Limited and superficial reflection practices
Evaluation system	Multi-stakeholder and multi-dimensional; Standardized assessment tools and rubrics available	Multi-stakeholder and multi-dimension; Lacking standardized assessment tools and rubrics
Research Focus	Holistic development of competence and affect; Professional identity and social responsibility	Emphasis on short-term practical skills; Limited long-term outcome tracking

3. Pathways for Optimising SL Courses in Chinese mainland Nursing

3.1 Establishing a Systematic Curriculum Implementation Framework

To improve the standardization and continuity of nursing SL implementation in the Chinese mainland, a systematic delivery framework should be established. In curriculum design, a goal-oriented approach should be adopted that organically integrates service tasks with community needs and the development of students' competencies. For specific practical activities, service tasks should be broken down into actionable steps, and standardized implementation protocols should be developed. These protocols should clearly specify the online preparatory content, on-site service responsibilities, task-execution sequences, and quality standards, and should incorporate structured reflection and summary sessions upon task completion. At the same time, Internet Plus technology platforms can be used to integrate online learning resources, remote teaching guidance, community needs data collection, service outcome submission, and multi-stakeholder feedback into a unified system. This would enhance student engagement and learning efficiency, promote the sharing of teaching resources and dynamic instructional management, and advance SL toward greater scientific rigor, standardization, and digitalization [39,40].

When developing implementation pathways for SL courses in the Chinese mainland, an established framework can serve as a reference for local adaptation. In the context of the continuous improvement of SL course design, Yoong et al. [30] drew on the mature SL quality assessment framework developed by Furco et al.—which comprises five dimensions, 28 specific assessment items, and corresponding scoring criteria—to conduct a targeted empirical evaluation of SL course implementation. Based on the results of their systematic analysis, they put forward a clear recommendation: to optimize the effectiveness of SL courses, four core elements should be prioritized during implementation: (a) clear, well-defined SL course objectives that align with talent-cultivation goals; (b) structured, systematic reflection arrangements that enable students to connect practice with theory; (c) sustained, active participation of community partners to ensure that practical resources match teaching needs; and (d) long-term, continuous monitoring and complete feedback mechanisms that allow implementation strategies to be adjusted in a timely manner.

3.2 Improving the Multi-dimensional SL Evaluation System

In existing research, the evaluation of SL outcomes in the Chinese mainland has largely focused on students' short-term academic performance, service satisfaction, and faculty evaluations. Systematic assessment of students' comprehensive competence development and long-term educational effects is lacking; evaluation results consist predominantly of phased, static feedback, making it difficult to

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capture the sustained impact of SL on the development of students' professional competence [34,41]. Future research should establish a multidimensional, full-cycle evaluation system for SL. The focus of evaluation should shift from assessing knowledge alone to assessing comprehensive competencies; while emphasizing knowledge acquisition and skill enhancement, attention should also be paid to indicators such as professional ethics, social responsibility, and reflective capacity. A variety of tools—such as standardized questionnaires, reflective journals, in-depth interviews, and community feedback—can be used to form a multi-stakeholder evaluation model. At the same time, the assessment of SL projects should consider multiple dimensions, including academic outcomes, community impact, and participants' long-term development, in order to establish a comprehensive evaluation framework that more fully reflects the educational value of SL [42].

The case study by Pérez-Baena et al. [31] provides a useful reference for constructing an evaluation system in the Chinese mainland: evaluation should take into account the dual perspectives of both the service providers (students) and the service recipients (the community), reflecting the core principle of "reciprocity" in SL. In addition, the SL quality assessment tool adopted by Yoong et al. [30] and the multidimensional evaluation framework identified by Marcilla-Toribio et al. [18]—which covers both educational and non-educational benefits—can both serve as references for constructing a more comprehensive evaluation system in the Chinese mainland.

3.3 Strengthening Research on Long-Term Effects and the Development of Reflective Learning Mechanisms

Existing nursing SL research in the Chinese mainland tends to focus on short-term post-implementation outcomes, with inadequate attention paid to students' long-term career development and professional growth. Future research could combine longitudinal tracking surveys with in-depth qualitative interviews to monitor the development of professional competencies among SL participants after they enter clinical practice, thereby providing a more comprehensive and objective assessment of its educational impact [43,44].

Furthermore, the formation of long-term educational outcomes in SL is inseparable from the support of systematic reflective learning. Reflective learning is a core mechanism that deeply integrates service, learning, and personal growth; its quality directly determines the depth of students' practical insights and the degree to which professional competencies are internalized. Sturgill and Motley [45] proposed six reflective dimensions: guided, free, dialogic, expressive, public, and private. During course implementation, reflective learning should be systematically integrated into the entire SL cycle: in the pre-service preparation phase, guided reflection is used to clarify learning objectives and professional role positioning; in the service delivery phase, dialogic and expressive reflection helps students process, understand, and adjust their practical experiences in a timely manner; and after service, public and private reflection helps students summarize their learning gains and deepen their understanding of professional responsibilities and social values. Through a multidimensional, progressive reflection design, the educational depth of SL courses can be effectively enhanced, enabling students to move from "participating in service" to "reflecting on practice and internalizing competencies."

4. Summary

As a pedagogical approach that links theoretical knowledge with social practice, SL enables nursing education to cultivate high-quality nursing professionals with strong clinical skills, humanistic values, and social responsibility. In the Chinese mainland and other countries with similar educational backgrounds, future research should be grounded in the practical needs and resource conditions of local nursing education. Building on this foundation, it should draw on established international experience to further refine the implementation pathways and evaluation systems for SL courses, while strengthening follow-up research on the long-term impact of SL on students' career development. At the same time, the central role of reflective learning in curriculum delivery should be emphasized, promoting the transformation of SL from scattered practical activities into a standardized, systematic curriculum model. This will ultimately achieve a coordinated improvement in both the quality of nursing talent cultivation and the value of social service.

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