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Peer Education: An Innovative Practice Exploration of Information Literacy Education for Graduate Students (Postprint)

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Abstract

[Purpose/Significance] Addressing the current situation of insufficient teaching staff for graduate information literacy education in university libraries, this study explores how to utilize the peer education model to conduct library graduate information literacy education. [Method/Process] Taking the practice of South China Agricultural University Library as an example, it discusses the construction mechanism of the peer education team and explores the practical models and effects of implementing information literacy education. [Results/Conclusions] Graduate students, in the capacity of peers, assist the library in conducting graduate information literacy education through methods such as "micro-classroom" peer training, "thematic classroom" peer teaching assistance, and "micro-course" peer creation, thereby alleviating the teaching pressure on libraries due to insufficient teaching staff and providing new ideas for similar libraries to expand the scale of graduate information literacy education and improve its personalization and specialization.

Full Text

Peer Education: An Innovative Practice for Graduate Student Information Literacy Education

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Abstract

[Purpose/Significance] This study explores how university libraries can leverage peer education models to deliver information literacy education for graduate

students amid chronic staffing shortages. [**Method/Process**] Using the practice at South China Agricultural University Library as a case study, this paper examines the team construction mechanism for peer educators and investigates the practical models and effectiveness of information literacy education initiatives. [**Results/Conclusion**] Graduate students, serving as peer educators, assist the library in delivering information literacy education through "micro-classroom" peer training, "special-topic classroom" peer teaching assistance, and "micro-lecture" peer creation. This approach alleviates teaching pressure caused by insufficient library staff and provides new insights for other libraries seeking to expand the scale of graduate information literacy education while improving its personalization and specialization.

Keywords: university libraries; graduate students; information literacy; peer education

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Graduate students serve as crucial research assistants for faculty and represent one of the most innovative research cohorts in higher education [1]. Developing their information literacy has long been a core mission of university libraries in supporting teaching and research [2-3], particularly under China's "Double First-Class" initiative for higher education, which has made expanding both the scale and quality of graduate information literacy education a top priority for university libraries [4]. However, limited library staffing and inadequate specialized guidance have resulted in suboptimal information literacy education for graduate students. Research indicates low course enrollment rates [5-8] and poor attendance at lectures and customized training sessions [9-10]. Existing reform efforts rely on libraries' limited staff to conduct small-scale trials [11-16], leaving the scale, efficiency, and effectiveness far short of meeting the substantial needs of large graduate populations.

Consequently, innovating education models and methods to maximize satisfaction of graduate students' personalized and specialized information literacy needs under resource constraints has become a key research focus [17]. This study investigates using peer education models to expand graduate information literacy education, leveraging graduate students' advantages in numbers and disciplinary expertise to compensate for library staffing shortages.

2 Overview of Peer Education and Its Application in University Libraries

2.1 Overview of Peer Education

Peer education is an educational approach where peers mutually influence and assist each other to achieve educational goals [18], grounded in Bandura's social learning theory [19], Rogers' diffusion of innovations [20], and experiential learning theory [21]. Social learning theory posits that information is more readily accepted when communicators and recipients share similar experiences, con-

cerns, and challenges [22-23], while participants strengthen their own learning through teaching others, creating a "win-win" for both instruction and learning [24]. Rogers' diffusion theory identifies key influencers within groups who, while sharing characteristics with general members, possess higher status, better education, and greater creativity, making them particularly effective at influencing others [25]. Experiential learning theory emphasizes how collaborators create, learn, share, and utilize knowledge through communication and cooperation, achieving mutual knowledge transfer among peers [21,26].

Various terms describe peer education activities, including "peer mentoring," "peer education," "peer service," and "student teaching assistants." This study collectively refers to the purposeful, systematic recruitment and training of student volunteers to assist libraries in information literacy education as the "peer education model."

2.2 Peer Education Applications in University Libraries Worldwide

Peer education has been widely adopted in university libraries globally, with consensus emerging on its value for innovating user education models [27-28].

International applications focus on two areas: First, **peer consulting**, which leverages age similarity and shared experiences to facilitate communication and problem-solving. Johns Hopkins University [29], Wartburg College [30], and Pepperdine University [31] recruit senior undergraduates as student consultants to guide peers on library resources and services, demonstrating that student consultants effectively relieve library pressure while better addressing student learning challenges [30-32]. Second, **peer instruction**, where peers serve as instructors or teaching assistants to foster mutual assistance and learning. The University of Florida [34], Manchester Metropolitan University [35], and Institute of Technology Tallaght [36] collaborate with academic departments to recruit discipline-trained seniors as peer educators, conducting large-scale training or individual guidance with positive outcomes. Western Washington University Library partners with its Graduate School to recruit graduate students as research and writing mentors, making the program indispensable for graduate research support [37].

Domestic research concentrates on: (1) undergraduate orientation, with libraries at Guilin Medical University [38], Hangzhou Normal University [39], and Hubei University of Technology [40] selecting undergraduates as orientation volunteers; and (2) user information literacy training, such as Capital Normal University Library's "Reader Service Month" engaging students across degree levels [41], and Shanghai Jiao Tong University Library's "information specialists" recommended by research teams [42]. While some studies mention peer education for graduate information literacy [37,43], none explore implementation details. South China Agricultural University Library (hereafter "SCAU Library") trains graduate students as peer educators, utilizing their numerical strength, solid disciplinary knowledge, and frequent peer interaction [44] to deliver information

literacy education through multiple approaches.

3 Peer Education Practice at SCAU Library

South China Agricultural University (SCAU) is a comprehensive institution emphasizing agriculture and life sciences across multiple disciplines. Like other Chinese universities, SCAU faces graduate enrollment expansion and "Double First-Class" pressures on information literacy education [45]. While SCAU Library has expanded training through orientation, lectures, courses, and customized sessions, low enrollment and attendance persist. Surveys of graduate students in 2016 and 2017 revealed that "seeking peer assistance" ranked highest among preferred information literacy education modes [46-47], consistent with findings at Capital Normal University [48], Central University of Finance and Economics [49], and Nanjing Normal University [17], indicating strong foundations for peer-based education.

Aligned with "Double First-Class" talent development goals and encouraged by library leadership to innovate without additional staff, the author recruited 179 and 187 graduate students from six colleges (Agriculture, Resources and Environment, Forestry and Landscape Architecture, Food Science, Life Sciences, and Materials and Energy) in 2016 and 2017 respectively. After systematic training, these peer educators participated in various information literacy initiatives. Based on practical experience, the team construction mechanism and activity models are summarized in [Figure 1: see original paper].

3.1 Peer Educator Team Construction Mechanism

3.1.1 Recruitment Peer educators are recruited from current doctoral and master's students through three channels: (1) voluntary application via semester announcements; (2) peer referral by existing participants recommending junior peers; and (3) faculty recommendation through established relationships with academic departments. Recruitment prioritizes high comprehensive quality, strong communication skills, and broad disciplinary distribution to ensure effective, rapid deployment and comprehensive departmental coverage. Ideally, each laboratory or research group recruits at least one educator. For key "Double First-Class" teams with academicians or distinguished scholars, subject librarians first coordinate with research secretaries to secure principal investigators' support before recruiting their students.

3.1.2 Training Training follows principles of practicality, convenience, time-efficiency, and effectiveness. Practicality ensures content aligns with "Double First-Class" disciplinary goals and research information needs. Convenience and time-efficiency utilize face-to-face or online instruction as appropriate, minimizing time waste—online instruction proves more intuitive for databases and analytical software. Effectiveness combines group instruction with individual coaching via social media platforms like QQ, providing real-time guidance to

ensure mastery and application of skills.

3.1.3 Role Assignment and Management **Management Structure and Responsibilities.** The team employs a "peer educator convener system" with flat management: one chief convener (a librarian) oversees recruitment, training, goal-setting, and implementation guidance; conveners and deputy conveners (peer educators from each college and department, preferably student union members) organize local activities and manage daily operations. Other peer educators deliver training as required.

Role Specialization. Assignments align with individual strengths: academically strong doctoral and senior master's students serve as teaching assistants for special-topic lectures; all conduct one-to-one or one-to-many micro-classroom training; all contribute to publicity, micro-lecture creation, and subject consultation; student union members organize lectures.

Management Strategies. Management combines sincerity, incentives, and joint library-faculty supervision. Sincerity ensures programs address genuine graduate needs, enhancing information skills for research—a primary reason faculty support participation. Incentives include volunteer certificates strengthening award applications and priority access to services like novelty searches. Joint supervision involves both library and faculty advisors: peer educators document activities confirmed by advisors, creating mutual benefit as participants improve their own skills while supporting their research groups.

3.2 Peer Education Activities

3.2.1 Micro-Classroom Peer Training Micro-classrooms involve training sessions with fewer than 10 participants. While many libraries offer customized lectures, staffing constraints limit responses to small groups [50-51]. Peer educators, numerous and widely distributed, conduct micro-classrooms in laboratories, research groups, or dormitories with flexible timing, duration, and location based on actual needs.

3.2.2 Special-Topic Classroom Peer Teaching Assistance Special-topic lectures address specific content for larger audiences. The library selects outstanding doctoral and master's students with solid disciplinary knowledge to serve as teaching assistants for particular topics, with multiple assistants per topic to enable training across departments.

3.2.3 Micro-Lecture Peer Creation Micro-lectures, based on constructivist methods for online or mobile learning [52], address key, difficult, and error-prone points in information literacy education, catering to fragmented learning preferences [53]. Leveraging peer educators' numerical advantage, the library trains them to create micro-lectures, alleviating staffing pressures while producing peer-delivered content that resonates with graduate students. In

2017, 79 peer educators created 81 micro-lecture videos, with two skilled in editing handling post-production.

3.2.4 Peer Education Support Service System Inadequate resource promotion, poor lecture organization, and delayed consultation negatively impact education effectiveness. The library established a support system where designated peer educators promote resources and services, student union members organize lectures, and others provide real-time Q&A via departmental QQ/WeChat groups, relieving library consultation pressure.

3.3 Practical Effects

3.3.1 Micro-Classrooms: Convenient, Timely, and Personalized As shown in , peer educators conducted over 100 micro-classroom sessions in 2016 and more than 60 in 2017 (despite some demand shifting to special-topic lectures). These sessions extended to times and places library staff cannot cover, complementing regular training. Content focused on citation management, SCI database usage, and research tracking—guiding topic selection for library lectures. Micro-classrooms effectively address the personalized and timely needs that library staff cannot meet.

3.3.2 Special-Topic Lectures: Broader Coverage Graduate students are primary targets for library user education [46], but staffing shortages limit scale and quality [47]. Involving doctoral and master's students as instructors increases training frequency without additional staff. In 2017, selected graduates delivered 12 lectures: four to train new peer educators, and eight via QQ livestream reaching 916 students (42.53% of SCAU's 2,154 new graduate students). This demonstrates how leveraging graduate expertise effectively compensates for staffing gaps.

3.3.3 Micro-Lectures: Targeted and Appealing Micro-lectures' "short, small, precise, and flexible" characteristics address traditional training limitations while meeting fragmented learning needs [9]. In 2018, selected excellent micro-lectures uploaded to departmental QQ groups received positive responses, confirming their appeal and potential.

3.3.4 Peer Support Services: Enhanced Efficiency Low attendance at library lectures and courses stems from inadequate promotion and organization [10,48]. Peer educators' needs-based planning and implementation prove more effective. In 2016-2017, peer educators in student unions organized 22 major lectures, including four on literature retrieval and review writing for innovation competitions with 100+ attendees each, and 18 online lectures for new students averaging 40 participants each. Peer consultation also resonated with students: 310 peer educators from the 2016 and 2017 cohorts provided online or face-to-face consultation, easing library pressure.

3.3.5 Alignment with Principle of Least Effort Information behavior encompasses individuals' activities in identifying needs and seeking, using, or transmitting information [54]. Zipf's principle of least effort suggests people minimize effort when acquiring information, preferring nearby, simple, and accessible sources [55]. Peer educators, sharing departmental and disciplinary proximity, better understand peers' information needs, motivations, and expectations. Their training methods align with this principle, making peer education readily acceptable and conducive to fostering graduate students' information behaviors.

4 Recommendations

4.1 Strengthen Evaluation Mechanisms

Effective evaluation optimizes peer education, yet domestic research focuses primarily on implementation strategies rather than assessment. International libraries emphasize service evaluation, adjusting programs based on student feedback [36] and peer educator experiences [37], assessing value through effectiveness, satisfaction, utility, and confidence [30,32]. These approaches merit adoption.

4.2 Enhance Information Behavior Research

Robson and Robinson identify professional and psychological factors as significantly influencing information behavior [56]. Peer education participants from diverse departments and disciplines exhibit varying information needs, motivations, and expectations. Librarians should strengthen research on peer education information behaviors to improve program quality.

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Peer Education: The Innovation and Practice of the Information Literacy Education for Graduate Students

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Abstract: [Purpose/significance] The purpose of this article is to explore through peer education model to develop the information literacy education for graduate students at the current situation of insufficient teaching resources in libraries. [Method/process] Hiring graduate students from different majors as peer educators, we first practise the peer education model in the library of South China Agricultural University (SCAU), investigate the team construction mechanism, and explore the practice model and effect for the development of the information literacy education. [Result/conclusion] Through peer education, students learn information literacy skills with well-trained peer. Graduate students conduct “micro-class” training, “special-seminar” lecturing, “micro-lecture” producing etc. to assist library with the development of the information literacy education, which not only reduces the stress from the limited teaching resources in the library, but also provides novel ideas for other

libraries using teaching resources to scale up the graduate information literacy education, and improve the individualized and specialized teaching.

Keywords: academic libraries; graduate students; peer education; information literacy education

Note: Figure translations are in progress. See original paper for figures.

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