

On the Integration of Information Literacy Education and Academic Advising (Postprint)

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Abstract

[Purpose/Significance] The practice of information literacy education reform is prominently manifested in online teaching or blended teaching, rarely reflecting characteristics such as knowledge, communication, and community. University libraries need to seek a feasible path to gradually advance the practical work of reform. [Method/Process] Academic advising has played a significant role in higher education. A structural analysis of academic advising and information literacy education is conducted from perspectives such as stakeholders, content composition, practical process, and target elements, with a comparative analysis of the commonalities and characteristics of the two. [Results/Conclusion] Information literacy education needs to integrate with academic advising to gradually advance the reform of information literacy education: focusing on campus-level cooperation to inject impetus for change; embedding into the academic process to enhance the influence of educational practice; and developing community learning to improve educational effectiveness. Furthermore, information literacy education comprehensively and deeply supports students' holistic development, advancing reform and continuously leveraging its advantages in talent cultivation.

Full Text

On the Integration of Information Literacy Education and Academic Advising

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Abstract:

[Purpose/Significance] While information literacy education reform has prominently manifested in online or blended teaching, it has rarely embodied characteristics such as knowledge, communication, and community. University li-

braries need to seek a feasible path to gradually advance reform practices. [Method/Process] Academic advising has played a significant role in higher education. This study conducts a structural analysis of academic advising and information literacy education from four dimensions—stakeholders, content composition, practice process, and target elements—to compare their commonalities and distinctive features. [Result/Conclusion] Information literacy education needs to integrate with academic advising to progressively advance its reform: emphasize campus-level cooperation to inject momentum for change; embed within academic processes to enhance educational influence; and develop community learning to improve effectiveness. Through this integration, information literacy education can comprehensively and deeply support students’ holistic development, continuously driving reform and sustaining its advantages in talent cultivation.

Keywords: Information Literacy Education; Academic Advising; University Library

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Academic advising originated in the United Kingdom and United States during the late 19th and early 20th centuries. Grounded in higher education’s “talent development” objectives and students’ shared needs for learning and growth, academic advising systematically integrates and optimizes various educational resources both inside and outside the classroom that benefit student learning and development. Drawing upon theories and research from education, sociology, psychology, and related fields, it employs diverse guidance methods to provide specialized support for student learning and development. As an educational activity equally important as teaching, academic advising upholds development-based theories and perspectives, offering higher education a set of practical strategies and pathways that have yielded significant results.

University library services are shifting from a collection-centered model to one centered on teaching and research participation, gradually becoming an essential component of the academic knowledge service system both on and off campus. Libraries are no longer merely providers of resources and content; they are actively seeking to enhance scholars’ productivity, strengthen undergraduate capabilities, and participate throughout the entire lifecycle of research, teaching, and learning processes. Under the “Double First-Class” initiative, Chinese university libraries must clarify their positioning and functions, focusing on talent cultivation, scientific research, social service, and cultural inheritance and innovation. Consequently, libraries need to seek a sustainable and effective practical model for information literacy education.

Research indicates that academic advising represents a future characteristic of the academic sharing environment, benefiting university libraries substantially at both practical and developmental levels. The academic sharing environment

has transformed student learning processes, requiring students to engage in innovative learning through communication and discussion in created contexts, starting from known knowledge or existing experiences. Its advantages—respecting personalized learning habits, supporting large-scale learning, and promoting group student growth—are precisely the practical elements needed for information literacy education reform. Moreover, the case-based teaching approach employed in information literacy education proves highly effective, and information literacy itself, as a meta-literacy, constitutes a fundamental condition for autonomous and lifelong learning. Undoubtedly, information literacy education can enhance the effectiveness of academic advising. Therefore, it is necessary to conduct research and practice on the correlation between information literacy education and academic advising to achieve a synergistic effect where the whole exceeds the sum of its parts, thereby creating greater value in higher education. This will also advance practical exploration of information literacy education reform and further demonstrate the library's academic advantages in talent cultivation.

1. Research and Practice of Academic Advising and Information Literacy Education

A Web of Science database search using the query “Topic=Academic advising” (with exact search, SSCI, all years) yielded 110 relevant documents (search date: December 11, 2019). Foreign research covers extensive themes related to academic advising, including service frameworks, models, values and functions, effectiveness evaluation, and case studies. This body of work emphasizes establishing cooperative and interactive relationships between faculty and students, promoting student learning and development through constructive learning, addressing personalized needs, and respecting individual student autonomy. Most American universities have established academic advising systems to provide consultation and guidance on majors, course selection, learning methods, and career planning. Harvard University, for instance, prioritizes student success, offering support, knowledge, and guidance throughout students' entire journey from enrollment to graduation. Based on differences in enrollment duration and student development needs, Harvard provides targeted academic advising services for undergraduates, upperclassmen, and graduate students to help them select courses, develop study plans, and complete their academic goals. In recent years, Chinese universities have widely recognized and vigorously developed academic advising. A CNKI search using “Topic=Academic advising” (with exact search, core journals and CSSCI, all years) yielded 37 relevant documents (search date: December 11, 2019). Domestic research has primarily focused on recognizing the necessity of academic advising at the conceptual level, discussing its status, functions, and values, with considerable attention to case studies from renowned foreign universities. Most Chinese universities have established academic advising centers that collaborate with faculty and counselors to conduct academic early warnings, psychological health guidance, and employment and entrepreneurship guidance. However, domestic universities have focused more

on “superficial guidance” without forming an integrated system.

A review of domestic information literacy education research over two decades (1995-2014) reveals that theoretical development has fully absorbed foreign concepts, evaluation standards, and educational models. Investigations of domestic and international information literacy education literature from 2013-2017 indicate that educational connotations are continuously generalizing, deepening, and specifying, with increasingly diversified educational models. The 2015 *Framework for Information Literacy for Higher Education* defines information literacy as “the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating in communities of learning,” introducing important new concepts such as threshold concepts, metacognition, and meta-literacy. This provides new guidance for theoretical development and practical exploration of information literacy education. Chinese scholars have subsequently analyzed translations, overall interpretations, key concepts, and the framework’s implications for China. Information literacy education has begun integrating various emerging literacies (such as digital, visual, and network literacy), emphasizing the functional role of metacognition and meta-literacy in collaborative knowledge production, and attempting to construct an organic whole that integrates knowledge acquisition, production, and sharing. This has promoted active reform in comprehensive and systematic educational content systems and diversified educational forms.

Moreover, information literacy education faces demands for passive reform. Chinese universities have consistently 致力于 developing high-quality courses and conducting research and practice on blended education models. The sudden outbreak of COVID-19 in 2020 forced universities nationwide to implement online education, raising widespread concerns about how to ensure educational quality. Two underlying worries emerged: first, current online education in its early stages remains knowledge- and skill-centered, with technology applications primarily reflected in course development rather than the crucial information interaction and communication in education; second, virtual environments impose higher demands on students’ self-learning abilities and teachers’ information literacy. The internet acts as a magnifying glass, requiring both teachers and students to possess higher information literacy for effective information acquisition and exchange, regulated information dissemination, and strong information ethics. Future information literacy education must enhance students’ overall information literacy, but traditional teaching and training models clearly only suit small groups. Consequently, information literacy education must inevitably seek to establish new educational models in informal learning beyond the classroom.

2. Structural Analysis of Academic Advising and Information Literacy Education

Academic advising and information literacy education both serve university talent cultivation, sharing certain commonalities in service culture, direction, and

objectives while maintaining distinctive features in service philosophy and practice. Through structural analysis of academic advising and information literacy education across four dimensions—stakeholders, content, process, and objectives (see Table 1)—this study examines their commonalities, characteristics, strengths, and weaknesses. Additionally, academic advising models were compiled (see Table 2) to provide more detailed specifications for content, process, and objectives.

2.1 Stakeholders

Academic advising primarily serves undergraduates, with academic advising center faculty and counselors as main providers, supplemented by departmental faculty, and primarily connected to student affairs offices and academic departments. Information literacy education serves all faculty and students, with librarians as main providers, involving academic affairs offices and graduate schools, but without extensive direct connections to academic departments. Both serve undergraduates, but differ in stakeholder coverage, teaching staff, and crucially, in the intensity of connections with academic departments. Academic advising emphasizes broad campus cooperation, maintains close ties with faculty and departments, and can embed itself in students' academic processes to dynamically track and meet student development needs.

2.2 Content Composition

Comprehensive analysis of Tables 1 and 2 reveals different educational content emphases. Currently, academic advising focuses on learning affairs, providing consultation and guidance on major and course selection, learning methods, and career planning, emphasizing learning and development opportunities, academic goal planning, and clarifying career development directions. Information literacy education focuses on academic affairs, primarily teaching and training information knowledge and skills to enhance students' ability to access, evaluate, and utilize literature information resources, supporting learning and research. Both demonstrate resource integration, helping students connect with multiple resources.

From a developmental perspective, academic advising emphasizes holistic student development, focusing on knowledge, behavior, and emotion while 致力于 cultivating metacognition. Information literacy education emphasizes professional skills, focusing on information literacy knowledge and practical abilities, and is transitioning toward meta-literacy education. Meta-literacy has an inseparable and close relationship with metacognition. Meta-literacy content and educational objectives manifest in four domains— affective, behavioral, cognitive, and metacognitive—becoming key factors influencing student self-development and success. Metacognition involves self-awareness and regulation of cognitive activities, which is crucial for consciousness cultivation. It helps students recognize that information literacy is an indispensable component and enables them

to actively and effectively acquire, evaluate, and utilize diverse information for learning in practice.

2.3 Practice Process

Table 2 demonstrates that academic advising employs diversified methods, providing diagnostic, proactive, developmental, teaching-and-learning-centered, and strength-identification guidance based on different needs. Academic advising emphasizes individual student differences, integrating academic, career, life, and personal goals into guidance. It provides scaffolding support by connecting curricular and extracurricular educational experiences, cultivating students' ability to make decisions and solve problems independently. Information literacy education follows a general education model, primarily using teaching plus practice, and has gradually adopted characteristics such as learner-centeredness, learning-focused orientation, gamification, and diversified evaluation through the introduction of MOOCs, flipped classrooms, and blended models. Both approaches guide students to gradually clarify needs and then acquire, organize, and utilize information to meet those needs, demonstrating methodological guidance and developmental processes. However, both have shortcomings due to insufficient understanding of student personality characteristics and inadequate student engagement. Academic advising has long neglected cultivating students' autonomy, initiative, responsibility, and innovative spirit during learning processes, while information literacy education suffers from single communication modes, insufficient experiential learning, and inadequate socialization atmospheres, constraining educational effectiveness.

2.4 Target Elements

Student success represents the shared goal of university missions, student needs, and societal expectations. Academic advising objectives align perfectly with the ACRL report *Value of Academic and Research Libraries* description of "student success" —excellence in learning, degree attainment, job acquisition, good salaries, and acquiring market-demanded skills. Academic advising helps students achieve academic goals and clarify career development directions through progressively operational objectives such as information provision, academic intervention, improving academic performance, promoting holistic development, and building strengths and advantages. Information literacy education enables students to comprehensively utilize various retrieval methods and tools to locate literature and manage, evaluate, and use it appropriately. This cultivation of transferable skills contributes to lifelong learning and career development goals.

Academic advising also plays important roles in affective and behavioral domains: establishing sense of belonging, which positively impacts relationship building, academic development, personal growth, and career goal setting; changing learning preference patterns to help students transition from single-modal to multi-modal learning to improve academic performance; and promoting student integration into campus academic life and social activities.

The two fields are highly correlated—good information literacy levels can accelerate and enhance the achievement of each specific academic advising objective, while information literacy education practice must always start from student needs and focus on affective, behavioral, and developmental goals to better demonstrate educational value.

3. Feasibility Analysis of Integrated Development

Based on commonalities and complementary advantages, the integration of academic advising and information literacy education possesses solid theoretical foundations and practical support. This integration enables students to connect learning with their life development directions through constructive learning, promoting higher education quality improvement.

First, information literacy education and academic advising share a foundation for integration. They exhibit commonalities in educational resources, methods, and processes, and consistency in educational objectives: (1) resource integration—helping students connect with diverse academic resources; (2) methodological guidance—guiding students to acquire, organize, and utilize information based on needs; (3) developmental processes—playing a guiding role to help students gradually clarify their needs; and (4) consistency in development demands and goals—both seeking to play roles and demonstrate value in higher education development and 致力于 student success. These factors create innate conditions for deep integration.

Second, integration is necessary because both fields fail to fully meet student needs. Information literacy education content remains literature-information-centered with an incomplete system, while academic advising cannot fully satisfy student needs in major selection, classroom learning, and career planning. Current Chinese university academic advising focuses primarily on learning affairs, particularly academic early warnings. The shortcomings in each field's practice are precisely where they can complement each other—academic advising is more flexible but less standardized, needing student-centered guidance principles such as clear and positive goals, active participation, student motivation, high expectations, and effective feedback and interaction. Information literacy education overly relies on traditional teaching models and needs enhanced experiential learning, expanded communication modes, and improved socialization atmospheres.

Finally, successful practical cases exist both domestically and internationally. Stanford University targets student career development by applying academic advising to critical thinking courses, where students' regular and close interaction with postdoctoral fellows effectively promotes freshmen's academic adaptation and demonstrates significant effects in critical investigation, analysis, reading, and writing—areas that constitute important content for information literacy education. This clearly shows that academic advising concepts and practices positively promote information literacy education reform, particularly in critical

thinking development.

4. Reform of Information Literacy Education from an Integrated Development Perspective

Information literacy education reform is profoundly influenced by three factors: (1) China's current information literacy education system itself remains imperfect; (2) the shift toward blended education models is underway, but online education models are still being explored; and (3) as a teaching support unit, university libraries' auxiliary responsibilities determine that they cannot fully replicate teaching models. University library information literacy education reform must balance these three aspects and explore new models adapted to first-class discipline construction and talent cultivation.

4.1 Broad Campus-Level Cooperation to Inject Momentum for Reform

Currently, domestic information literacy education content systems are incomplete, limited to literature information retrieval and access. Information evaluation content is relatively weak, information ethics education is scarce, and information management, academic publishing, and dissemination content are lacking. A complete academic research process requires information literacy education to cover information retrieval, acquisition, evaluation, utilization, management, and dissemination. Developmentally, information literacy education has entered a stage emphasizing both quality and quantity, with literacy understood as "the competencies needed by professions, institutions, departments, and users in the library and information field, covering core and extended competencies." The generalization, deepening, and specification of information literacy education connotations have broadened content to include data literacy, meta-literacy, media literacy, and other comprehensive competencies, with increasingly diversified educational forms.

Current domestic reforms primarily involve structural adjustments to teaching frameworks for online course development, enriched course presentations through micro-lectures and recorded lessons, and diversified evaluations. These approaches essentially improve existing educational content, but critical thinking, data literacy, and other elements lack systematic design and teaching practice. Moreover, reform has consistently focused on teaching models, using technical means for interaction, discussion, and Q&A to compensate for traditional teaching shortcomings and enrich learning experiences. However, these measures do not fundamentally meet professional and personalized needs. Furthermore, as university libraries' general education remains in a state of insufficient supply, the pressure and motivation for fundamentally reforming information literacy education remain inadequate.

Academic advising work generally falls under student affairs offices, which collaborate closely with academic affairs offices, academic departments, and other

institutions to serve student academic growth. At Capital Normal University, academic advising operates through two primary channels: establishing academic counseling groups employing outstanding students as peer counselors to share learning experiences, and organizing various learning activities through departmental counselors such as academic lectures, reading presentations, and note-taking competitions. From an integrated development perspective, information literacy education can help academic advising enhance counselors' information literacy and leverage librarians' strengths in information acquisition, communication, and knowledge organization to improve career development counseling and psychological health information services. Information literacy education can also rapidly and extensively establish stable connections with academic departments, with faculty and students' professional needs and behavioral characteristics injecting momentum for reform.

Research shows that campus-level cooperation enables more university institutions, faculty, and students to participate in information literacy education: (1) collaboration with faculty improves educational programs, transforms curriculum systems and learning support systems, and explores higher education organizational restructuring and ecological culture improvement; (2) it promotes knowledge and wisdom connections and exchanges between people, enables collaborative cognition, and drives innovation by implementing various student-centered heuristic, cooperative, participatory, and seminar-style learning methods, enriching course practice and promoting educational reform. Libraries also have opportunities to achieve professional and academic development through integration with academic departments, such as collaborating with psychological health courses to practice multi-literacy education.

4.2 Embedding in Academic Processes to Enhance Educational Practice Influence

Information literacy is essential for cultivating lifelong learning abilities. However, information literacy education has not received universal attention in Chinese universities. It must move beyond the library's perspective and closely follow higher education's essence and objectives to enhance educational practice influence and identify reform pathways. Fundamentally, universities are about knowledge and the pursuit of truth. Harvard's president noted in his 2017 convocation address that one of the university's crucial abilities is "the capacity to make judgments and evaluate facts," which directly relates to information evaluation capabilities requiring continuous exchange, sustained argumentation, challenge, and debate to complete analysis, evaluation, and reconstruction—key to critical thinking training. Information evaluation and critical thinking are essential components of information literacy education.

Higher education faces challenges from educational and cultural diversity and learning diversity, freedom, and choice. Extensive international research confirms that beyond the classroom, the frequency and nature of informal interactions between faculty and students—such as tutoring, Q&A, and emotional

exchange—positively impact students’ academic development, socialization, self-concept formation, and institutional satisfaction, with effects exceeding those of formal faculty-student interactions in traditional classrooms. It is foreseeable that online education will further transform future higher education, making informal learning normalized. Information literacy education needs to cultivate critical thinking and self-reflection metacognitive abilities in informal learning contexts.

Integration enables information literacy education to fully embed within academic processes, cultivating information literacy while discovering and meeting developmental needs. At Capital Normal University, integration proceeds in three stages: first, developing a “College Student Academic Development and Planning” course for freshmen, co-taught by librarians and counselors to help students comprehensively understand academic resource sources and access methods and make preliminary academic plans; second, participating in and understanding academic early warning work to identify academic problems and develop thematic learning based on academic needs (such as questionnaire design, data analysis, software applications, and psychological health); and third, enhancing student innovation literacy by comprehensively utilizing library professional competency development and assessment digital resources, and conducting thematic activities such as resume production and interview skills to support employment and entrepreneurship.

Information literacy education possesses instrumental attributes with high practical requirements, and traditional teaching models somewhat constrain its reform. Integration with academic advising will enable substantial development in several areas: exploring informal, large-scale practical teaching solutions to meet professional and personalized information needs during academic development; comprehensively collecting and analyzing diversified needs to advance multi-literacy education practice and enhance students’ comprehensive competencies in data, science, and psychological health; and cultivating effective knowledge exchange methods based on student information behavior characteristics to stimulate positive developmental forces. For example, research shows that critical thinking has significant mediating effects on creativity, substantially improving university students’ creative abilities, yet regrettably, Chinese university libraries have conducted few related practical explorations. Integration provides ample opportunities for information literacy education practice and application, expanding students’ critical thinking about professional knowledge and improving competencies in “increasing employment opportunities, enhancing entrepreneurial capabilities, and improving spiritual life or quality of life,” thereby cultivating lifelong learning abilities and enhancing educational practice influence.

4.3 Developing Community Learning to Improve Educational Effectiveness

Research on high-impact teaching practices reveals implicit characteristics including: high student engagement in educational practices and academic projects; application of knowledge inside and outside the classroom; construction of environments for substantive communication between students and faculty; provision of cross-cultural and international diversified experiential opportunities that potentially transform students' lifestyles; and acquisition of sufficient feedback and assessment. Academic advising has played an increasingly important role in higher education precisely because it possesses these characteristics. Community learning represents an important method for university students to learn, grow, and develop. Contemporary university students exhibit typical community behavior characteristics: their information sources have community features, with research showing that American university students select online information sources that combine usefulness and interactivity, such as forums, blogs, and social networking sites; and their virtual network behaviors demonstrate community characteristics, as evidenced by short-video app rankings where user stickiness, measured by weekly average opens, places community-oriented platforms at the top.

Contemporary university students have developed strong demands for community learning. Students no longer merely seek knowledge from books but bring their own ideas and expect to form new knowledge, inspiration, and added value through exchanges with others. Information literacy education must actively develop community learning. Community learning satisfies the new generation's strong psychological need for individuality, providing personalized and differentiated learning while establishing a sense of belonging. This emotional factor of being recognized enables information literacy education to genuinely help students who might succeed in specific academic environments. Studies on academic advising effectiveness demonstrate that changing student propensity to participate can effectively improve satisfaction, with lower propensity generating strong external factors and weaker internal factors. Community learning enables information literacy education to highly integrate virtual learning and social technologies, functioning as a channel for knowledge transmission, exchange, and creation, thereby increasing student engagement and satisfaction.

Capital Normal University Library first surveyed literacy courses across campus and identified specialized courses and features, such as SPSS software applications, R software applications, advanced PowerPoint production (School of Psychology), comparative literature (School of Literature), calligraphy appreciation (Calligraphy Research Institute), and Origin software applications (Department of Chemistry). Subsequently, the library gradually collaborated with the graduate school, student affairs office, and School of Teacher Education to develop community learning by establishing student theme teams, faculty review teams, student review teams, and librarian guidance teams, with representative activities including "Peer Excellence Competitions." In community learning, students

become both practitioners and beneficiaries of information literacy education, as well as its carriers and disseminators. By leveraging the leading role of learning models, they promote academic information exchange and creation, enhance educational effectiveness, and demonstrate the library's value in higher education.

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

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