

## Research on the Design of a Training System for University Intellectual Property Information Services (Postprint)

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### Abstract

[目的/意义] In response to the requirements of China's national strategy for building a strong intellectual property power, Chinese university libraries have recently attempted to develop intellectual property information services. These services extend beyond the traditional domains, scope, and depth of information services in university libraries, making it urgent to train subject librarians with corresponding service capabilities. Furthermore, as universities are important producers of intellectual property, the intellectual property information literacy of university library directors, researchers, and students requires enhancement. Therefore, there is an urgent need to establish a complete and standardized training system for university intellectual property information services.

[方法/过程] Using methods such as literature research, expert interviews, and questionnaire surveys, extensive research was conducted on four groups within domestic universities to construct a multi-stakeholder-oriented training system for university intellectual property information services. The training content comprises five major modules: intellectual property awareness enhancement, basic intellectual property knowledge, intellectual property information retrieval, intellectual property information analysis and application, and detailed explanation of intellectual property application processes and patent document drafting. Among these, basic knowledge, information retrieval, and information analysis and application are designated as key modules, each divided into three depth levels (elementary, intermediate, and advanced). The training can be implemented through a modular course combination approach.

[结果/结论] This training system offers advantages such as completeness, operability, and adaptability, and can meet the multi-level, multi-group, and diversified intellectual property training needs of universities. Its effective implementation will comprehensively enhance university intellectual property information service capabilities and intellectual property information literacy.

## Full Text

# Research on the Design of a University Intellectual Property Information Service Training System

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## Abstract

**[Purpose/Significance]** In response to China's national intellectual property (IP) powerhouse strategy, university libraries have recently begun exploring IP information services. This service expansion breaks through the original boundaries and depth of academic library information services, creating an urgent need to train a cohort of subject librarians with corresponding service capabilities. Moreover, as universities are major producers of intellectual property, the IP information literacy of library directors, researchers, and students needs improvement. Therefore, establishing a complete and standardized university IP information service training system is essential. **[Method/Process]** Through literature review, expert interviews, and questionnaire surveys, this study conducted extensive research on four groups within domestic universities to construct a multi-agent IP information service training system. The curriculum comprises five modules: IP awareness enhancement, IP fundamentals, IP information retrieval, IP information analysis and application, and detailed IP application processes and patent document drafting. The fundamentals, retrieval, and analysis/application modules serve as core components, each divided into three depth levels (beginner, intermediate, advanced) that can be flexibly combined through modular course design. **[Result/Conclusion]** This training system offers advantages of completeness, operability, and adaptability, meeting the multi-level, multi-group, and diverse training needs of universities. Its effective implementation will comprehensively enhance university IP information service capabilities and IP information literacy.

**Keywords:** university intellectual property information service; training system; IP subject librarian; classified and graded training

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## 2. Review of Existing Research

The United States, as one of the earliest countries to establish a patent system, has developed a relatively mature patent information public service system. In 1871, it established the Patent Depository Library Program (PDL), which later evolved into the Patent and Trademark Resource Center Network (PTRC). Current network members include not only public libraries but also 43 university libraries. PTRC functions include helping the public efficiently utilize

patent and trademark information resources, providing free access to USPTO resources, delivering USPTO-mandated services, and sending librarians to annual USPTO training sessions. Additionally, experienced PTRC librarians are periodically invited to conduct training sessions. University libraries in the PTRC network provide patent services including patent information consultation, patent retrieval and utilization education, and patent resource recommendation and promotion activities. They popularize patent fundamentals through dedicated website columns, specialized courses, training lectures, and patent retrieval manuals. Many US university libraries have also established copyright services offices to assist faculty with copyright matters. Thus, American IP librarians receive both regular training from the USPTO and peer-to-peer and user training. In fact, many US university libraries have long incorporated IP information literacy training into their new librarian orientation programs.

In the United Kingdom, the “British Library Business & IP Centre” serves as the core, together with 13 other public libraries distributed across different regions, forming the “British Library Business & IP Centre Networks.” These networks provide free access to IP, market research, journals, directories, and reports databases for entrepreneurs and SMEs throughout the UK; offer free industry and IP guides; provide paid research consultation services; conduct free one-hour consultation sessions to help businesses develop creative ideas and business plans; and organize free or low-cost events and seminars on business planning, marketing, and intellectual property. The network receives support from the UK Intellectual Property Office, which organizes business and IP service librarian training.

In China, with the implementation of the IP powerhouse strategy, IP protection has gained increasing attention, making the cultivation of IP professionals particularly urgent. The China National Intellectual Property Administration (CNIPA) has issued the “National IP Education and Training Classification Guidance Outline (Trial),” the “Patent Information Analysis Professional Competency Guidance Outline (2017 Trial Version),” and the “Patent Information Analysis Professional Competency Guidance Outline (2018 Revised Version).” The “National IP Education and Training Classification Guidance Outline” provides classified training outlines for IP administrative personnel, enterprise IP practitioners, IP intermediary service personnel, IP teachers, party and government officials, and the general public, offering a scientific basis for guiding IP education and training. Liu Jufang et al. note that the number of high-end and interdisciplinary patent information talents is insufficient, and professional capacity building needs strengthening. Universities, scientific and technological information institutions, libraries, and industry associations should be incorporated into the patent information service system. As a significant force, university library patent information service talent 队伍建设 has attracted attention within the library community. Shen Jinhua et al. argue that university library patent information services in China are still in their infancy and require building a large-scale, professional librarian team with unified business norms and service standards. Shen Jinhua et al. also studied demand-oriented capac-

ity building for university library patent information services, identifying value identification, work attitude, communication skills, patent-related knowledge, patent retrieval capability, patent analysis capability, intelligence research capability, basic technical domain knowledge, and technical investigation as essential components of patent information service capacity. Additionally, Chinese universities have begun emphasizing the cultivation of students' patent information literacy and copyright literacy education. Wang Liping et al. propose that libraries could offer independent courses for IP information literacy education, while Zhang Libin et al. studied the relationship between copyright literacy and information literacy, arguing that both share unified educational objectives and targets, representing an important pathway for improving information literacy education.

Expert interviews with IP information service industry professionals yielded valuable insights. Experts recommend that university-oriented curriculum design should balance professionalism and applicability. Due to institutional constraints, university libraries cannot position themselves as overly specialized, and their services should differ from commercial IP information service agencies. They suggest strengthening IP law courses, introducing case-based teaching, and emphasizing teaching effectiveness evaluation. Curriculum design should be demand-oriented while managing the relationship between generality and personalization.

In-depth interviews with five researchers from five domestic universities revealed that graduate students typically assist supervisors in drafting patent technical disclosure documents. Without formal training, this task proves extremely challenging, making IP information literacy education for graduate students particularly important. Researchers recommended training courses including: patent resource database introduction, international patent information retrieval, Chinese patent technical disclosure document drafting, and Chinese patent application process introduction. Researchers themselves also desire advanced patent retrieval training and hope libraries can provide patent novelty search services to improve their chances of patent authorization.

In summary, libraries and public libraries in developed countries like the UK and US have already implemented IP information services with relatively mature training systems. IP talent training for libraries is managed by IP administrative authorities, reflecting government leadership. While some Chinese university libraries have attempted to develop IP information services, no systematic and authoritative training system exists for university IP information service personnel. Since CNIPA's "National IP Education and Training Classification Guidance Outline (Trial)" does not cover the university population, it is necessary to establish a classified and graded IP information service training system adapted to universities under the guidance of the outline—precisely the significance of this research.

### 3. Design of the University IP Information Service Training System

To design a classified training system for university IP information services, this study employed expert interviews and questionnaire surveys to comprehensively understand the training needs of different groups, with IP subject librarians and researchers being the primary focus. Research indicates that IP fundamentals, patent retrieval techniques, patent analysis and application, and patent technical disclosure document drafting are common concerns across IP subject librarians, researchers, and students, forming the core curriculum content. Library directors show greater interest in national IP policies and library IP information service development.

#### 3.1 Expert Interviews

To gain in-depth understanding of training needs, the authors conducted interviews with library information service experts, IP information service industry experts, and university researchers. Interviews with information service experts from Tsinghua University, Tongji University, Sun Yat-sen University, Shanghai Jiao Tong University, and Jilin University revealed that training for library professionals is essential for consolidating their professional knowledge, enhancing specialized skills, and comprehensively improving IP information service capabilities. The training system should provide classified training progressing from basic to advanced levels, covering different types of universities. Beyond emphasizing fundamentals, patent retrieval skills, and patent analysis skills, the curriculum should also prioritize competitive intelligence analysis and related knowledge and skills cultivation, combining popular and professional training. Experts unanimously agreed that library directors should be included in the training system to strengthen top-level service design through enhanced awareness of IP information service importance.

#### 3.2 Questionnaire Survey and Statistical Analysis

To further identify issues and precisely design training courses, the authors conducted a questionnaire survey. A total of 1,100 questionnaires were distributed, with 905 returned and 789 valid responses (95% electronic). The valid questionnaires included 40 from library directors, 451 from IP subject librarians, 115 from researchers, and 183 from university students, covering over 80 domestic universities. Respondents completed different sections based on their identity.

Statistics from the IP subject librarian survey show that 87% of respondents believe they need systematic mastery of domestic and international IP laws, 97% need to master patent database retrieval methods, 93% need to improve patent analysis tool application capabilities, 80% need guidance on patent analysis service experience, and 70% need to enhance skills in promoting IP information knowledge. This indicates strong demand for these training courses among IP subject librarians, who urgently desire relevant knowledge and skills training.

It also demonstrates that IP information service is an emerging business in university libraries, and subject librarians lack the necessary knowledge and skills.

Survey results from library directors show that most understand the role of IP information in research and have some knowledge of China's IP development trends and policies, with the vast majority considering IP information service talent planning and training system design very important and necessary. Researcher surveys indicate they hope libraries can provide patent document acquisition, patent document analysis and utilization, patent intelligence analysis, and IP risk management services. Regarding training, they wish to understand China's patent system, IP laws, and key points for drafting patent technical disclosure documents. Student surveys show their training needs include understanding China's patent system, IP legal systems, interpreting patent documents, learning patent technical disclosure document drafting, and understanding patent application processes and related matters.

### 3.3 Research Summary

Based on the above research, the university training population can be divided into four groups: library directors, IP subject librarians, researchers, and students. Training courses can be organized around the chain of IP creation, utilization, protection, and management, covering IP policies, fundamentals, retrieval, analysis and application, and application processes. Through systematic training, library directors will strategically recognize the importance and urgency of IP information services, providing organizational support; IP subject librarians will master relevant techniques and methods at the tactical level to better serve users; and researchers and students will improve their IP information literacy.

## 4. Framework of the University IP Information Service Training System

Following practical design principles and drawing from CNIPA's IP education and training classification guidance outline, the training system framework is designed around the university IP creation, utilization, protection, and management process. The curriculum is structured into five modules: 1) IP awareness enhancement; 2) IP fundamentals; 3) IP information retrieval; 4) IP information analysis and application; and 5) detailed IP application processes and patent document drafting. These five modules form the basic framework, with each module containing several sub-modules that have interdependent relationships and represent different content depths. The training targets four groups: university library directors, IP subject librarians, researchers, and students. Different combinations of sub-modules enable graded training for different types and levels of learners. The overall objectives are to enhance library directors' IP awareness, strengthen IP subject librarians' foundational knowledge, basic skills, and intelligence analysis capabilities, improve researchers' IP awareness

and retrieval/analysis abilities, and elevate students' IP information literacy.

As university IP information service is an emerging field with high training thresholds and significant difficulty requiring cross-industry collaboration, implementation can be led by education authorities at all levels together with national and provincial IP management departments. Training can be organized first in universities or regions with well-developed IP information services, or initiated nationwide and locally through university IP information service alliances, library professional associations, and various library consortia. Courses should be taught by renowned domestic and international IP experts, scholars, patent examiners, and patent information analysts, combining theory with practice. The training framework is illustrated in Figure 1 [Figure 1: see original paper].

#### 4.1 University IP Information Service Curriculum System

Based on the above research, the authors constructed a multi-agent IP information service training curriculum model. The curriculum design follows this logical progression: strategic level (awareness) → legal level (fundamentals) → technical level (retrieval and analysis/application) → operational level (process interpretation and document drafting). The specific model is shown in Figure 2 [Figure 2: see original paper].

**Module A: IP Awareness Enhancement (Strategic Level).** This module begins with interpreting IP-related policies, further elaborates on the relationship between university innovation and IP, and explores the positioning, service content, and service models of university library IP information services. It is a key module for training library directors, helping leadership clarify development 思路 for IP information services. Additionally, it promotes IP awareness among researchers and students.

**Module B: IP Fundamentals (Legal Level).** This module focuses on legal perspectives, covering Chinese IP laws, major international IP laws and regulations, IP protection content, and international treaties. Advanced courses emphasize research and discussion on IP information utilization and sharing mechanisms in major countries and regions.

**Module C: IP Information Retrieval (Technical Level).** As a core module and foundation for patent information analysis and application, this module is divided into three levels: beginner, intermediate, and advanced. Beginner courses focus on general information retrieval techniques and patent literature retrieval; intermediate courses emphasize patent novelty and inventive step retrieval; advanced courses concentrate on patent retrieval strategies and patent big data development and application.

**Module D: IP Information Analysis and Application (Technical Level).** This module, also a key and challenging component for IP subject librarians, consists of three parts: patent analysis processes, patent analysis

methods, and typical patent analysis applications. The basic patent analysis process (beginner level) aims to familiarize IP subject librarians with the fundamental workflow of completing a patent analysis project, including industry technology investigation and technology decomposition as basic competencies, patent analysis data processing, understanding patent analysis charts, creating patent analysis charts as basic skills, and learning to write complete patent analysis reports. Patent analysis methods constitute intermediate training, covering data-level, technology-level, and industry-level approaches. Typical patent analysis cases represent advanced training, encompassing common service requirements such as patent early warning, patent analysis and review, patent navigation, patent layout analysis, patent mining analysis, and patent value and quality analysis. This module progressively deepens from beginner to advanced levels, enabling IP subject librarians to complete IP information services for specific tasks and produce high-quality patent analysis reports that meet user needs.

**Module E: Detailed IP Application Process and Patent Document Drafting (Operational Level).** This module focuses on helping researchers and students understand IP application processes and related document drafting.

## 4.2 Principles for Graded and Classified Curriculum Design

Training courses are designed for four groups, with IP subject librarians being the primary target. They undertake both IP information services and IP information literacy education in practice, requiring comprehensive and systematic training progressing from basic to advanced across three difficulty levels. Training for library leadership focuses on policy and conceptual levels without grading. Training for researchers and students emphasizes patent fundamentals, basic retrieval skills, and patent application document drafting. Researcher training is not graded, while student training is divided into beginner and intermediate levels. The graded and classified content settings are shown in Table 1

## 4.3 Training Objectives

The training system is built around four threads: basic knowledge, basic capabilities, basic skills, and advanced skills. For library IP information service personnel, the emphasis is on systematic training; for other groups, demand-based training addresses common problems. Thus, the four groups have different training objectives:

1. **Library Directors:** Understand the important role of the IP system and IP strategy, as well as the close relationship between IP and university research innovation, possessing basic qualities and capabilities for IP information service management. The focus is on strengthening IP information service awareness.

## 2. IP Subject Librarians:

- *Beginner*: Understand IP information service responsibilities, basic domestic and international IP laws and regulations, possess basic IP information retrieval and analysis skills, and have fundamental IP information service capabilities.
- *Intermediate*: Understand domestic and international IP systems, master IP information retrieval and analysis business skills, and independently conduct IP information services and complete routine patent retrieval and analysis reports.
- *Advanced*: Deeply understand domestic and international IP policies, master IP information retrieval and analysis techniques, provide high-quality IP information services according to user needs, and independently lead teams to complete complex IP analysis projects.

3. **Researchers**: Understand IP policies, domestic and international IP laws and basic knowledge, possess IP innovation and protection awareness, fully understand the close relationship between IP and research innovation, and have the awareness and ability to utilize IP information.

## 4. Students:

- *Beginner*: Focus on understanding IP laws, application and 确权 processes, and developing IP awareness.
- *Intermediate*: Focus on mastering basic IP information retrieval skills and learning to draft patent technical disclosure documents.

### 4.4 Training Hours, Methods, Assessment, and Faculty

1. **Training Hours**: Library director training should total no less than 8 hours, with at least 4 hours of theoretical face-to-face instruction, supplemented by case teaching and seminars. IP subject librarian training should be no less than 50 hours, primarily face-to-face (minimum 40 hours), with retrieval and analysis modules each accounting for one-third of hours and other modules combined for the remaining one-third, plus 10 hours of computer practice focusing on retrieval operations and data processing/chart design in the analysis module (with slight variations across beginner/intermediate/advanced levels). Researcher training should be no less than 8 hours (minimum 4 hours face-to-face). Student training should be no less than 16 hours (minimum 12 hours face-to-face, 4 hours computer practice focusing on patent information retrieval operations).
2. **Training Methods**: Primarily through theoretical teaching, summit forums, case teaching, seminar salons, operation demonstrations, and computer practice. Theoretical teaching focuses on basic theories, knowledge, and principles (e.g., IP policies, laws, protection, information retrieval theory, intelligence analysis theory), sometimes incorporating seminar-style teaching. Case teaching is emphasized in retrieval, analysis, and drafting

modules to enhance practical skills. Computer practice focuses on retrieval operations and data processing in the analysis/application module.

- 3. Assessment Methods:** Primarily for IP subject librarians through closed-book exams supplemented by major assignments. To motivate students, online and offline training can be combined with course assessments, issuing certificates to qualified students. Assessment focuses on basic knowledge through closed-book online exams. Library directors and researchers are encouraged to participate but may opt out of assessment.
- 4. Training Faculty:** For the key target group of IP subject librarians, centralized training can be conducted by hiring national IP leading talents, national IP information teachers, patent examiners, and patent information analysts for retrieval, analysis, and drafting modules. Training for library directors can be combined with IP subject librarian training. Training for researchers and students can be delivered by the university's own IP subject librarians, or by local patent examiners and patent information analysts when available.

The comprehensive overview is summarized in Table 2 .

## 5. Characteristics of the Training System

### 5.1 Integration of Information Literacy Education, Information Capacity Building, and Professional Service Capability

This training system designs courses for four groups based on practical needs. Training for IP subject librarians forms the backbone, emphasizing capacity building. These librarians typically have experience in subject services and intelligence analysis. Through systematic training, they form new cognitive structures, mobilize subjective initiative in learning, and enhance their ability to identify and solve problems. The system is oriented toward capacity building, grounded in method mastery and tool application, and driven by real service demands. Practical needs such as IP analysis and review, patent early warning, patent navigation, and patent mining are embedded in the curriculum to enhance practicality. Teaching methods encourage IP subject librarians to participate more in classroom discussions and practical exercises. The system provides systematic training across the complete IP information literacy chain: IP legal knowledge → IP information acquisition → information integration → information processing → information analysis → information evaluation → information application → information innovation. The curriculum elevates library directors' service concepts, providing organizational support for implementing IP information services. Researchers and students can independently apply learned knowledge to solve general IP-related problems in research, with courses following the IP information acquisition → integration → innovation pathway, emphasizing IP information literacy education.

## 5.2 Modular and Graded Design Principles for Flexible Curriculum Assembly

During implementation, these modules can be flexibly combined according to different groups' training objectives. The design considers both the independence and comprehensiveness of each module and their organic integration to achieve overall optimization. Based on structural requirements for general and specialized modules, the content learners need to master is organized into several independent course systems.

IP subject librarians are the main trainees in the university IP information service training system. They undertake both IP information services and IP information literacy education, so training content focuses on mastering and applying IP information retrieval and analysis methods. The curriculum is comprehensive and systematic, progressing from basic to advanced. Graded teaching addresses the problem of some students "not having enough" while others "cannot keep up," enabling precise training. Student training content is divided into two levels: beginner training focuses on stimulating interest and developing IP awareness, while intermediate training emphasizes practical skills. Specific curriculum design can also consider the characteristics of users from different types of institutions (e.g., science and engineering universities, comprehensive universities, agricultural and forestry universities). For example, training for computer science or liberal arts faculty and students should emphasize copyright protection, while training for agricultural and forestry disciplines should highlight plant 新品种 and geographical indication protection. Overall, the system implements grouped, graded, and classified training with strong specificity and operability.

## 6. Implementation of the University IP Information Service Training System

With support from the former Guangdong Provincial Intellectual Property Office and Guangdong Provincial Department of Education, the South China University of Technology Library jointly organized a training program for Guangdong university library directors and subject librarians in mid-October 2018, following the training system designed in this study. The 3-day intensive training included 8 library directors and 35 subject librarians from 13 universities in Guangdong Province. Director training was scheduled for the first morning, with directors attending IP policy theory training alongside subject librarians. The subsequent two and a half days of training divided subject librarians into beginner and intermediate classes based on registration and assessment results. Daytime featured large-group instruction, while evenings included computer practice and small-group discussions. Course content covered IP fundamentals, IP information retrieval, IP information analysis and application, and IP application processes and document drafting. Notably, three professors from South China University of Technology's IP School (all national IP information

teachers), experts from the CNIPA Training Center, Guangdong Provincial IP Office experts, and two enterprise experts served as instructors. As a pilot program, total hours were compressed to 36. Post-training feedback from subject librarians affirmed the graded training model for improving learning efficiency and praised the modular design for flexible course selection, while suggesting increased case teaching. Beginner courses were considered appropriately challenging with good theory-practice integration, and computer practice enhanced practical skills. Some intermediate trainees found content too difficult, particularly patent analysis, and struggled to keep pace with practice sessions. The eight participating directors reported that the training enhanced their IP awareness and understanding of domestic and international IP policies, helping them grasp future IP information service directions and better conduct top-level service design.

Through comprehensive research and alignment with the responsibilities outlined in the “University IP Information Service Center Construction Implementation Measures,” this study designed an IP information service training system covering four groups: university library IP subject librarians, library directors, researchers, and students. The system possesses advantages of completeness, operability, and adaptability, meeting multi-level, multi-group, and diverse university IP training needs. The authors first propose referring to university librarians engaged in IP information services as “IP subject librarians” to highlight the core content of “IP information service.” The training system adopts modular and graded principles, allowing flexible course assembly. Its effective implementation will comprehensively improve the service capabilities of university IP information service personnel and the IP information literacy of users.

## References

- [1] Several Opinions on Accelerating the Construction of an Intellectual Property Powerhouse under New Circumstances [EB/OL]. [2019-05-16]. [http://www.gov.cn/zhengce/content/2015-12/22/content\\_{10468}.htm](http://www.gov.cn/zhengce/content/2015-12/22/content_{10468}.htm).
- [2] The 13th Five-Year Plan for National Intellectual Property Protection and Application [EB/OL]. [2019-03-02]. [http://www.gov.cn/xinwen/2017-01/13/content\\_{5159586}.htm](http://www.gov.cn/xinwen/2017-01/13/content_{5159586}.htm).
- [3] The 13th Five-Year Plan for National Education Development [EB/OL]. [2018-12-02]. [http://www.gov.cn/xinwen/2017-01/19/content\\_{5161342}.htm](http://www.gov.cn/xinwen/2017-01/19/content_{5161342}.htm).
- [4] Implementation Measures for the Construction of University Intellectual Property Information Service Centers [EB/OL]. [2019-01-02]. <http://www.sipo.gov.cn/gztz/1107796.htm>.
- [5] Xie Hongxia, Ao Xiang. How US Patent and Trademark Resource Centers Provide Patent Information Services [N]. China Intellectual Property News, 2015-06-26(14).

- [6] Feng Jun. Practice and Enlightenment of Patent Information Services in American University Libraries—Research on University Libraries Recognized as PTRCs [J]. *Library and Information Service*, 2017, 61(21): 56-63.
- [7] Zhang Libin, Guo Qi, Huang Jingrui. Analysis of Copyright Office Institutional Setup and Reference in American University Libraries [J]. *Information Studies: Theory & Application*, 2018, 41(8): 154-160.
- [8] British Business & IP Centre [EB/OL]. [2019-05-13]. <https://www.bl.uk/business-and-ip-centre/national-network>.
- [9] Notice of CNIPA on Issuing the “National Intellectual Property Education and Training Guidance Outline (Revised Edition)” [EB/OL]. [2019-05-10]. <http://www.sipo.gov.cn/ztlz/gjzscqrcxxwlp/zscqrcgzzc/1031631.htm>.
- [10] Liu Jufang, Ma Bin, Gong Yalin. Discussion on the Development Situation and Tasks of Patent Information Services in China [J]. *China Invention & Patent*, 2014(9): 7-14.
- [11] Shen Jinhua, Zhang Gengping. Trends and Reflections on Patent Information Services in University Libraries [J]. *Journal of Academic Libraries*, 2016, 34(6): 51-55.
- [12] Shen Jinhua, Sun Qiaoxuan. Research on Demand-Oriented Capacity Building for University Librarians’ Patent Information Services [J]. *Journal of Academic Libraries*, 2018, 36(5): 73-79.
- [13] Wang Liping, Yang Bo, Qin Xia, et al. Content, Models and Trends of Patent Information Services in University Libraries [J]. *Library and Information Service*, 2015, 59(6): 113-119.
- [14] Zhang Libin, Li Yihang. Copyright Literacy Education in University Libraries: Value, Connotation and Implementation [J]. *Information Studies: Theory & Application*, 2016, 39(12): 69-75.

## Author Contributions

Wang Liping: Conceptualization, overall planning, research framework design, survey design, curriculum system design, paper writing.

Li Zihui: Questionnaire design, survey implementation, data analysis, expert interviews, curriculum system design.

Qin Xia: Expert interviews, questionnaire design, literature review.

Yang Bo: Literature review, expert interviews, curriculum system design.

Wang Lijie: Questionnaire distribution, data analysis.

Li Na: Literature review, expert interviews.

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**Abstract:** [Purpose/significance] In line with national intellectual property (IP) powerhouse strategy development, Chinese university libraries have recently attempted to develop IP information services. This service expansion breaks through the original scope and depth of academic library information services, creating an urgent need to train subject librarians with corresponding capabilities. As universities are important sources of IP output, the IP information literacy of library directors, researchers, and students needs improvement. Therefore, a complete, standardized university IP information service training system is urgently needed. [Method/process] Using literature research, expert interviews, questionnaires, and other methods, this study extensively surveyed four university groups to construct a multi-agent IP information service training system. The curriculum comprises five modules: IP awareness enhancement, IP basic knowledge, IP information retrieval, IP information analysis and application, and IP application process explanation and patent document writing. The basic knowledge, retrieval, and analysis/application modules are key components divided into primary, intermediate, and advanced levels, implementable through modular course combinations. [Result/conclusion] This training system offers completeness, operability, and adaptability, meeting multi-level, multi-group, and diverse university IP training needs. Its effective implementation will comprehensively enhance university IP information service capabilities and IP information literacy.

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