

# **Research on the Innovation and System Construction of Experimental Teaching Modes for Intellectual Property Practice Oriented to Economics and Management Majors**

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**Abstract:** Intellectual property is crucial to national competitiveness and enterprise innovation. The innovation in intellectual property practical experiments combines theory with practice, which is conducive to enhancing students' practical abilities and innovative thinking, deepening their understanding of the complexity of intellectual property, and improving learning efficiency. By providing simulated working environments, it cultivates students' practical abilities in fields such as patent application and trademark registration, addressing challenges such as the disconnection between theory and practice, outdated content, monotonous teaching methods, and limited resources. Therefore, further efforts should be made to strengthen practice, establish training platforms, update content, introduce diversified teaching methods, and enhance the construction of the teaching staff, in order to achieve the goals of improving teaching quality and cultivating high-quality talents in intellectual property.

**Keywords:** intellectual property, case innovation, experimental practice, teaching innovation

In the context of the globalized economy, intellectual property (IP) is not only a key element of national competitiveness but also a core force driving enterprise innovation. By establishing an experimental teaching system centered on learning and practice, IP practice experiment innovation enables students to combine theoretical knowledge with practical operations, thereby enhancing their practical skills and innovative thinking.

## **1. The Value and Significance of IP Practice Experiment Innovation**

### **1.1 The Theoretical and Practical Value of IP**

### **Practice Experiment Innovation**

At the theoretical level, IP practice experiment innovation significantly enhances students' understanding of the complexity and diversity of IP. By combining abstract IP theoretical frameworks with specific real-world cases, students can build a more comprehensive and in-depth knowledge system. This integration not only lays a solid theoretical foundation for students' future careers but also revolutionizes traditional lecture-based teaching methods through interactive and inquiry-based learning, stimulating students' interest in learning and improving their learning efficiency and depth. This transformation in teaching methods enables students to absorb knowledge in a more dynamic and engaging environment, thereby better preparing them to face future challenges.

At the practical level, practice experiment innovation provides students with a platform that simulates real work environments, enabling them to master key knowledge systems such as patent application approval, trademark registration, copyright disputes, and legal disputes through practical operations. This system's cultivation is crucial for students' future career development, as it directly relates to how they apply theoretical knowledge in practical work. Additionally, by handling real-world cases, students can develop the ability to identify and solve problems in the field of IP, which is essential for them to adapt to and lead the rapidly changing IP environment. This cultivation of practical abilities not only enhances students' professional skills but also provides them with tools to solve complex problems, making them more confident and effective in their future careers.

### **1.2 The Importance of IP Practice Experiment Innovation in Building an Efficient Experimental Teaching System**

Building an efficient IP practice experimental teaching system is crucial for improving the

quality of talent cultivation. Firstly, this teaching system emphasizes a practice-oriented approach, enabling students to better understand the practical applications of IP and improving the pertinence and effectiveness of teaching. Through practice experiment innovation, students can operate in simulated real work environments, thereby deeply mastering key knowledge systems such as patent application approval, trademark registration, copyright disputes, and legal disputes, which is crucial for their future career development. Secondly, the construction of the IP practice experimental teaching system also involves interdisciplinary integration, which integrates knowledge and skills from disciplines such as law and management, providing students with a broader perspective and more comprehensive solutions. This interdisciplinary integration not only promotes the cultivation of students' innovative thinking by enhancing their innovation and problem-solving abilities through solving practical problems but also enhances their competitiveness on the international stage, enabling them to grasp the latest developments and rules of international IP. Ultimately, such a teaching system can effectively meet the urgent needs of society for high-quality IP talents and cultivate professionals who better meet social demands. Through this educational model, students can apply the interdisciplinary knowledge they have learned to the specific practices of emerging industrial development and urban revitalization, thereby enhancing the influence of global economic governance and expanding the popularity of city brands.

## **2. Analysis of Major Issues Facing the Innovation of Practical Experimental Teaching in Intellectual Property Rights**

In education, the principle of "learning for application" emphasizes that educational content should be closely integrated with real-life and work demands to ensure that students can transform their learned knowledge into practical abilities. This principle is particularly crucial in practical experimental teaching of intellectual property rights. If the teaching content does not match industry demands or if theory is disconnected from practice, the knowledge acquired by students will be difficult to apply in actual work. This not only violates the principle of "learning for application" but also undermines the effectiveness of education. The

cognitive load theory in psychology further supports this viewpoint. This theory points out that human cognitive resources are limited, and if teaching content is too complex or does not align with actual demands, it will increase students' cognitive load, thereby reducing learning effectiveness. Therefore, in practical experimental teaching of intellectual property rights, the teaching content should be designed to be concise and clear, and closely aligned with actual demands. This approach not only alleviates students' cognitive burden and enhances learning efficiency but also ensures that students can effectively apply the knowledge they have learned to their future careers, achieving an organic integration of theory and practice. Through this method, education can truly fulfill its goal of cultivating practical talents.

### **2.1 Analysis of Major Issues in the Dimension of Matching Teaching Content with Demands**

#### **2.1.1 The Disconnection Between Theory and Practice in Practical Experimental Teaching of Intellectual Property Rights**

The main manifestation of the disconnection between theory and practice is that the teaching content is overly theoretical, lacking cases and practical training projects related to actual operations, making it difficult for students to apply the knowledge they have learned to practical work. In practical experimental teaching of intellectual property rights, a common issue is the significant gap between theory and practice. For example, in a course on "Intellectual Property Law" offered by a certain university, the focus is on explaining basic concepts such as patents, trademarks, and copyrights, as well as their legal provisions. However, when it comes to actual cases, such as a company being sued for alleged infringement of someone else's patent rights, students often feel confused and do not know how to use the knowledge learned in class to analyze the case. The root cause of this is mainly that the course content focuses on the interpretation of legal provisions and lacks in-depth analysis and simulated exercises of actual cases. In response, in practical experimental classes on intellectual property rights, students participating in the experiments were organized to share and explore a specific case: "A startup company, when developing a new product, found similar products on the market and was concerned that

it might infringe on someone else's patent rights."

Based on the root cause analysis of this issue, the disconnection between theory and practice in the innovation of practical experimental teaching of intellectual property rights is one of the problems. Students' theoretical classroom content mainly focuses on the interpretation of legal provisions and lacks in-depth analysis and simulated exercises of actual cases. Although students understand the legal provisions, they lack the ability to apply these provisions to practical problems. Since students rarely have opportunities for practical operations in theoretical learning classrooms, such as using patent databases or writing patent application documents, they find it difficult to quickly get started in practical experimental teaching. To a certain extent, this necessitates introducing more practical cases into practical experimental teaching so that students can engage in case analysis and discussion in class, enhancing their ability to apply theoretical knowledge to practical problems.

#### 2.1.2 The Misalignment Between the Content of Practical Experimental Teaching of Intellectual Property Rights and Industry Demands

The misalignment between teaching content and industry demands is mainly manifested in the teaching content being outdated and unable to reflect the latest developments and frontiers in the current intellectual property field, or having deviations from industry demands, leading to difficulties for students in meeting the needs of enterprises and society for intellectual property talents after graduation. The teaching content of practical experimental courses on intellectual property rights has not been updated in a timely manner and is out of sync with industry development. For instance, with the rapid rise of the internet and digital economy, issues such as data rights and online copyrights have become increasingly important, but many traditional textbooks do not pay sufficient attention to them. Furthermore, some emerging technological fields, such as artificial intelligence (AI) and blockchain, also pose new intellectual property challenges, and these contents are often neglected in the current educational system.

Currently, most intellectual property courses focus on traditional areas such as patents and trademarks, with limited coverage of intellectual property issues in emerging fields like AI and big data. This exacerbates the imbalance

between the content of intellectual property and industry demand matching to some extent. The misalignment between teaching content and industry demands may lead to students entering the workplace after graduation with knowledge that is not fully adaptable to work demands in the new environment, especially lacking the necessary knowledge and skills when dealing with new types of intellectual property disputes. In practical experimental teaching, research focuses on relevant cases of AI technology enterprises, with case content mainly centered around an innovative case: "An AI technology-focused enterprise encounters copyright issues regarding the use of algorithmic training datasets when developing an intelligent speech recognition system."

In experimental teaching, it was found that due to insufficient technical background knowledge, some students have limited understanding of the basic principles and application scenarios of AI technology, especially regarding the specific implementation methods and technical details of intelligent speech recognition systems. This affects their ability to discuss data set usage from a technical perspective. At the same time, students lack sufficient knowledge about the differences in copyright and usage rights between different types of data sets (such as public, proprietary, and third-party data sets) and their acquisition and legal use methods. In terms of intellectual property, students have limited understanding of how copyright law applies in emerging technological fields, making it difficult for them to clearly analyze whether a data set is protected by copyright and how to avoid infringement when using data sets. Furthermore, students' lack of exposure to laws and regulations related to data privacy and ethics makes it challenging for them to fully consider legal compliance and ethical issues when discussing the use of data sets.

## 2.2 Analysis of Major Issues Existing in the Dimension of Teaching Method and Means Innovation

### 2.2.1 Intellectual Property Practice Innovation Faces Issues Such as Monotonous Teaching Methods and Lack of Innovation

In the practical teaching of intellectual property, traditional teaching methods such as lectures and case analysis, while helpful to a certain extent in imparting theoretical knowledge to students, lack innovation and interactivity,

making it difficult to stimulate students' interest and enthusiasm for learning. The limitations of the lecture method in practical intellectual property teaching manifest as one-way transmission, where the teacher dominates the classroom and students passively receive knowledge, lacking interaction and discussion, which is hard to mobilize students' enthusiasm. Disconnection between theory and practice: The lecture method primarily focuses on the imparting of theoretical knowledge, lacking guidance on practical operation, making it difficult for students to apply what they have learned in actual work.

The prominent limitation of the case analysis method in practical intellectual property teaching centers on the limited selection of cases. Most of the existing cases are classic ones, lacking coverage of emerging technologies and frontier issues, and thus failing to reflect the latest developments in the current industry. The depth of case analysis is insufficient, often stopping at the surface level without in-depth analysis or practical operation drills, making it difficult for students to form systematic solutions. Overall, traditional teaching methods such as lectures and case analysis, while helpful to a certain extent in imparting theoretical knowledge to students, lack innovation and interactivity, making it difficult to stimulate students' interest and enthusiasm for learning.

#### 2.2.2 Limited Experimental Resources Fail to Meet Teaching Needs

The inadequacy of experimental resources and equipment restricts the innovation of teaching methods and means, affecting the quality and effectiveness of experimental teaching. Outdated hardware facilities mean that many university laboratories have obsolete equipment, unable to support experimental teaching in emerging technological fields such as AI and blockchain. For example, in practical intellectual property teaching, students have reported specific issues such as "The computers in the lab are too slow, and every time we do patent searches, we have to wait a long time, which affects our learning efficiency" and "The school's database resources are too limited, and we can't find a lot of important patent information, which feels very restrictive." These indicate a lack of specialized intellectual property management software and databases, preventing students from engaging in practical operations and simulations.

The resources for practical experiments are overly concentrated, with high-quality experimental resources often found only in a few key institutions, while the experimental conditions in ordinary universities are relatively poor. Furthermore, the utilization rate of existing experimental resources is low, due to the lack of effective management and scheduling mechanisms, leading to issues of resource waste and low utilization.

### 3. Countermeasures and Suggestions

#### 3.1 Matching and Innovating Teaching Content with Demand: Core Strategies to Enhance the Quality of Intellectual Property Practical Teaching

Intellectual property practical teaching faces issues such as the disconnection between theory and practice, as well as the mismatch between teaching content and industry demand. The primary improvement measure lies in strengthening the practical aspect. This includes increasing case studies and simulation exercises to allow students to apply theoretical knowledge in specific contexts, while establishing experimental training platforms that provide practical tools such as patent databases and trademark registration systems to enhance students' practical abilities. Additionally, introducing industry experts to teach and deepening cooperation between universities and enterprises will allow students to directly engage with industry practice, helping to bridge the gap between theory and practice.

To address the mismatch between teaching content and industry demand, it is necessary to continuously update the teaching content to keep pace with industry developments, particularly by incorporating emerging technological fields such as artificial intelligence and blockchain into the curriculum, and introducing the latest laws and regulations. Strengthening interdisciplinary integration by incorporating knowledge from disciplines such as computer science and information technology into intellectual property courses will help students build a comprehensive knowledge system. Meanwhile, enhancing teachers' understanding of industry developments through participation in training, academic conferences, and other means will keep them synchronized with industry frontiers. Finally, establishing an effective feedback mechanism to collect



opinions from students, enterprises, and teachers, and adjusting teaching content and methods based on feedback, will ensure that teaching quality is closely aligned with industry demand. In summary, the dimension of innovating teaching methods and means is crucial to enhancing the quality of intellectual property practical teaching. Traditional teaching methods such as lectures and case analysis, while helpful to a certain extent in imparting theoretical knowledge to students, lack innovation and interactivity, making it difficult to stimulate students' interest and enthusiasm for learning. Therefore, it is necessary to continuously explore and try new teaching methods and means, such as flipped classrooms, project-based learning, and virtual laboratories, to stimulate students' interest in learning and innovation.

### **3.2 Innovating Teaching Methods and Expanding Experimental Resources: Strategies to Enhance the Quality of Intellectual Property Practical Teaching**

Addressing the issues of monotonous teaching methods and lack of innovation in intellectual property practical teaching requires actively introducing diversified teaching methods and means. Firstly, exploring new teaching models such as flipped classrooms and project-based learning can encourage students to actively learn and explore, enhancing interactivity through group discussions and project practices, and stimulating students' interest and enthusiasm for learning. Meanwhile, combining online teaching platforms with multimedia resources such as videos and animations can enrich teaching methods and improve teaching effectiveness. Additionally, addressing the limitations of the case analysis method involves continuously updating the case library to introduce more cases reflecting the latest industry dynamics, and strengthening the depth and breadth of case analysis to guide students in systematic thinking and practical operation exercises, thereby enhancing their comprehensive application abilities.

Addressing the issue of limited experimental resources that are difficult to meet teaching needs requires multiple approaches. On the one hand, increasing investment in experimental teaching, updating hardware facilities, and introducing advanced experimental equipment and intellectual property management software

can support experimental teaching in emerging technological fields. Meanwhile, strengthening cooperation with industry enterprises to share experimental resources can broaden students' practical channels. On the other hand, optimizing the management and scheduling mechanisms of experimental resources can improve resource utilization. Establishing an experimental resource sharing platform can achieve effective integration and sharing of resources, avoiding resource waste. Additionally, encouraging cooperation and exchange between ordinary universities and key institutions through resource sharing and complementary advantages can enhance the overall level of experimental teaching. Meanwhile, strengthening guidance and training for students to improve their experimental skills and resource utilization efficiency can ensure the quality and effectiveness of experimental teaching.

### **3.3 Optimizing Teaching Standards: Strategies to Strengthen Teacher Quality and Enhance Teaching Quality Levels**

Addressing the impact of insufficient teacher resources on intellectual property practical teaching, the primary strategy is to strengthen the construction of the teaching staff. Encouraging existing teachers to actively participate in practice, accumulate practical experience through university-enterprise cooperation, internships, and practical training, and enhance their practical teaching abilities.

Addressing the issue of improving teaching standards involves formulating detailed teaching plans and curriculum standards to ensure that teachers teach according to unified teaching requirements. Meanwhile, strengthening teacher training by providing regular professional training and academic exchange opportunities can help teachers continuously update their knowledge systems, grasp the latest laws and regulations, and industry trends. Additionally, establishing a teaching evaluation and feedback mechanism to timely collect students' learning feedback, objectively evaluate teachers' teaching effectiveness, and adjust and optimize teaching methods and means based on evaluation results can enhance the overall teaching quality. Through these measures, teaching standards can be improved, ensuring that students receive a consistent learning experience in intellectual property practical teaching.

In summary, enhancing the quality of intellectual property practical teaching requires starting with three core strategies: Firstly, matching and innovating teaching content with demand by strengthening practical aspects, updating teaching content, introducing industry experts to teach, deepening university-enterprise cooperation, and continuously exploring and trying new teaching methods and means to stimulate students' interest in learning; Secondly, innovating teaching methods and expanding experimental resources by actively introducing diversified teaching methods and means such as flipped classrooms and project-based learning, while increasing investment in experimental teaching, optimizing the management of experimental resources, and improving the utilization rate of experimental resources to meet teaching needs; Thirdly, optimizing teaching standards by strengthening the construction of the teaching staff, introducing teachers with practical experience, enhancing the practical teaching abilities of existing teachers, implementing a unified teaching quality management and monitoring system, strengthening teacher training, establishing a teaching evaluation and feedback mechanism, enhancing teaching standards, and ensuring that students receive a consistent learning experience

in intellectual property practical teaching.

### References

- [1] Su Ping, Zhao Yilin. Research on the Collaborative Cultivation of Compound Applied Talents in Enterprise Intellectual Property Rights through Industry-Education Integration [J]. *Intellectual Property Rights*, 2020, (07): 26-41.
- [2] Chang Junyuan, Zhao Changjiang. Construction of an Intellectual Property Rights Experimental Teaching System Based on the Integration of Liberal Arts and Sciences: A Concurrent Discussion on the Reform of the Intellectual Property Rights Experimental Teaching System at Chongqing University of Posts and Telecommunications [J]. *Economic Outlook of the Circum-Bohai-Sea Region*, 2020, (01): 185-186.
- [3] Zhao Lili. Positioning and Design of Simulation Experimental Teaching for Intellectual Property Law Courses [J]. *University*, 2020, (36): 61-63.
- [4] Zhao Lili. Research on the Positioning and Path of Cultivating Innovative Talents in Intellectual Property Rights Based on the Construction of New Liberal Arts [J]. *University*, 2024, (25): 113-116.