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RESEARCH ARTICLE

# Integrating Professional Intellectual Property Education with Curriculum-Based Ideological and Political Education in the Era of AI

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**Abstract** In the era of digital transformation, the integration of intellectual property (IP) education with curriculum-based ideological and political education has become a core focus of professional degree education. Taking IP education as the starting point, this paper puts forward an ideological and political path of curriculum concentrating on lifelong learning, practice-driven learning, and international perspective. The curriculum is committed to cultivating high-quality talents with the consciousness of the rule of law, innovation ability, and social responsibility. In response to challenges such as the lack of diverse content, weak integration of practice, and limited international vision in the current IP teaching, this paper innovatively proposes using AI to optimize the teaching mode, build an intelligent and personalized learning platform, and promote the coordinated development of IP education and curriculum-based ideological and political education. The findings of this research suggest that the integration of professional IP education with ideological and political education not only improves teaching quality but also enhances students' social responsibility and practical ability, which is significant for promoting the overall development of IP education. The paper provides both theoretical foundation and practical guidance for professional degree education in the new era.

**Keywords** professional degree education, intellectual property rights, curriculum reform, ideological and political education, AI

## 1 Introduction

*China's Education Modernization 2035* emphasizes that institutions of higher education have become a powerful driving force for China's innovative development (Communist Party of China (CPC) Central Committee & State Council, 2019a). Professional degree graduate education is the strategic focus of degree and graduate education reforms and development in the new era (Zhou, 2019), with an aim to cultivate high-level application-orientated professionals with strong professional ability and high professional quality (He et al., 2024). Since 2021, professional degree education has made significant progress (Lu, 2024). For instance, recent years have witnessed a remarkably large number of applicants for business administration programs, with admission competition becoming increasingly fierce, as shown in Table 1.

**Table 1** 2020–2023 admission data for Business Administration major

| Year | Number of registered candidates | Number of admissions | Admission rate (%) | Number of degree conferred |
|---|---|---|---|---|
| 2020 | 140,234 | 37,789 | 26.95 | 40,893 |
| 2021 | 195,600 | 43,545 | 22.26 | 37,231 |
| 2022 | 219,492 | 48,065 | 21.90 | 40,940 |
| 2023 | 208,269 | 51,097 | 24.53 | 44,197 |

*Note.* Data were obtained from China Academic Degrees and Graduate Education Development Center website.

The intervention of digital technologies represented by Big Data, AI (Emmert-Streib, 2021), the Internet of Things, and cloud computing has accelerated the digital transformation of business and society (Zhang et al., 2024). The intervention has had significant positive impacts on the international economic environment and introduced AI-related challenges. AI raises many questions regarding intellectual property (IP) rights, such as the rapid spread of digital piracy (Picht & Thouvenin, 2023; Spindler, 2019), leakage of private or business data

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(Li et al., 2024b), and disputes over copyright ownership of AI-generated content (Shen, 2024). Moreover, generative AI (GenAI) models trained on existing materials may lead to copyright infringement claims (Li et al., 2024a), as seen in lawsuits against developers of AI chatbots and text-to-image generators. Overall, all these pose new challenges to IP education.

In the era of the digital economy, it has become an urgent task in education to cultivate compound talents with national feelings, global visions, innovative spirits, and practical abilities (Jiang et al., 2024). Professional degree education, especially in business administration (Lu, 2024), plays a key role in cultivating such talents because of the practical relevance of the subject content, the diversity of the subject basis, and the difference within the discipline (Li & Xue, 2022). These disciplines not only impart professional knowledge but also shoulder the mission of cultivating innovation entrepreneurship ability and social responsibility (Han et al., 2024). However, as an important part of IP education, professional degree education should prioritize cultivating students' legal awareness and compliance ability, guide them to realize the core value of IP in innovation and entrepreneurship, and stimulate their innovative thinking ability, as well as entrepreneurial spirit (Lei & Tian, 2024).

The purpose of strengthening IP education in professional degree education is not only to enrich the curriculum content but also to deepen the overall goal of education (Liu & Yu, 2019). Specifically, IP education can help students understand the legal framework of IP and master IP management skills to effectively protect and utilize IP resources in global competition (Luk, 2024; Starkey et al., 2010). IP education should be combined with curriculum-based ideological and political education to help students grasp the accurate concept of IP and strengthen their sense of social responsibility and moral norms, which allows them to pursue personal and common interests and safeguard national and social public interests (Conley, 2017).

In this context, AI technologies have opened new avenues for professional degree education, particularly in IP teaching (Ali et al., 2024). The application of AI in IP education has improved the teaching effect and learning experience through personalized learning, intelligent tutoring, and automated assessment (Ali et al., 2024; Wang et al., 2024). AI tailors learning paths to individual student needs, provides real-time feedback (Xu, 2024), optimizes teaching content, and enables objective assessment. Moreover, AI can simulate complex business environments, offering students virtual IP practice scenarios to strengthen their practical skills (Wang et al., 2024). In top business schools, GenAI is leveraged for curriculum development and interactive learning (Li, 2024b). For example, iFlytek's AI-integrated smart teaching space has collaborated with over 300 universities (The Financial Community, 2024). These technologies improve the quality of education and promote the integration of ideology and politics into the curriculum and cultivate interdisciplinary talents with international vision and innovative ability (Haleem et al., 2022). Furthermore, the application of these technologies in education enriches the international teaching cases, enhances students' understanding of international law, and provides a new path for educational innovation in the digital age (Bellas et al., 2024).

## 2 Literature Review and Research Background

Through a literature review and case analysis, Southworth et al. (2023) proposed an interdisciplinary AI literacy teaching model based on the specific curriculum reform practice of the University of Florida. Lu et al. (2015) suggested measures to promote the implementation of curriculum ideological and political education through literature review, analysis, and comparison. Moreover, Ge (2023) demonstrated the logical and technical basis of AI-assisted adjudication through a specific case of patent infringement involving an ancient painting reproduction. Previous studies have found that opinion articles often adopt case analyses and literature review methods. Therefore, this paper conducts a case study at School of Economics and Management of Tiangong University to investigate the application of an AI platform in teaching.

AI has diverse applications in education. In Tiangong University's AI Master of Business Administration (MBA) program, an AI platform named Zhimianxing has been integrated into teaching, learning experiences, and instructional management. In teaching, intelligent retrieval and voice question-and-answer systems support case-based analysis, while multimodal technology enhances interactive feedback. In learning experience, virtual reality (VR), augmented reality (AR), and other technologies create immersive scenarios, while AI-powered learning platforms recommend personalized learning resources. In instructional management, intelligent systems facilitate the integration and sharing of case resources, while information platforms centralize data management.

## 3 Problem Definitions

Higher education institutions, especially Double First-Class Universities, focus on building professional degree education, which aims at cultivating

professionals with advanced knowledge and practical abilities, promoting industry–university–research collaborations, and deepening the development of disciplines for scientific and technological innovation and economic development (Zhou et al., 2021). Among them, IP education plays an important role in enhancing students' innovative ability, legal consciousness, and professional competencies (Lei & Tian, 2024; Liu & Yu, 2019). However, the current IP-related professional degree education has some challenges from three aspects, including insufficient IP education, underestimation of IP value in practice, and relatively narrow international perspective on IP.

### 3.1 | Insufficient IP Education

First, IP is a complex area that encompasses both the rights of individual citizens (such as copyrights) and the activities of business organizations (such as patents and trademarks). However, the current professional IP education pays attention to only some aspects of the field, but ignores other important knowledge points (Zhu, 2023). For instance, the study of copyright is mainly reflected in the standardized writing of students' academic papers (Muriel-Torrado & Fernández-Molina, 2015), while the use and protection of copyright in commercial activities are ignored (Zhang, 2022). Another example is that while IP education and innovation and entrepreneurship education are often divided into two independent courses, the financing function of IP in the entrepreneurial process is often ignored (Neves et al., 2021).

Second, IP teaching content and methods lack innovation. The nature of IP is highly dynamic, posing new challenges to the traditional teaching content settings, teaching methods, and assessment forms (Zhou & Wang, 2020). However, the traditional teaching content mainly focuses on explaining IP jurisprudence and laws, but the real IP issues are more complex and diversified. Therefore, the teaching content needs to be more problem-oriented and application-oriented, introducing real-world judicial cases (Hung, 2015). Moreover, the assessment forms should also be more innovative by introducing diversified assessment methods, such as moot courts, case analyses, and project presentations, to comprehensively examine students' knowledge mastery, practical competencies, and innovative thinking abilities.

### 3.2 | Underestimation of IP Value in Practice

Law is a highly practical discipline rooted in and derived from the real-world application (Wang & Huang, 2020). Although it is understood that practical IP ability is crucial for training professional talents, practical links in the current training process of professional degrees are limited, depriving students of the opportunity to solve practical problems (Chen et al., 2024). Influenced by technological advancements, policy changes, and globalization, the field of IP is rapidly evolving (Neves et al., 2021). The Chinese government issued the *Outline for Building an Intellectual Property Powerhouse (2021–2035)* (CPC Central Committee & State Council, 2021) and the *14th Five-Year Plan of IP Protection and Use* (State Council, 2021). In the legislative field, the *Patent Law of the People's Republic of China (2020 Revision)* (Standing Committee of the National People's Congress of the People's Republic of China (PRC), 2020b), the *Copyright Law of the People's Republic of China (2020 Revision)* (Standing Committee of the National People's Congress of the PRC, 2020a), the *Civil Code* (National People's Congress of the PRC, 2020), the *Trademark Law of the People's Republic of China (2019 Revision)* (Standing Committee of the National People's Congress of the PRC, 2019), the *Measures for Registration of Patent Pledge* (National Intellectual Property Administration of the PRC, 2020a), and other laws have imposed higher requirements on the timeliness of IP education. However, the present professional degree education has a relatively limited connection with the industry (Zhang & Chen, 2023), and it is impossible to stay abreast with the latest trends and dynamics of the industry. Moreover, there is a lack of attention and awareness in the IP field. A large-scale college textbook piracy case was dealt with. Perpetrators presold textbooks for the next semester to students at low prices, collected deposits, pirated, and distributed over 20,000 copies of more than 100 textbook varieties in total, covering both general and professional education. The incident involved many copyright owners, students, and a significant amount of money. It was indubitably serious with significant negative social effects (Zhao, 2024).

All these support the notion that when the education industry lacks sufficient understanding of IP rights, infringement during the innovation process is more likely to occur. For instance, the phenomenon of retracting publications by universities that are part of the Double First-Class Initiative in China in recent years has been a case in point (Li, 2024a). At the student level, those participating in research projects may unknowingly infringe on others' IP rights if they are unfamiliar with IP rights, leading to academic misconduct (Van Dusen, 2013). Moreover, when students lack IP learning (Wong, 2019), their knowledge and skills are insufficient to help them cope with the rapid development and changes in the industry (Li, 2023).

### 3.3 | Relatively Narrow International Perspective on IP

IP is an international issue that is closely related to global trade, international politics, and other factors (Mandelman & Waddle, 2020; Maskus, 2022). It is not only an important asset for enterprises in international trade but also the driving force of independent innovation at the national level. Protecting IP rights means encouraging innovation and safeguarding the country's independent innovation capability. Particularly when some countries form a monopoly advantage in the field of technology, they conduct technological containment of other countries' development by mastering and controlling core technology-related IP rights (Blair & Wang, 2017). This technological bottleneck dilemma can only be broken through independent innovation, which is key for a country to achieve economic transformation and upgrade and enhance its competitiveness. It is noteworthy that only when innovators can legally enjoy the fruits of their creation will they be motivated to conduct more innovative activities and enable cutting-edge science to develop on their land (Feng et al., 2023).

## 4 Exploring the Integration of Professional IP Education with Curriculum-Based Ideological and Political Education

In the new era, innovative talents should have innovative consciousness and ability (He, 2022). Specifically, IP serves not only as a law but also as a moral requirement and a foundation for operational standards for innovative talents. The ideological and political course is a key component for implementing the fundamental task of moral cultivation (Yi, 2024). First, the integration of professional IP education with curriculum-based ideological and political education helps to cultivate ethical values in students; guides them to determine the significance of IP from the perspective of ethics, morality, and social responsibility; and helps them to cultivate respect for creativity and innovation (Lou et al., 2022). Second, it helps students to improve their sense of social responsibility and civic awareness (Lu et al., 2021). Third, it helps to cultivate their innovative spirit and entrepreneurial consciousness. Fourth, it helps to promote the development of IP industry (Du, 2023). Given IP's importance in innovation and entrepreneurship and given the curriculum emphasizes cultivating students' innovative spirit and entrepreneurial awareness, IP protection becomes an important part of the common interests of society. Moreover, IP is a comprehensive and long-term task that requires long-term investment and the whole society working together to build a network ecosystem conducive to the development of IP. By incorporating IP education into the ideological and political education of the curriculum, students can be guided to take the initiative to assume social responsibility and safeguard the legitimate rights and interests of IP (Li, 2022). Moreover, this can stimulate students' innovative ability, encourage them to carry out original research and creative practice, and remind them to pay attention to IP and protect their innovative achievements (Ruan & Yang, 2024). Professional degree education should also cultivate students' lifelong learning ability (Song et al., 2024). Through the course of ideology and politics, the correct concept of IP is expected to be imparted to students in the education stage and provide a solid foundation for the development of IP sector.

Therefore, the following three measures are proposed to effectively integrate IP education with curriculum-based ideological and political education. First, integrate ideological and political elements into courses naturally to achieve the organic of knowledge imparting and value guidance. For instance, when explaining professional knowledge, present the protection and incentive effects of IP through examples and cultivate students' awareness of IP rights and innovative spirit. Second, deeply explore the ideological and political educational resources within various courses, such as integrating IP-related laws, regulations, and moral ethics into humanities and social science courses. Third, integrate IP content with ideological and political education in courses through methods such as case teaching and problem-oriented teaching. For instance, analyzing actual IP dispute cases guides students in determining the importance of IP protection.

### 4.1 | AI Application in IP Education and Ideology

Integrating IP education into the training system for innovative talents is the key link for innovation practice and legal protection. Integrating the cultivation of IP awareness into the whole teaching process can not only provide a basis for confirming the rights of innovation achievements but also guide students to understand the collaborative relationship between various participants in the innovation ecology. The internalization of this educational concept naturally gives rise to the demand for the linkage of multiple entities such as judicial protection, industrial collaboration, and public participation, thus promoting the formation of a sustainable innovative protection ecosystem. The application of AI in education offers new opportunities for this synergy. Using AI technologies, an intelligent IP teaching platform can be built to achieve personalized

teaching content push and accurate management of the learning process (Tan et al., 2025). AI can analyze students' learning behavior and feedback to provide customized learning programs to help them gain a deeper understanding of the legal, ethical, and social responsibilities associated with IP. Simultaneously, AI can also simulate real IP cases, such as legal proceedings, to enhance students' practical ability and moral judgment (Bharati, 2024; Mehta & Soni, 2024).

This paper discusses the application of AI in the trial of IP cases in China and shows that the technology can indeed simulate the trial procedures of real cases. A simulation of the patent infringement case entitled "How to Make Ancient Paintings" shows how AI can handle case analysis, including uploading evidence, fact coding, and applying legal provisions, demonstrating the technical feasibility of AI in simulating legal proceedings (Ge, 2023).

As an important component of higher education, professional IP education should focus on cultivating students' attention to IP (Li & Zhu, 2019) and impart the importance of IP protection and cultivate long-term awareness of IP protection in the education stage to improve their professional quality and competitiveness. Moreover, IP is a legal discipline, in which the legal provisions are not only a code of conduct but also carry the moral values of the times (Wu, 2020). Through AI-supported learning, students understand the moral imperatives of IP protection from the education stage itself, which helps to enhance their legal awareness and literacy and become talents with moral sentiment and the spirit of the rule of law. However, this process also raises questions in terms of academic neutrality. In 2023, a female student was expelled from the Massachusetts Institute of Technology for modifying data in her course assignment using ChatGPT (Sanyan Technology, 2025). Due to the frequent occurrence of academic misconduct in recent years (Van Dusen, 2013), Tianjin University has incorporated the AI-generated content's plagiarism detection rate into the undergraduate graduation thesis submission process effective 2024.

### 4.2 | AI Establishment in China's Economic Law Learning Tiers

A discipline is not random stacking, patchwork, or combination of knowledge in a certain field, but a sub-discipline knowledge system built according to certain classification principles and methods (Annala, 2022). IP is an extremely practical field, with a high degree of overlap with other departmental laws. In the practice of IP, the definition of tort liability, division of the doer's liability capacity, transfer of IP, signing of licensing contracts, and financing of IP are closely related to civil, commercial, administrative, and criminal laws (Gaitán, 2021). To meet practical needs, it is necessary to implement AI technologies, which can play an important role in building the hierarchical learning structure of China's economic and legal system. The College of Economics and Management of Tiangong University has fully implemented moral education and rule of law education, combining the purpose of professional degree training, to construct a hierarchical learning framework of China's basic economic and legal system, according to the progressive perspective from individual to the organization. A hierarchical and progressive learning structure is composed of the civil, real right, contract, commercial, and macroeconomic legal systems is established to enhance students' professional quality and legal and ethical awareness as shown in Table 2.

AI can provide a personalized learning path based on the learner's knowledge level and needs (Murtaza et al., 2022). First, students can learn about the rights and obligations of citizens through the civil legal system, thus improving their awareness of protecting their interests. Studying the legal system of property rights can help them understand the creation, transfer, and IP (Hodgson, 2015), and improve their awareness of IP and its protection. Second, studying the contract legal system can help students understand the contractual relationship and consideration constraints, enhance professional competitiveness, and cultivate compliance awareness. As aforementioned, AI technologies can provide interactive cases and simulated scenarios to deepen students' understanding of complex legal concepts (Dai & Ke, 2022). AI-assisted teaching tools can simulate the contract negotiation and signing process, enhancing students' practical skills (Dinnar et al., 2021). Third, through the study of commercial and macroeconomic legal systems, students can improve their legal and compliance management awareness in the context of enterprises and enhance

**Table 2** Hierarchical progressive learning structure of economic law foundation system

| Relevant legal system | Learning agent | Learning content | Intellectual property education entry point |
|---|---|---|---|
| Civil legal system | Citizens | Rights and duties of citizens | Raise awareness of rights protection |
| Real right legal system | Citizens | Ownership | Raise awareness of property rights |
| Contract legal system | Citizens and business subjects | Contracts | Cultivate individual compliance awareness |
| Commercial and macroeconomic legal system | Commercial subjects | Specification of commercial activities | Improve enterprise compliance awareness |

their overall understanding of IP protection. The systematic and progressive hierarchical learning structure, combined with the application of AI technologies, can improve students' professional quality, cultivate their legal and compliance awareness from the individual to the organizational level, and lay a solid foundation for self-improvement, economic and social welfare, and service to the society (Shi et al., 2025).

### 4.3 | AI Enables the Combination of Global and Local Views

In the context of globalization, IP protection has become an important issue in international trade and international relations. Grasping the concepts and standards of international IP protection is not only the students' professional competence but also an important starting point for cultivating their identity of home country and patriotism (Jandhyala, 2015). The application of AI provides a new path for cultivating innovative talents with international vision and national identities. AI technologies can help students obtain the latest global IP information and dynamics and improve their professional competence in the field. It is conducive to enhancing students' career competitiveness in international trade or cooperation (Song & Sahid, 2025; Yeravdekar & Tiwari, 2014). Moreover, learning can help students realize that IP is indeed one of the most important assets of the country, and it is related to the inheritance and innovation of traditional culture. Furthermore, AI-driven learning platforms can simulate international IP dispute cases, thereby helping students understand the international competitive environment.

For instance, the original protection of China's independent IP is facing a crisis. The technical discourse power behind the chip dispute, the food security dilemma under the technological bottleneck of seed sources, and traditional Chinese medicine in the international market, have led to the loss of important national technical resources, natural resources, and cultural heritage (Cheng et al., 2019). The key to breaking the game lies in IP protection and independent innovation. As aforementioned, the application of AI in education can stimulate students' innovative potential. Through AI-powered maker spaces and virtual laboratories, students can conduct original research and creative practices (Soomro et al., 2023). Moreover, AI tools can help students conduct patent searches, technical analysis, and market prediction, enhance their attention on IP in the process of innovation and entrepreneurship, and protect their innovation achievements. Understanding international IP protection can in turn help students have a deeper understanding of the importance of IP protection to national economic development, innovation and creation, and cultural inheritance. With the assistance of AI technologies, students can perhaps be inspired to pay attention to and participate in national development and strengthen their patriotism.

## 5 Teaching Cooperation, Value Co-Creation, Practice, and Effect

Given the constant legal updates, regulatory changes, and challenges from rapid technological innovations in the IP field, it is recommended to implement regular course evaluation and feedback mechanisms to optimize the curriculum. This can be achieved by collecting student feedback, encouraging teacher self-assessment, and inviting expert peer reviews (Hale & Adhia, 2022; Plante et al., 2022). This approach enables timely teaching content updates, effective teaching method improvements, and educational quality boosts, thereby better aligning with student and societal needs.

The fundamental task of professional degree education is to cultivate IP consciousness, and the important goal of ideological and political education is to provide quality education to citizens (Lu et al., 2015). The establishment of a new curriculum ideological and political path of lifelong learning, practice-driven learning, and international perspective, has significantly improved the integration degree of IP education in professional degree education, resulting in a new approach that is mainly focused on teaching collaboration and value co-creation (Borah et al., 2021). Initiated by Jilin University in 2023, the "Rixin Project" has set lifelong learning as its theme and aims at all current students, alumni, and other groups. Based on the university's three modernized classrooms featuring standardization, intellectualization, and functionalization, and the study at Jilin University-ilearn platform, courses taught in the public classrooms will be made available for sharing and access to all teachers and students across the campus through live streaming and video recording (Chang, 2023).

First, teachers can make full use of teaching resources and professional knowledge, optimize teaching resources with the help of AI-based management tools, analyze students' learning data through machine learning algorithms, provide students with personalized learning paths and resource recommendations, help students master the legal framework related to IP, and learn how to identify infringements and safeguard IP (Campi & Dueñas, 2019). For instance, AI-powered IP case analysis tools can provide students with real-time legal interpretation and infringement risk assessment, enabling them to apply IP laws to practical scenarios. Moreover, AI can be used to create a virtual environment for moot court debates, analyze

real-world cases through natural language processing technology, provide in-depth insights into case analysis, help students better understand the practical application and legal framework of IP, and cultivate students' critical thinking in practice.

Second, teachers can expand the supply of classroom resources through multiple channels and guide students to participate in practical projects. For instance, cooperating with enterprises to conduct practical projects, such as special lectures and case sharing, serves as a bridge for cooperation between students and enterprises (Xue & Li, 2022b). Another example is connecting students with appropriate practical projects, such as patent application and infringement complaint handling, according to their interests and abilities through an intelligent matching system, which will enhance their practical ability and innovative thinking. AI-based matching of students' innovation and entrepreneurship cases involves several steps. The first step is to design a network questionnaire to collect students' data, including basic information, entrepreneurial willingness and ability, and the situation of school innovation and entrepreneurship education. The second step is to analyze the collected data to assess students' abilities and the level of innovation and entrepreneurship at the school, providing data support for model input. The third step is to construct a bidirectional-encoder-representations-from-transformers (BERT) model with embedding, feature extraction, classification, and output layers. Various word vector initialization methods and multi-scale convolution kernels are used to extract features, along with a filtering attention mechanism to extract key information. The fourth step is to build a dual-BERT model to match suitable cases by calculating similarity values. The fifth step is to recommend the matched cases to students, integrate the university's electronic reading room data resources, add an expert review module, and enhance the quality and success rate of innovation and entrepreneurship projects. Through writing patent applications, handling infringement complaints, and other practical tasks, knowledge promotes action and action reinforces knowledge, enabling students to apply what they learn and focus on cultivating problem-solving and innovation–entrepreneurship capabilities.

Third, teachers can also guide students to read relevant literature, conduct in-depth research, participate in academic discussions, write research papers, and choose the IP field (Evans et al., 2017). Here, AI can be used as an auxiliary tool for teaching interaction and help teachers adjust their teaching methods and curriculum contents in time by analyzing students' learning behaviors and feedback, thereby improving the overall teaching effect. Moreover, it can cultivate students' ability in systematic thinking and innovation in IP theory and practice. Furthermore, AI technologies can promote interaction and cooperation among teachers, students, and the public and help jointly explore the theory and practice of IP, solve practical problems, and create new value in education.

Fourth, integrate classroom resources, build an AI-powered intelligent learning resource-sharing platform, and open high-quality learning resources to the public, including alumni and other members of the public (Kabudi et al., 2021). It can also rely on AI-driven in-depth mining of educational data to enable a more precise matching of educational resources and economic and social needs and achieve a deeper integration and coordinated development of education, economy, and society. Through the open classroom, society is fed back, and a new pattern of education development with the support of AI, where the whole society participates in constructing, governing, and sharing educational resources.

# 6 Conclusions

IP is not only a professional legal subject but also an essential quality for innovative talents, in line with the times. It is not only an abstract legal concept but also a crucial aspect of both personal and professional life. Moreover, it serves as a code of conduct for practitioners, all citizens of the new era also share a social responsibility to adhere to and protect it (Collings-Hughes et al., 2022). In the context of today's surging digital wave, AI technologies have been deeply integrated into the education system in the field of IP. With the increasing demand for innovative talents, the integration and development of professional degree education and curriculum-based ideological and political education will continue to deepen in the field of IP (Xue & Li, 2022a). By analyzing massive data, AI can provide accurate insights into the students' weak links in the IP learning process, provide a personalized entry point for integrating of ideological and political content of the course, and achieve a seamless connection between IP education and ideological and political education (Mulyani et al., 2025).

## 6.1 | Implications

The world today is undergoing major development, transformation, and adjustment. The trend toward a multi-polar world, economic globalization, information technology application, and cultural diversity is gaining momentum (Tung et al., 2023). To realize the Chinese Dream of the great rejuvenation of the Chinese nation and accelerate efforts to become an innovative country, innovative talents and strong IP education are dependable factors. To promote the development of IP

education is to meet the demand for innovative talents in the digital age, and it is necessary to consider curriculum-based ideological and political education as the key element in cultivating and practicing socialist core values (Shen, 2024). With the help of an AI-based intelligent teaching assistance system, a new path of lifelong learning, practice-driven learning, and international vision can be built, and professional degree education and curriculum-based ideological and political education can be integrated. AI can develop dynamic learning plans based on the students' learning trajectory and knowledge mastery, focusing not only on the learning of IP expertise but also on the cultivation of their learning ability and awareness of lifelong learning (Lin & Chen, 2024). For instance, through AI simulation of real IP case practice scenes, students can improve their practical ability in the immersive experience, while guiding students to reflect on the social value and ethical responsibility behind the case—from the ideological and political perspective, systematically building IP professionals with comprehensive literacy and responsibility, and providing strong support for the country's innovation-driven development.

Based on the cultivation of AI dynamic learning plans and lifelong learning ability, AI's impact on foreign education reform can be further extended to two levels. First, AI can provide a customized learning experience for students abroad, which can help enhance student engagement in learning. For instance, the University of Florida uses AI to adjust learning content and pace through adaptive learning algorithms based on each student's specific needs and abilities (Southworth et al., 2023). Second, AI technology can be leveraged to create immersive learning experiences that enable foreign students to participate remotely in simulated business scenarios and case studies. Top business schools in the United States use AI to provide instant feedback and an interactive learning environment in MBA programs, thereby helping to enhance the distance education experience.

### 6.2 | Study Limitations and Future Research

This study has a few limitations in the following two aspects. First, the perspective is mainly based on the case study method, focusing on the phenomenon description and path analysis of AI promoting the integration of professional education and curriculum-based ideological and political education, but lacking generalizability of large-scale quantitative data to verify the conclusions. Second, most of the cases are selected in the domestic education scenario, which is affected by the particularity of regional culture and policy orientation, thus making it difficult to fully reflect the global differences of AI-driven education reform.

Future studies can use mixed research methods, such as questionnaires and controlled experiments. Additionally, this paper will construct a cross-country comparative research framework and analyzes the interaction mechanism between AI and education based on cases from emerging economies and developing countries. Finally, we should pay attention to the long-term impact of the AI education model on students' learning ability and provide a more universal practical path for the digital transformation of global education.

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**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethics Statements** The authors declare that their Institutional Ethics Committee confirmed that no ethical review was required for this study. Written informed consent for participation was not required because all participants' data was anonymized before the statistical analyses were done.

**Data Availability Statements** The authors confirm that all data generated or analyzed during this study are included in this published article.

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