

Cultivating Foreign-Related Economic and Trade Legal Talents for Free Trade Ports: Innovative Application of AI-Powered Moot Court in Economic Law Practical Teaching

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Abstract: As a basic legal department, economic law adjusts the relationship between national macro-control and market regulation. It plays an important role in the fields of cross-border trade, investment liberalization and financial innovation in free trade ports. This article discusses the application path of AI-powered moot court in the teaching of economic law. The research combs the practical problems faced by practical teaching under the background of free trade port. On this basis, an AI-powered moot court teaching model is constructed, which integrates intelligent case generation, man-machine cooperative confrontation and data-driven evaluation. The results show that the model has improved the efficiency of legal retrieval, the logic of documents and the resilience of court trial, and the comprehensive score of the experimental group is higher than that of the control group. The research shows that AI-enabled mock trial helps to realize the accurate supply and personalized feedback of teaching resources, and supports students' gradual transformation from knowledge acceptance to ability generation.

Keywords: Free trade port; Foreign-related legal talents; AI-powered moot court; Economic law; Practice Teaching

1. Introduction

With the deepening of the construction of Hainan Free Trade Port, institutional openness has become the core feature. Economic law is the basic legal department to adjust the relationship between national macro-control and market regulation. It plays a key role in the fields of cross-border trade, investment liberalization and financial innovation in free trade ports [1]. Traditional practical teaching of economic law is mostly limited to static case study or simple role play, and it is difficult to reproduce the complex conflict of law application, cross-cultural communication obstacles and dynamic game process in foreign-related economic and trade disputes [2]. The teaching scene is divorced from the real professional environment, which leads to students' lack of legal retrieval ability, practical operation and contingency skills when dealing with high-frequency changes in international economic and trade rules [3]. How to break through the limitation of time and space and build a highly simulated and interactive practical teaching environment has become a difficult problem to be solved urgently in the reform of law education.

Based on natural language processing, knowledge map and big data algorithm, AI-powered moot court system can generate highly logically self-consistent virtual cases. It can play multiple roles such as judge, litigant and opposing lawyer, and provide personalized trial confrontation training [4]. Compared with the traditional mock trial, AI-enabled teaching mode reduces the organization cost, and provides accurate process evaluation basis for teachers through real-time data capture and analysis [5]. Studying the application of AI-powered moot court in the teaching of economic law is the trend of technology empowerment education, and it is also the internal demand to improve the quality of training foreign-related legal talents in free trade ports.

Although the existing research has paid attention to the value of mock trial in legal education, it mostly focuses on the process exercise in the field of procedural law, and has little in-depth application of substantive law such as economic law. In view of this, based on the actual construction of Hainan Free Trade Port, this article focuses on the practical teaching of economic law, and constructs a new teaching mode of AI-powered moot court based on OBE concept.

The purpose of this article is to elaborate on the application architecture and implementation path of AI powered moon court in economic law teaching through a combination of theoretical analysis and empirical research. This study first summarizes the required abilities and traditional teaching shortcomings of foreign-related economic and trade legal talents in free trade ports. Next, an AI teaching model was designed. This model integrates intelligent case generation, human-machine collaborative confrontation, and multidimensional capability evaluation. Furthermore, through comparative experiments, it is verified that this model can effectively enhance students' legal practice, logical thinking, and cross-cultural communication skills. Finally, propose corresponding safeguard mechanisms and optimization strategies.

2. Realistic dilemma of practical teaching of economic law

Although there are practical courses such as mock trial in law education in colleges and universities, there are some problems in the traditional practical teaching of economic law, such as slow updating of content, single teaching method and rough evaluation method, when connecting with the high-standard international economic and trade rules of Hainan Free Trade Port. These problems make it difficult for teaching to support the training goal of foreign-related legal talents.

2.1. Disconnected teaching content

Economic law has strong policy dependence and timeliness. The legal rules related to cross-border data flow, offshore trade finance, and cross-border protection of intellectual property rights involved in free trade ports are updated rapidly and are highly complex. At present, most of the case libraries used in economic law courses in universities are outdated and mostly focused on traditional market regulatory disputes in China [6]. Students in the classroom are often exposed to simplified and idealized cases, lacking complex elements such as evidence flaws, legal conflicts, and competing jurisdictions in real business scenarios. The static and singular nature of this teaching content makes it difficult for students to establish sensitivity to the dynamic changes in international economic and trade rules.

Additionally, the pace at which governance around issues of global digital trade, rules regulating international investment and compliance mechanisms is changing has made the disconnect between what law is taught in classrooms and how it is actually practiced wider still. Most cleverly, the law school relies on statutory provisions and basic teaching materials to go back to the basics while intentionally avoided engaged with quickly-emerging issues like about digital economy regulations, cross-border e-commerce disputes, data compliance review and etc. and international commercial arbitration in large part still quietly thereby received less attention to rightly reserved of best practice signification as might be disconnected from immediate students' needs or interests. This produces a lack of scope for students to engage with legal problems on a global scale, and limits their ability to comprehend the interplay between domestic legislation and international economic governance mechanisms.

Moreover, the legal situations met Free Trade Port are complex involving many aspects such as multinational enterprise, foreign investment, customs authorities and financial institutions and regulatory agencies. In such scenarios, knowledge in the fields of economic law, international trade law, tax law and intellectual property is usually applied. Existing teaching materials, however, are commonly oriented along discrete legal subject matters, leading to fragmented knowledge structures and limited interdisciplinary coupling. As a result, students may know the individual legal regulations but face difficulties in mobilizing their knowledge in foreignrelated economic and trade dispute cases. The mismatch between classroom teaching content and practical work needs leads to insufficient training of the professional competence that talents need in an era characterized by the development of free trade ports.

2.2. Method becomes mere formality

Traditional mock trial teaching tends to emphasize the procedure rather than the entity, focusing on the formal compliance of the trial process, while ignoring the deep game of substantive rights and obligations of economic law [7]. In role-playing, due to the lack of opponents with professional knowledge, the confrontation between students is often superficial and it is difficult to form a high-intensity thinking collision. Traditional teaching is limited by teachers' energy, so it is difficult for teachers to make detailed comments on each student's pre-trial preparation, trial performance and legal documents, and the feedback is usually lagging and general. Students can't get immediate error correction, which is easy to solidify wrong cognition. This inefficient interactive mode is often difficult

to meet the demand of high-intensity and high-frequency practical training for foreign-related economic and trade dispute resolution. In addition, in foreign-related economic and trade cases, there are more cross-border elements, involving multiple legal systems, international trade rules and complex contractual relations. In contrast, however, more traditional moot court exercises often use simplified case materials and pre-determined scripts that do not lend themselves to real legal reasoning or substantive advocacy by students. This leads students to focus on mechanical tasks instead of learning how to analyze cross-border legal risks, interpret international commercial laws and react against trial surprise. This formalized approach to learning effectively undermines the development of practice readiness, and is ill-fitted for educating students for the evolving milieu of legal complexity surrounding free trade ports.

2.3. Strong subjectivity in evaluation

The existing practice assessment of economic law mostly relies on teachers' subjective impression, and lacks an objective and quantitative evaluation index system [8]. The examination pays more attention to the results and standard format, and ignores the process performance of legal retrieval, logical reasoning, cross-cultural communication and teamwork. Due to the lack of data collection and analysis in the whole process, it is difficult for teachers to accurately diagnose students' shortcomings in specific ability dimensions. This result-oriented and fuzzy evaluation method is difficult to reflect students' professional competence and restricts the continuous improvement of practical teaching quality. In addition, since assessment standards for practical teaching tend to vary considerably among instructors, large deviation in evaluation results could occur inadvertently and even threaten the fairness and credibility of practical teaching evaluation. The above-mentioned ideas are actually based on diversified requirements of training students in the field of foreign-related economic and trade law education, that is students should be trained to show abilities to do international legal research and write bilingual legal expressions as well as negotiation skills and strategies for resolving disputes. But these competencies have proven hard to assess through conventional assessment glommerates. Teachers cannot see how their students are performing, strengths and weaknesses or even give personalized instruction without ongoing tracking of learning behaviors and performance data. As a result, the scarcity of scientific and data-driven evaluation mechanisms not only diminishes students' enthusiasm for learning but also hinders the effectiveness of recruitment for future talent needed to satisfy the legal service needs free trade ports will demand in the era of artificial intelligence.

3. The application of AI-powered moot court in the practice teaching of economic law

3.1. Dynamic scene construction

Traditional case teaching is limited by static text, and it is difficult to present the dynamic evolution of economic and trade disputes in free trade ports. AI-powered moot court can automatically generate highly simulated foreign-related cases according to the teaching objectives, relying on the legal model and the knowledge map of free trade port regulations [9]. The system can set variables such as trade terms, court place and exchange rate, and adjust the case in real time to ensure that each group case is reasonable and unique. For example, when teaching the Anti-Monopoly Law, AI can generate multi-national jurisdiction conflict scenarios involving cross-border data monopoly, requiring students to instantly search compliance requirements in different jurisdictions. As shown in Figure 1, the bottom layer of the system is supported by multi-source legal database, the middle layer carries out logical deduction through algorithm engine, and the upper layer provides interactive interface for users.

The system can also model when and how quickly new policies are enacted in response to such events, allowing students to witness how even the best legal arguments evolve as trade environments change. It can build in randomized "event triggers" like tariff changes, sanctions lists, or contract violations that require learners to constantly update litigation strategies. By switching between plaintiff, defendant, and arbitrator through multi-round virtual hearings, students can gain a stronger grasp of procedural logic and adversarial reasoning in practice focused on economic law. Such a real-time reconstruction of legal context greatly boosts immersion and adds realism to moot court training for free trade port-linked legal education.

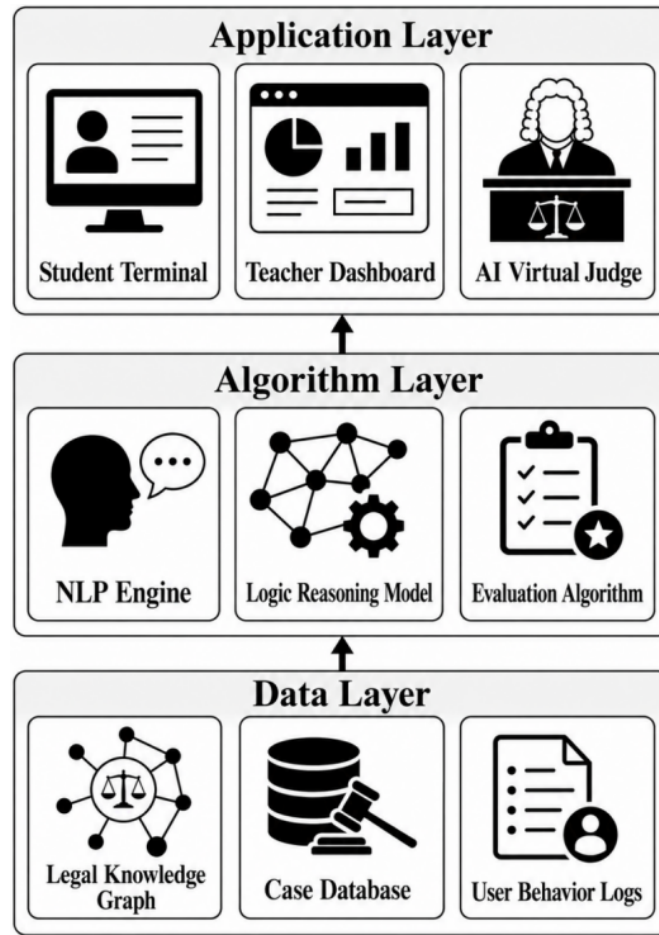


Figure 1 AI-powered moot court system architecture

3.2. Immersive confrontation training

The core advantage of AI-powered moot court is to provide high-level virtual opponents. The built-in AI lawyer and AI judge represent in the system, which is based on natural language processing technology and can understand the legal views input by students. In the trial session, students need to have many rounds of debates with AI, which can immediately identify logical loopholes or law citation errors in students' arguments and ask questions through the role of virtual judges. This high-intensity instant feedback mechanism can reproduce the pressure environment in the real court. The system supports bilingual interaction between Chinese and English, which helps to strengthen students' language expression and cross-cultural communication skills in foreign-related contexts. Furthermore, the system enables the AI opponents to adapt their difficulty based on students' performances, systematically transitioning from simple basic contract disputes to extremely complex cross-border commercial litigation scenarios. It even can imitate different styles of judicial reasoning from varying legal systems, allowing students to be able to compare how common law and civil law reasoning might differ. It also documents each debate and publishes structured reports of feedback based on weaknesses in the organization of arguments, completeness of the chain of evidence, and accuracy of statutory interpretation. Iterating through these trainings gives students time to engage with legal reasoning and increase cognitive flexibility in unpredictable settings (i.e. a courtroom), to ultimately better prepare them for handling factual foreign-related economic and trade disputes.

3.3. Whole process data portrait

Different from traditional subjective evaluation, AI system can fully collect students' behavior data in preview, trial and document writing. Through the algorithm model, the system transforms unstructured data into quantifiable capability indicators. After class, the system automatically generates a radar chart of personal ability, showing students' strengths and weaknesses in legal retrieval, oral debate, document standardization and other dimensions, and providing targeted improvement suggestions. As shown in Figure 2, the evaluation model decomposes abstract legal literacy into several

observable dimensions, which helps teachers and students accurately locate the shortcomings of their abilities. Teachers can adjust the focus of follow-up teaching according to the overall data portrait of the class.

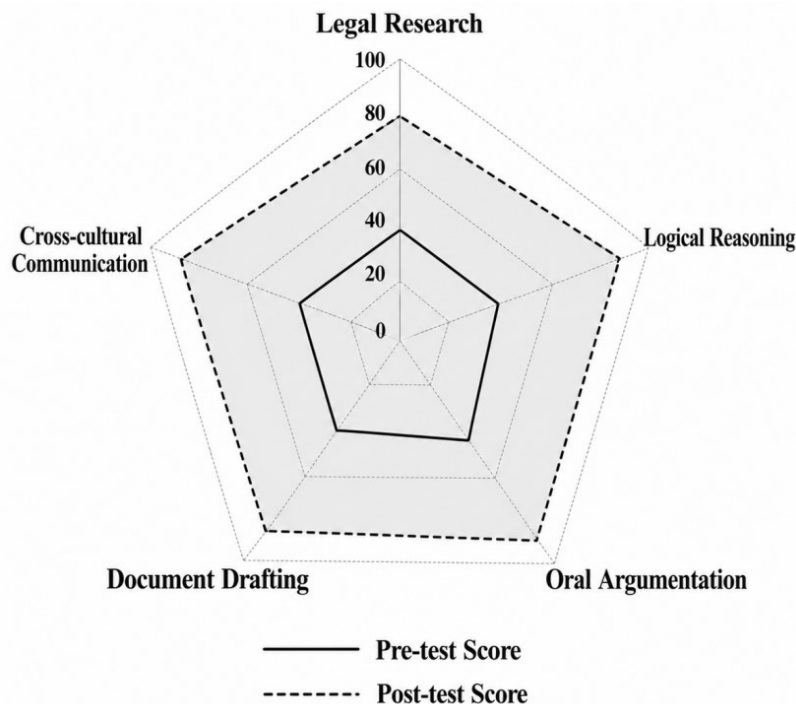


Figure 2 Multidimensional evaluation of students' practical ability

At the same time, this system allows to yoke multiple moot court cases and millennials can be longitudinally followed back in order to compare development over time. After integrating cross-case behavioral analysis and predictive models, it can discover the potential risks in learning and the bottleneck factors of skill improvement beforehand, thus forming an early warning window. Finally, the platform forms a closed-loop feedback mechanism for competency evaluation, based on teaching results to constantly improve assessment reliability. From this portrait of data, targeted recommendations for learning paths are made to students which guide their engagement in purposeful training modules including reinforcement of legal reasoning skills, evidence analysis drills, and procedural argument simulation, these two capabilities contribute further precision and adaptability to the approach taken to practical legal education.

4. Application effect and analysis

In order to verify the actual effect of AI-powered moot court teaching mode, two parallel classes of law major in a university were selected to carry out comparative experiments. The experimental group adopted AI-enabled mock trial teaching, while the control group followed the traditional practice mode, with a period of one semester. This article analyzes the influence of this model on students' practical ability through multi-dimensional data such as pre-and post-test questionnaire, court performance score and document quality evaluation.

4.1. Research design and data sources

Before the experiment, there was no significant difference in the theoretical basis and practical skills of economic law between the two groups ($p > 0.05$). The research adopts mixed research method, and the quantitative data include case analysis report score, simulated court trial score and legal retrieval efficiency index; Qualitative data comes from students' reflection logs and interviews with teachers. All the data were analyzed by SPSS 26.0 for independent sample t test and effect quantity to ensure the reliability of the results.

4.2. Effect of improving practical ability

The experimental group students showed significant improvement in core competency dimensions.

As shown in Table 1, the average post test score of the experimental group (86.4 ± 5.2) was significantly higher than that of the control group (78.1 ± 6.8), indicating that AI powered moot court has a moderate to above promoting effect on practical ability cultivation. The experimental group has more prominent advantages in the writing of foreign-related legal documents and cross-cultural debates. As shown in Figure 3, the experimental group showed higher improvements in various skill dimensions than the control group, especially in legal retrieval and document logic; The control group showed a steady growth, indicating a diminishing marginal effect of traditional teaching.

Table 1 Comparison of Post-test Practical Ability between Two Groups of Students (N=60)

Ability Dimension	Experimental Group (M±SD)	Control Group (M±SD)	t-value
Legal Retrieval Efficiency	91.3±4.1	82.5±5.7	6.82
Document Logicality	88.7±4.8	79.3±6.2	5.94
Courtroom Adaptability	85.2±5.5	76.8±7.1	4.73
Comprehensive Score	86.4±5.2	78.1±6.8	5.21

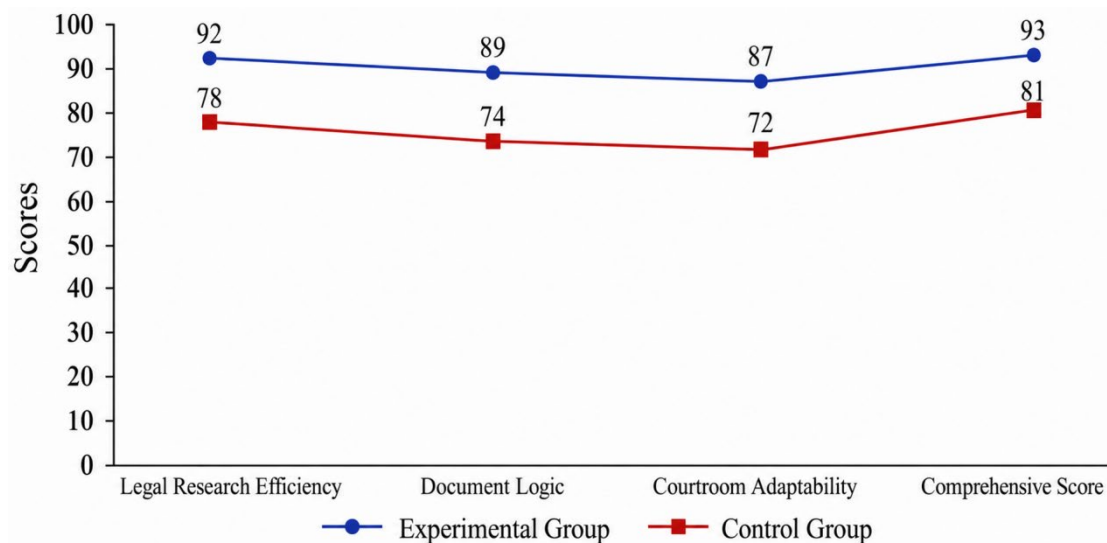


Figure 3 Comparison of students' ability improvement between the two groups

4.3. Results discussion and teaching enlightenment

The empirical results show that AI-powered moot court helps to narrow the gap between theoretical teaching and practical needs to some extent through high-frequency and personalized practical training. Student feedback shows that after participating in the virtual confrontation scene, some students' anxiety about the real trial is reduced, and they show higher willingness to try in the face of complex legal arguments. Data-driven accurate feedback can help students identify their own shortcomings more clearly, and to some extent, stimulate their motivation for independent improvement. Some students also pointed out that over-reliance on AI hints may have a certain impact on independent thinking ability, suggesting that it is necessary to pay attention to the balance between technical assistance and students' subjective cultivation in practical teaching.

5. Conclusions

With the help of knowledge map and large model technology, AI-powered moot court can realize the dynamic generation and situation restoration of typical foreign-related cases in the Free Trade Port, and to some extent alleviate the problem that the teaching content is out of touch with practice. The confrontation training mechanism of man-machine cooperation provides higher frequency and more immediate interactive experience, which is helpful to improve students' logical thinking and cross-cultural communication ability in complex legal environment. The results show that the model has certain potential in improving students' core practical ability, and the data-driven evaluation system also provides more dimensions of reference for ability evaluation.

The application of technology needs to pay attention to ethical risks and excessive dependence on

technology. The future teaching reform should guide students to form a critical awareness of the use of AI tools under the premise of maintaining the leading role of teachers, and prevent thinking inertia. In addition, with the continuous iteration of the algorithm, it is necessary to continuously optimize the multilingual coverage and rule update mechanism of the case base.

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