

Exploration on the Penetration of the 5E Teaching Model in College Administrative Law from the Perspective of Constructivism

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ABSTRACT

Based on the constructivist teaching concept, closely aligning with the disciplinary characteristics of administrative law — the coexistence of theoretical abstraction and practical application, and the interweaving of traditional norms and cutting-edge propositions, this paper systematically analyzes the theoretical origin and core functions of the 5E teaching model (Engagement, Exploration, Explanation, Elaboration, Evaluation), and demonstrates its adaptive value in addressing the dilemmas in administrative law teaching. Taking digital administrative theory as a typical sample, the paper designs a complete penetration path, and constructs a student-centered knowledge self-construction system with cases as carriers, theories as support, and practice as the orientation. Meanwhile, it proposes implementation guarantee strategies from five dimensions: theoretical selection, teacher role, technology integration, ideological and political integration, and resource supply, forming a closed-loop research framework, so as to explore the reform of administrative law classroom teaching.

KEYWORDS

5E Teaching model; Administrative law teaching; Classroom penetration; Digital administrative theory; Rule of law talent cultivation

1 Introduction

As the “dynamic constitution” that regulates the operation of administrative power and protects the legitimate rights and interests of citizens, the institutional evolution and theoretical development of administrative law have always been in sync with the process of national governance modernization. The National Standards for the Teaching Quality of Law Majors in Higher Education clearly states that administrative law teaching should “cultivate students’ ability to analyze and solve practical administrative disputes using administrative law theories, and establish the concept of governing by law with standardized administration and rights protection”. This requirement highlights the core goal of administrative law teaching, which is “the deep integration of theory and practice, and the simultaneous cultivation of knowledge and ability”.

Originating from the Biological Sciences Curriculum Study (BSCS) in the United States, the 5E teaching model is based on constructivist theory. Through five interlocking teaching links, it constructs a teaching system featuring “students’ active participation, knowledge self-construction, and gradual ability development”. Based on this understanding, this paper introduces the 5E teaching model into the research on college administrative law classroom teaching, aiming to realize the transformation of administrative law teaching from “knowledge imparting” to “literacy cultivation” and contribute to the cultivation of outstanding rule of law talents.

2 Analysis of the Core Connotation of the 5E Teaching Model

2.1 Theoretical Origin and Core Links of the 5E Teaching Model

The 5E teaching model was proposed in the late 1980s by American physicist Robert Karplus and others based on constructivist theory. Initially applied in natural science courses, it has gradually expanded to the field of humanities and social sciences. After the development and improvement from the three-link model of “Exploration, Engagement, Application” to the five-link model, this model has finally formed a student-centered knowledge construction system. Each of its five core links has a clear functional orientation:

For abstract cutting-edge theories like digital administration and cooperative governance, the 5E model provides a complete penetration path of “concrete presentation - in-depth exploration - systematic construction - practical application”.

2.2 Adaptive Value of the 5E Teaching Model to Administrative Law Teaching

The disciplinary characteristics of administrative law, such as “equal emphasis on theory and practice” and “interweaving of tradition and cutting-edge”, are highly consistent with the concept of the 5E teaching model. Its adaptive value is mainly reflected in three aspects:

Table 1

Links	Core Functions	Teaching Value in Administrative Law
Engagement	- Create situations, stimulate interest, and trigger cognitive conflicts Conduct independent discussions, carry out multi-dimensional retrieval, and expose cognitive biases	Connect life experience with cutting-edge propositions and eliminate the sense of distance from theories
Exploration	Make corrections and supplements, interpret legal principles, and construct knowledge systems	Cultivate students' initial ability to analyze complex administrative issues
Explanation	Connect knowledge, apply it in practice, and expand the boundary of cognition	Realize the in-depth understanding from the cognition of phenomena to the essence of theories
Elaboration	Provide process feedback, assess abilities, and optimize learning paths	Achieve the two-way transformation between theory and practice
Evaluation		Fully control the mastery of theories and the effect of thinking cultivation

Resolving cognitive dilemmas and materializing theories: To address the abstractness of administrative law theories, the 5E model transforms abstract concepts such as “data power” and “algorithmic discretion” into perceivable practical issues through situational creation in the Engagement link and practice-oriented exploration in the Exploration link.

Reconstructing the teaching relationship and strengthening subjective initiative: The 5E model completely breaks the traditional paradigm of “teachers lecture and students take notes”. It endows students with sufficient independent space in links such as Exploration and Elaboration. In the discussion of administrative law cases, students independently search for legal provisions, analyze precedents, and construct argumentative logic, so that their legal thinking ability is actively cultivated rather than passively inculcated.

Connecting cutting-edge theories and responding to practical needs: Facing the rapid development of administrative law theories, the Elaboration link of the 5E model provides a practical path for cutting-edge theories. After mastering theories such as digital administration and risk administrative law, students can directly apply them to the analysis of practical issues such as “the legal boundary of health code management in epidemic prevention and control” and “the administrative supervision of the platform economy”, realizing the synchronous development of teaching and practice.

3 Practical Path

As a core theory responding to the governance changes in the technological era, digital administrative theory involves new propositions such as the regulation of data power and the legitimacy review of algorithms, which are difficult to be thoroughly explained by traditional teaching models. With the hierarchical design of the 5E teaching model, the effective penetration and in-depth internalization of this theory can be realized.

3.1 Engagement: Stimulating the Desire for Exploration through Situational Conflicts

The key of the Engagement link is to establish the connection between theory and life, and activate the learning motivation through cognitive conflicts. In teaching, a design of “comparison of two cases + core questions” is adopted: first, two short videos are played. One shows the innovative practice of “a local area automatically generating traffic violation penalty decisions through algorithms and simultaneously pushing the relief channels”, and the other presents the social dispute of “takeaway riders causing traffic accidents due to the compressed delivery time by the platform algorithm”. Then, progressive questions are raised: “What is the essential difference between algorithm-participated administrative activities and traditional administrative acts? Can ‘algorithmic neutrality’ be a reason for exempting administrative liability? Can the traditional principle of legal administration cover the governance challenges brought by algorithms?”

This design makes use of the intuitiveness of audio-visual materials to break students’ inherent cognition that “administrative activities are manual discretion”. Through the contradictory situation, it naturally introduces the core proposition of digital administrative theory, which is “balancing technological innovation and legal regulation”, and lays an emotional and problem-oriented foundation for subsequent exploration.

3.2 Exploration: Constructing Preliminary Cognition through Diverse Paths

The Exploration link needs to provide students with structured support to promote the self-generation of knowledge. Students are divided into three groups: “Power Regulation Group”, “Rights Protection Group”, and “Responsibility Division Group”. Three types of core resources are provided: first, normative texts, including relevant provisions of the Regulations on the Management of Network Data Security and the Opinions on Standardizing and Strengthening the

Legal Supervision of Artificial Intelligence issued by the Office of the Central Commission for Comprehensive Governance in accordance with the Law; second, practical cases, covering the typical precedents of “algorithm recommendation infringing on the right to privacy” issued by the Supreme People’s Court and the local practice of “Zhejiang Algorithm Compliance Review Guidelines”; third, academic abstracts, selecting core viewpoints from core journal papers in the field of digital administration.

Targeted exploration is carried out around three groups of questions: 1. How should the boundary of algorithms in administrative decision-making and law enforcement be defined through systems? 2. In response to the “algorithmic black box”, what procedural rights (such as the right to know and the right to object) should administrative counterparts enjoy? 3. How should the responsibility chain (developer, deployer, supervisor) in digital administration be divided? During this process, teachers provide itinerant guidance and do not correct cognitive biases such as “algorithmic neutrality can exempt liability” for the time being, but focus on responding to them in the Explanation link, so as to fully protect the autonomy of exploration.

3.3 Explanation: Deepening the Theoretical Core through the Interpretation of Legal Principles

The Explanation link needs to realize the organic connection of “students’ expression - teachers’ guidance - theoretical construction”. First, each group is invited to report the exploration results, and students are encouraged to explain the core viewpoints in their own words; then, teachers conduct a three-level progressive analysis based on the report content:

Correction and clarification: Clarify the misunderstanding of the “myth of algorithmic neutrality”, point out that algorithm design implies the preference of administrative goals and is essentially “technological administrative discretion”, and its operation effect directly reflects the administrative will, so it cannot be a reason for exempting liability.

Theoretical deconstruction: Systematically explain the three-dimensional framework of digital administrative theory—pre-event (algorithmic compliance review system), in-event (rights relief mechanism), and post-event (multi-dimensional responsibility tracing), and explain the institutional functions and connection logic of each link.

Legal principle tracing: Reveal the internal connection between this theory and traditional administrative law, and point out that it is not a subversion of the principle of proportionality and the principle of due process, but a specific expansion of these principles in the digital era, such as extending “procedural legitimacy” to “algorithmic transparency”.

The whole process takes students’ exploration results as the starting point, making the interpretation of theories a natural extension of their self-cognition rather than an external imposition.

3.4 Elaboration: Expanding the Boundary of Cognition through Practical Application

The goal of the Elaboration link is to realize the leap from “understanding theories” to “applying theories”. Two progressive tasks are designed:

Case transformation: Students are required to design a supporting system plan for the “algorithmic traffic punishment” case in the Engagement link based on digital administrative theory. The plan should include specific contents such as the obligation to explain algorithms, the objection review process, and the compensation mechanism for erroneous punishment, forming a complete system closed loop.

Cross-domain expansion: Three scenarios are set up, including “health code management in epidemic prevention and control”, “smart city data collection”, and “autonomous driving safety supervision”. Students are guided to form groups to write analysis reports, explaining the application points and institutional adaptation needs of digital administrative theory in different scenarios.

Through the design of “coming from cases and going to practice”, students are helped to establish the two-way transformation ability between theory and practice, and at the same time, the internal connection of the knowledge system is strengthened.

3.5 Evaluation: Improving the Teaching Closed Loop through Multi-dimensional Evaluation

A “three-dimensional evaluation system” is adopted to fully control the process and results:

Process evaluation (40%): Record students’ exploration participation and speech quality through classroom observation, evaluate the cooperation effect based on group discussion records, and judge the information acquisition ability according to the resource retrieval list, so as to fully reflect the learning process.

Outcome evaluation (40%): Evaluate the case transformation plan from three dimensions of “legitimacy”, “innovation”, and “operability”, and assess the expansion report from the aspects of “accuracy of theoretical application”, “depth of problem analysis”, and “feasibility of countermeasures”, so as to quantify the level of theoretical application.

Reflective evaluation (20%): Require students to fill in the “cognitive change list”, compare the differences in viewpoints before and after exploration, sort out the remaining questions (such as “the specific subject of algorithm interpretation right”), and put forward suggestions for improving the teaching process.

The evaluation results are not only used for personalized feedback to students, but also provide a basis for the subsequent optimization of teaching. For example, if students have insufficient mastery of “responsibility division”, special precedent analysis sessions can be added in subsequent courses.

4 Implementation Guarantee

The effective penetration of the 5E teaching model in administrative law classes is not a simple adjustment of teaching links, but a systematic reform involving teaching concepts, teaching resources, teaching roles, teaching technologies and other aspects. To ensure the effective implementation of the model, the following five core principles and corresponding implementation strategies should be followed:

4.1 Principle of Theoretical Selection Adaptability: Accurately Matching the “Three Characteristics” of Teaching Content

Given the extensiveness of administrative law theory, not all content suits the 5E model. Selection should adhere to the “three traits” to avoid overgeneralization or formalization:

Practicality: Prioritize theories closely linked to administrative law enforcement, such as the legitimacy of administrative procedures and rationality of administrative discretion. Real cases are used to reconstruct dispute scenarios, providing materials for the “Exploration-Elaboration” phases. Purely theoretical content (e. g., historical evolution of administrative law principles) should not be forced into the model.

Controversy: Focus on propositions with multiple interpretations, such as the legal nature of administrative agreements or the boundary of platform supervision responsibilities. These create cognitive conflicts for the “Engagement” phase and enable multi-perspective discussions in “Exploration,” preventing aimlessness caused by a single conclusion.

Cutting-edge: Emphasize emerging theories like digital administrative law and risk administrative law. Guide students to explore practical issues (e. g., regulation of algorithmic discrimination, balance between public data openness and privacy protection) to foster future-oriented rule-of-law thinking. For basic, consensual content (e. g., concept of administrative subjects), adopt a hybrid approach of “traditional teaching + 5E supplementation” to balance efficiency and effectiveness.

4.2 Principle of Accurate Teacher Role Positioning: Realizing the Transformation from “Knowledge Impartor” to “Learning Guide”

In the 5E teaching model, the role of teachers is no longer the “authority of one-way knowledge output”, but the “designer, guide, supporter, and feedback provider of students’ learning process”. Teachers must assume distinct roles in each phase to avoid misalignment:

Engagement link: As a situational designer and question proposer, teachers need to create practice-oriented situations (such as real case videos, law enforcement document fragments, and social hot events) based on the analysis of students’ learning situation (students’ mastered administrative law knowledge and life experience), and design contradictory and inspiring questions to stimulate students’ desire for exploration.

Exploration link: As a resource provider and scaffold builder, teachers need to integrate diverse learning resources (normative texts, precedents, academic paper abstracts, local practice guidelines) in advance and provide them to students in categories; at the same time, when students encounter difficulties in exploration, teachers guide the direction through “scaffolding questions”, avoiding directly giving answers.

Explanation link: As an interpreter of legal principles and a corrector of cognition, teachers need to sort out the consensus and differences based on students’ exploration results, accurately correct cognitive biases such as “algorithmic neutrality can exempt liability”, systematically explain the theoretical core, and establish the connection between cutting-edge theories and traditional administrative law principles, helping students construct a complete knowledge system.

Elaboration link: As a task designer and practical guide, teachers need to design challenging and practical transfer tasks (such as case transformation and cross-domain scenario analysis), clarify the task requirements and evaluation standards; in the process of students completing the tasks, teachers provide personalized guidance for the problems existing in students’ theoretical application and scheme design (such as the lack of operability in system design),

ensuring the effectiveness of the Elaboration link.

Evaluation link: As a feedback provider and teaching optimizer, teachers need to provide students with specific and improvable feedback (such as “your case transformation plan omits the compensation mechanism for algorithm errors, which can be supplemented by referring to the relevant provisions of the State Compensation Law”) based on the process evaluation and outcome evaluation data. At the same time, teachers reflect on the shortcomings of the teaching links based on the evaluation results, and continuously optimize the teaching plan.

4.3 Principle of Technology Integration: Breaking through the Limitations of Time, Space and Resources with Blended Teaching

Administrative law teaching involves a large number of normative texts, precedents, and law enforcement scenario materials. In addition, the Exploration and Elaboration links require students to collaborate across time and space, so simple offline teaching is difficult to meet the needs. Blended teaching (online + offline) is adopted to support the 5E model:

Pre-class: Release audio-visual materials for “Engagement,” preview questions, and basic literature via platforms like Chaoxing Learning Pass or Rain Classroom to activate learning interest.

Exploration: Use cloud tools (Tencent Docs, Lark Collaboration) for group discussions, and integrate legal databases (China Judgments Online, Pkulaw) to facilitate resource retrieval and cross-temporal collaboration.

Elaboration: Display outcomes (e.g., case adaptation plans) on course forums to encourage peer review. Compile excellent works into an Administrative Law Practice Case Collection to enhance students’ sense of accomplishment.

Evaluation: Leverage teaching platform data analytics to record process indicators (e.g., preview completion, in-class participation). Combine teacher, self-, and peer evaluations to generate multi-dimensional reports, improving objectivity and avoiding subjective bias.

It should be noted that the application of technical means should always serve the teaching goals, avoiding the formalization tendency of “technology for technology’s sake”. For example, the core value of cloud collaboration tools is to promote in-depth discussion among students, rather than simply replacing offline communication; the role of data tools is to assist in evaluation, rather than completely replacing the professional judgment of teachers.

4.4 Principle of Integrating Ideological and Political Elements: Realizing the Synchronous Development of “Knowledge Imparting” and “Value Guidance”

As a core public law course, administrative law should integrate ideological and political elements into all phases to avoid decoupling from professional teaching:

Engagement link: Penetrating values through situations. When selecting cases and creating situations, priority should be given to typical cases that reflect “the achievements of the rule of law government construction”, “the active error correction of administrative organs”, and “the legal protection of citizens’ rights”, such as the positive case of “a local government disclosing the algorithm-based law enforcement basis to protect the right to know of administrative counterparts” or the negative case of “an administrative organ having its penalty decision revoked by the court due to procedural violations”.

Exploration link: Guiding the sense of mission through questions. When designing exploration questions, integrate guiding contents related to “the social responsibility of rule of law talents”. For example, when exploring the “regulation path of algorithm-based law enforcement”, add the question “as future legal practitioners, how do you think we can balance algorithm efficiency and rights protection to contribute to the construction of the rule of law government?” to guide students to rise from “legal technical analysis” to “social responsibility thinking”.

Explanation link: Integrating concepts through the interpretation of legal principles. When explaining administrative law theories, combine the needs of national governance modernization to interpret the rule of law concepts behind the theories. For example, when explaining digital administrative theory, combine the “Digital China” strategy to explain that “algorithmic compliance review” is not only a technical issue, but also an important path to “realize administrative transparency and improve the credibility of the government”, strengthening students’ national identity and sense of the times.

Elaboration link: Cultivating the sense of responsibility through practical tasks. When designing transfer tasks, integrate the practical orientation of “solving practical problems and serving social development”. For example, in the cross-domain expansion task of “health code management in epidemic prevention and control”, students are required not only to analyze the legal boundary, but also to put forward solutions to “balance the efficiency of epidemic prevention and the rights and interests of special groups”, cultivating students’ sense of responsibility of “basing on social needs and solving practical problems”.

4.5 Principle of Resource Supply Guarantee: Constructing a “Diverse, High-Quality and Sustainable” Teaching Resource System

Sufficient, high-quality resources are essential for the 5E model. A three-dimensional guarantee system is constructed:

Resource Development: Collaborate with local government legal departments, courts, law firms, and tech companies to develop an Administrative Law Practical Teaching Resource Package, including real cases (files, judgments), law enforcement videos, and algorithmic law enforcement manuals, ensuring authenticity and practicality.

Resource Integration: Link university libraries, law school resource centers, and IT departments to establish an “Administrative Law Teaching Resource Database.” It categorizes normative texts, precedents, and academic literature for one-click retrieval, supporting both students’ exploration and teachers’ instruction.

Resource Update: Assign dedicated personnel (course team teachers, law postgraduates) to track legislative developments (e.g., revision of the Administrative Procedure Law (Draft)), judicial precedents, theoretical frontiers, and local reforms. Update the database semesterly to maintain timeliness and avoid outdated resources undermining the 5E model’s effectiveness.

5 Conclusion

The ultimate goal of administrative law teaching is not only to enable students to master the “rule system for the legality review of administrative acts”, but also to cultivate their core literacy of “examining administrative power with the perspective of the rule of law, solving administrative disputes with legal thinking, and protecting citizens’ rights with the rule of law”. This goal is highly consistent with the concept of constructivism of “students’ self-construction of knowledge, ability and values”, and also provides a broad space for the application of the 5E teaching model.

In conclusion, the 5E teaching model provides new ideas and methods for the reform of college administrative law classroom teaching. Only by taking “students as the center” and “practice as the orientation”, continuously optimizing the model application path, and improving the implementation guarantee system, can we truly realize the quality and efficiency improvement of administrative law teaching, and cultivate more high-quality outstanding rule of law talents for the construction of a country, government and society ruled by law.

References

- [1] Ge, W. (2024). Research on the Application of the 5E Teaching Model in Administrative Law Course Teaching. *Education Observation*, (45), 112-115.
- [2] Jiang, M. A. (2023). *Administrative Law and Administrative Litigation Law* (8th ed.). Beijing: Peking University Press.
- [3] Wang, X. Z. (2021). The Principle of Protection of Legitimate Expectations in Administrative Law. *Chinese Journal of Law*, (2), 124-138.
- [4] Yang, X. J. (2022). *On Digital Administrative Law*. Beijing: Law Press.
- [5] Ying, S. N. (2023). *Theory and Practice of Local Rule of Law Construction in China*. Beijing: China Legal Publishing House.
- [6] Zheng, P. S. (2025). Research on the Application of the Blended Teaching Model Based on the 5E Model—Taking the Administrative Law Course in Open Universities as an Example. *Journal of Zhejiang Open University*, (1), 78-83.
- [7] Zhong, Q. Q. (2020). An Analysis of Constructivist Learning Theory. *Global Education Outlook*, (3), 15-23.
- [8] Administrative Tribunal of the Supreme People's Court. (2024). *The Gist of Typical Administrative Litigation Cases (2024 Volume)*. Beijing: Law Press.