# Revitalizing Urban Planning Education through Digital Intelligence

**WU Zhiqiang**

**Abstract:** With the rapid advancement of digital and intelligent technologies, urban planning education is facing unprecedented challenges and transformative opportunities. Cutting-edge technologies such as big data, artificial intelligence, the Internet of Things, and virtual reality are gradually being integrated into planning education. This change toward digitalization and intelligentization can be understood on three levels, resembling three interwoven yet distinct voices of a symphony progressing in harmony. This paper provides an in-depth analysis of the transformation and innovative developments in urban planning education over the past decade in the backdrop of digital and intelligent technologies. It examines this renewal in three key aspects: urban scenarios, urban planning education and teaching, and supporting management reforms. The paper first reviews the multidimensional development of urban scenarios intelligentization. Next, it explores approaches to intelligent teaching in urban planning education, including the use of digital platforms, virtual reality, and interdisciplinary collaboration. Finally, it proposes essential management reforms in urban planning education, emphasizing the importance of knowledge updating, the application of decision support systems, and technical training for educators. Through a comprehensive discussion, the paper provides both a theoretical foundation and practical recommendations for the future intelligent transformation of urban planning education. Faced with rapid technological advancement, urban planning education must undergo a fundamental shift to meet the needs of a smart city and to train interdisciplinary talents capable of addressing future challenges.

**Keywords:** urban planning; intelligence; digital education; smart cities; artificial intelligence; interdisciplinary

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Urban planning is a discipline of fundamental importance to urban development and human well-being. Since its establishment in the early twentieth century, the field has evolved through several stages. Initially, urban planning focused primarily on spatial layout and functional zoning, with an emphasis on structure and aesthetics. As industrialization advanced, environmental, economic, and social dimensions were gradually incorporated. By the late twentieth century, the rise of information technology brought computer-aided design (CAD) and related tools into planning, enabling a closer integration of technology and theory[1].

In recent years, urban planning has been undergoing profound change driven by digital and intelligent technologies. Since the discipline emerged in the early twentieth century, social development and scientific progress have made the problems confronting planners increasingly complex. These include not only worsening environmental pollution, population concentration, and resource allocation, but also the use of advanced technologies to improve urban management efficiency and quality of life. The emergence of big data, artificial intelligence, the Internet of Things, cloud computing, and related technologies has created substantial potential and room for change in urban planning education[2]. This article therefore examines the digital-intelligent renewal of planning

education and considers how it should evolve in response to the intelligent transformation of cities.

The rapid development of big data and artificial intelligence has provided urban planning with new decision-support tools. Data analytics can process vast quantities of information on traffic flows, energy consumption, air quality, and other urban systems, giving planners more precise evidence for decision-making[3]. Through machine-learning and deep-learning algorithms, artificial intelligence enables planning to move beyond exclusive reliance on conventional methods and to use intelligent tools to optimize proposals and anticipate future trends[4]. The concept of smart-city design has consequently taken shape, emphasizing sustainability, efficient resource use, and intelligent management[1].

These technological changes have profound implications for planning education. Traditional curricula have concentrated on theoretical instruction and hand drawing, whereas future planning professionals will need interdisciplinary knowledge and the ability to use modern technologies for urban management, forecasting, and optimization[5].

## 1 Background to Research on Planning Education

The current literature and teaching practices concerning urban planning education remain inadequate and reveal several problems that require urgent attention.

First, both scholarship and practice in urban planning education lack systematization. Relevant theoretical frameworks, research findings, and educational models have yet to form a unified and coherent body[5]. Although the literature contains considerable discussion of planning education, most studies focus on particular domains and provide little cross-field theoretical integration. As a result, planning education lacks a holistic perspective capable of offering effective guidance and support for practice. This absence of systematization also makes it difficult to design curricula and reform teaching in line with contemporary needs[6].

Second, current reforms in urban planning education are not proceeding in a clearly defined direction. Society and the market have generated new expectations, but educational practice has not responded adequately. Reform objectives are often ambiguous, and many institutions continue to rely on traditional content and methods rather than future-oriented innovation[5]. Investment in information technology, intelligent tools, and sustainable development education, for example, remains insufficient, leaving graduates poorly prepared for the challenges of contemporary planning. Institutions also lack shared standards for understanding and adopting emerging fields, which limits the possibility of substantive breakthroughs.

Third, institutions often face uncertainty and lack clarity in implementation. Universities vary widely in the teaching models and methods they apply, producing uneven outcomes and inefficient use of resources[5]. Some place excessive emphasis on theoretical transmission while neglecting its connection to actual planning practice, thereby weakening students' practical competence and innovative thinking[7]. Others recognize the need for reform but lack systematic plans and implementation strategies, resulting in slow progress, limited impact, and inadequate quality assurance.

Fourth, the practice of urban planning education is distinctly fragmented. Weak articulation and coordination between stages of education interrupt students' learning experience and make it difficult to form a complete knowledge system[5]. Some curricula disperse content too widely, while collaboration among faculty and integration across courses remain insufficient. Students consequently struggle to build connections among disciplines, substantially reducing learning effectiveness[8]. Such

fragmented practice cannot cultivate versatile professionals who possess a sound theoretical foundation and can also adapt to real-world work.

Fifth, insufficient interdisciplinary integration is another major problem. Urban planning is inherently comprehensive, drawing on geography, architecture, environmental studies, sociology, and other fields, yet disciplinary boundaries remain pronounced in teaching practice[9]. Course content across fields often has little overlap, confining students to single-disciplinary frameworks and hindering the development of interdisciplinary perspectives and modes of thought. The resulting lack of integration makes it difficult for graduates to address complex urban problems or formulate comprehensive solutions in professional practice.

Sixth, limited transparency poses a further risk. The processes and outcomes of teaching reform are often not publicly accessible, making educational quality and reform performance difficult to evaluate or supervise[5]. Many institutions advance slowly and lack effective feedback mechanisms, so improvements in educational quality cannot be reliably ensured. When problems arise, insufficient transparency also prevents timely adjustment and refinement, thereby undermining teaching quality and effectiveness.

In summary, urban planning education faces multiple pressing problems. It requires systematic reform, clearer pedagogical direction, better coordination across practical components, stronger interdisciplinary integration, and greater transparency if it is to respond effectively to the needs of contemporary urban development.

## 2 The Intelligent Transformation of Urban Planning Education

### 2.1 The Intelligent Transformation of Urban Environments

As urbanization accelerates, intelligent technologies are playing an increasingly important role in urban management, improving the efficiency of resource use, administrative capacity, and residents' quality of life[10-11]. Planning education must therefore keep pace with these developments and enable students to understand and apply such technologies in response to the complex needs of future cities. This section examines the intelligent transformation of urban environments across several key domains and considers how education can develop the corresponding competencies.

(1) Big data and urban analytics are central to the construction of intelligent cities. On the one hand, planners use image recognition, deep learning, and other tools to collect objective data on traffic flows, environmental quality, land use, and related conditions. On the other, sensors and augmented-reality media can capture and compute spatial behavior in order to investigate users' subjective perceptions[12]. By combining analyses of "space" and "people," planners can interpret urban phenomena, identify problems, and make more precise decisions. New York City's Open Data platform, for example, compiles information on traffic flows and building energy consumption; through analytics and visualization, it helps planners optimize traffic management, improve energy efficiency, and reduce carbon emissions[13]. In planning programs, students should learn machine learning, data mining, data cleaning, and other analytical methods in order to identify latent patterns, predict traffic peaks and air-pollution episodes, and provide a scientific basis for planning decisions[14].

(2) Artificial intelligence and decision-support systems make planning more intelligent. Data mining, iterative generative methods based on multidimensional diagramming, and related technologies can assist in producing planning proposals, while cloud-based models and multi-spatiotemporal network analysis can simulate their consequences, including functional layout and stormwater or flood performance[15]. Singapore's Intelligent Transport System (ITS), for instance, monitors traffic conditions

in real time and adjusts traffic signals to alleviate congestion[16]. Students should learn to use machine-learning, deep-learning, and optimization algorithms to forecast and improve decisions concerning traffic flows, land use, public services, and other urban systems[17]. The use of artificial intelligence in planning nevertheless raises challenges involving data quality, privacy, and ethics[18]. Data completeness and accuracy directly affect decision quality, while the "black box" character of some AI systems may compromise transparency and fairness[19]. Students must therefore also learn how to address these problems and ensure that AI is applied responsibly in planning.

(3) Planning education must also address smart-city technologies, including intelligent transport systems, smart buildings, and the Internet of Things. Specialized courses should teach students to use intelligent devices for data collection, analysis, and resource optimization[20]. In interdisciplinary courses linking planning with computer science, intelligent construction, and related fields, students need not only planning theory but also knowledge of robotics, virtual reality, and human-computer interaction. These capabilities will enable them to understand intelligent technologies more fully and apply them to automated construction and responsive operation and maintenance in urban environments[15]. Such interdisciplinary education strengthens students' ability to integrate knowledge from multiple domains when solving urban problems[21].

(4) The formation of smart-city design principles is an important component of planning education. Smart cities concern not only buildings and infrastructure but also intelligent transport, smart grids, green buildings, efficient resource use, environmental protection, and improved quality of life[22]. In practice, smart-city design integrates theory and implementation. Amsterdam, for example, has reduced energy consumption and strengthened urban sustainability through intelligent lighting and transport systems[23]. Students should learn how to translate these design principles into concrete planning proposals that meet the needs of future urban development[24].

(5) The ethics and privacy of urban data should likewise become a central topic in planning education. As cities collect and analyze growing volumes of data, balancing technological application with data protection has become critical[25]. Students should learn to protect residents' privacy while using intelligent technologies and to understand the importance of digital governance in planning[26]. At the same time, intelligent technologies enable real-time monitoring and emergency response, requiring students to use technological means to address practical urban problems such as traffic accidents and environmental pollution[27].

In short, planning education must comprehensively address the key domains of urban intelligence, from big-data analytics and artificial intelligence to the formation of smart-city design principles, thereby developing students' integrated capacity to contribute to intelligent urban development[28]. Through interdisciplinary study and practice, students can master advanced technical tools and support the efficient and sustainable development of future cities[29].

### 2.2 The Intelligent Transformation of Planning Education and Teaching

As intelligent technologies continue to develop, planning education is introducing new teaching tools and methods to improve educational quality and the student learning experience[30-31]. This section discusses digital learning platforms, AI-assisted instruction, virtual and augmented reality (VR/AR), interdisciplinary collaboration, and educational innovation.

(1) Digital learning platforms have become an important component of planning education. Online learning environments and virtual classrooms digitize course content and greatly improve flexibility and accessibility[32]. Massive open online course (MOOC) platforms, for example, are widely used to deliver planning courses. They provide extensive resources, track learning progress in real time, and

generate personalized recommendations so that students can learn at an appropriate pace[33]. Interactive functions also facilitate communication and discussion among students and faculty, help resolve learning difficulties promptly, and provide immediate feedback, thereby improving learning outcomes[34].

(2) Artificial intelligence is increasingly used in teaching, particularly through AI-powered teaching assistants and chatbots. These tools can provide real-time academic support, rapidly answer frequently asked questions, assist with marking and grading, and reduce faculty workload[35]. By analyzing learning data, AI can also monitor students' progress, provide individualized feedback and instructional recommendations, and improve teaching efficiency and quality[36]. Such tools not only help students acquire knowledge more effectively but also give instructors a clearer understanding of student progress and enable them to refine teaching strategies[37].

(3) Virtual reality and augmented reality create new learning experiences for planning students. VR enables students to simulate urban planning in virtual environments and to perceive complex concepts such as spatial layout and transport networks more intuitively[38]. AR overlays virtual data on the physical world, allowing real-time simulation and optimization of planning proposals[39]. Through immersive learning, students can develop a deeper understanding of planning operations and design principles while strengthening spatial perception and planning-design competence[40].

(4) The intelligent transformation of planning education extends beyond the use of technical tools and places greater emphasis on interdisciplinary collaboration and innovation. Students must master not only the basic theories and methods of planning but also knowledge of data analytics, computer science, engineering, and related fields[32]. Interdisciplinary courses and virtual team projects allow students to learn collaboratively, simulate real processes of cooperation and decision-making in planning, and further strengthen their capacity to solve complex problems[35].

(5) Adaptive learning systems represent another important development. Using machine learning and artificial intelligence, educational platforms can automatically adjust the difficulty and pace of content and provide individualized learning experiences[32]. Students can select suitable learning pathways according to their own progress and needs, thereby improving learning effectiveness[34].

(6) Urban planning education is deeply concerned with the development of practical competence. Every higher-education program seeks to strengthen students' capabilities, and this process generally requires engagement with real cases[16]. Planning education is especially practice-oriented and gives particular weight to the application of theory and method in real settings[41]. Purely theoretical transmission rarely convinces students of the practical significance of what they learn; only by applying theories and tools in concrete situations can they fully understand their value[39].

Digital-intelligent technologies should therefore be introduced first and foremost to strengthen practical competence and to overcome the spatial constraints and concentration of participants that limit conventional practice-based education[31]. Digital renewal can enable cross-border and cross-institutional student networks for collaborative innovation and support a five-tier framework for practice education[33]. Students may engage in long-term field practice or periodic field investigation, while short-term experiential learning and fully online participation provide additional options. Digital-intelligent technologies also make field investigation of remote cases more accessible and feasible[38].

Overall, intelligent technologies are gradually transforming the teaching model of planning education[30,32]. Digital platforms, AI-assisted instruction, and VR/AR not only enrich the learning experience and strengthen practical competence but also improve educational quality[35].

Interdisciplinary collaboration, innovation, and adaptive learning systems further advance this transformation and help students prepare for the challenges of future intelligent planning[34].

### 2.3 Supporting Management Reforms for Planning Education

A series of supporting management reforms is required if planning education is to adapt to an intelligent era. These reforms involve not only updating curricular content but also applying decision-support systems, integrating interdisciplinary knowledge, and providing technical training for faculty[42-43]. This section outlines the principal reforms needed to modernize and intelligently transform planning education.

(1) Technology-driven knowledge renewal is the foundation of reform. As digital and intelligent technologies advance rapidly, curricula must be updated continually to incorporate big-data analytics, artificial intelligence, smart-city design, and other emerging fields[44]. Introducing such frontier technologies enables students to understand how they can be applied in real planning processes[45]. New pedagogies, including flipped classrooms and project-based learning, should also be progressively integrated. These approaches help students not only acquire theoretical knowledge but also apply it in practical projects, solve real problems, and engage in more interactive and practice-oriented learning[46].

(2) Urban management and decision-support systems (DSS) are indispensable to contemporary planning. By enabling planners to analyze complex data rapidly and accurately, DSS can improve the efficiency and precision of planning decisions[47]. Planning programs should strengthen students' understanding and use of such systems and develop their analytical and decision-making capabilities[48]. Case-based and other practical forms of instruction can teach students how to use DSS to optimize planning decisions and enhance professional competence and problem-solving ability.

(3) Interdisciplinary knowledge integration is equally important. Planning curricula should incorporate data analytics, artificial intelligence, programming, and related fields, promote integration across disciplines, and cultivate comprehensive competence[43]. This model not only helps students master necessary technical tools but also develops their ability to make planning decisions in complex and dynamic urban environments[46].

(4) Innovative pedagogy and modular curriculum design are essential to improving adaptability. As the planning field continues to change, modular curricula should combine conventional instruction with emerging technologies[45]. Flexible teaching structures allow content to be adjusted to actual needs, ensuring that students both understand established planning theories and can apply the latest technologies and methods[49]. Modular design can also provide more individualized pathways aligned with students' interests and needs, thereby improving both learning experience and practical application[50].

(5) As intelligent technologies continue to develop, faculty capacity-building and technical training become a crucial component of reform. Educational authorities should provide training in artificial intelligence, big data, VR/AR, and other new technologies so that instructors can use them effectively in teaching[46]. Only when faculty possess sufficient technical competence can they guide students successfully in the field of intelligent urban planning[43].

(6) The intelligent transformation of educational evaluation and quality assurance is also critical. As intelligent technologies enter teaching, course evaluation and quality assurance must likewise draw on intelligent tools[43]. Data analytics, for example, can assess learning outcomes and use the results to optimize course content and pedagogical methods, thereby supporting continuous improvement[45].

Intelligent evaluation not only increases the efficiency of educational management but also helps ensure that educational objectives are achieved[50].

In summary, reforming planning education for an intelligent era requires comprehensive improvement in curricular content, teaching methods, interdisciplinary integration, faculty development, evaluation, and quality assurance. These supporting management reforms can raise the overall standard of planning education and better prepare students for the challenges of future intelligent planning.

## 3 Conclusion

The digital-intelligent transformation of urban planning education is a key response to the future needs of urban development[42-43]. By introducing intelligent technologies, planning education can improve both quality and efficiency while cultivating interdisciplinary professionals for sustainable urban development[49]. This article has examined the intelligent transformation of urban environments, the transformation of planning education and teaching, and supporting management reforms, thereby providing a theoretical framework and practical direction for change[46]. As technology advances and educational reform deepens, planning education can acquire renewed vitality. Educators should respond proactively, prepare conceptually and institutionally, and work together to advance the innovation and development of future cities.

First, faculty must recognize clearly and consciously that the renewal of planning education is not solely the responsibility of deans and professors; it is a shared undertaking involving the entire institutional ecosystem and the student body[50]. The process may be understood as a progression through several cultural stages. It begins with a postfigurative culture in which teachers transmit knowledge to students in a largely one-way direction; it then moves toward a prefigurative culture in which students bring new knowledge back to teachers, creating a reverse flow of learning; and it ultimately develops into a cofigurative culture of mutual learning between teachers and students. More importantly, the digital-intelligent transformation of planning education extends beyond the institution to international organizations, other universities, online education platforms, and many other actors[47]. Faculty must draw knowledge and resources from these diverse participants in order to achieve fundamental change in educational content and method and to build a broad, networked cofigurative culture of planning education.

Second, the leapfrogging character of technological progress places greater demands on faculty adapting to digitally and intelligently enabled education. Twenty-four years have passed since the World Planning Education Congress was held in 2001 and the World Urban Planning Education Network (WUPEN) was established. At its inception, WUPEN sought to broaden the circulation and use of educational resources. In view of the practical needs of African countries in particular, we worked to lower technological barriers so that these regions could access educational resources and develop their own networks. Implementation, however, revealed that global technological progress is uneven and dynamic: a pattern of leapfrogging allows some previously disadvantaged regions to adopt and apply new technologies rapidly and achieve accelerated development. Such unevenness and discontinuity occur both internationally and among regions within countries. Educators therefore need foresight and flexibility if they are to adapt to, and help lead, the future development of planning education.

Finally, the profound impact of the COVID-19 pandemic on education must not be forgotten. The pandemic brought forward forms of online education that had not been expected to mature until around 2050 and greatly accelerated their diffusion and deepening. Abrupt changes in the broader

social and economic environment - especially emergencies - can therefore speed up educational transformation in both unpredictable and far-reaching ways.

As planning education continues to develop, it should return to three core levels of education. The first is the formation of future planners' values and character, which digital-intelligent technologies cannot replace. The second is the essence of higher education: strengthening professional competence. Digital-intelligent technologies can powerfully support professional education, but they cannot accomplish it independently. The third is the expansion of students' interdisciplinary knowledge and their ability to apply new knowledge. The rise of online education has substantially changed this third dimension, enabling students to learn independently through networked platforms and broaden their own knowledge base. Digital-intelligent technologies play an important role at all three levels. Their impact is most visible in the third - knowledge expansion - where they accelerate updating and application; yet at the first two levels, and especially in the formation of character, the role of teachers remains irreplaceable.

Looking ahead, continued advances in digital and intelligent technologies will bring urban planning education more complex opportunities and challenges. Planning programs must therefore continue to innovate their teaching methods, adopt advanced technological tools, and cultivate professionals with interdisciplinary backgrounds in support of smart-city construction and development.

Educators, policymakers, industry experts, and the technology sector should work together to advance this transformation. Only sustained reform, technological innovation, and interdisciplinary collaboration can cultivate the highly qualified professionals required by future intelligent cities.

Against this background, reform and development in the following areas will be especially important:

(1) Curriculum reform. Planning education should return more fully to the three educational levels of character, competence, and knowledge. It should attend not only to students' accumulation of professional knowledge but also to personal development and comprehensive capability, while continuing to explore more effective ways of integrating technology with humanistic concern and thereby renewing education as a whole.

(2) Reconfiguring the scope of knowledge. Knowledge structures should not be defined too rigidly. Required content should be reduced to a core, leaving students more time for independent learning and exploration. Greater freedom of choice should allow them to select knowledge according to their interests and career plans and thereby develop independent thinking and problem-solving ability.

(3) A cofigurative teacher-student relationship. Teaching should progressively cultivate a cofigurative culture in which teachers and students engage as equals, confront together the opportunities and challenges created by the digital-intelligent transformation of planning, deepen communication and cooperation, and jointly explore new pathways for planning education.

(4) Interdisciplinary and multidisciplinary integration. Planning should integrate knowledge from geography, environmental studies, sociology, and other fields in order to improve scientific rigor and foresight. The current system places too much emphasis on accumulating knowledge and too little on converting knowledge into practical capability. It is therefore necessary to strengthen interdisciplinary learning environments, connect science and the humanities, and further explore the relationships among art, technology, science, and philosophy.

(5) Data-augmented design and intelligent technologies. Data-augmented design should be incorporated into established approaches to urban planning and design, opening new perspectives and methods. Big data and artificial intelligence can further improve scientific rigor and foresight and

support an intelligent decision-support system integrating data analytics, decision simulation, and virtual-reality presentation.

(6) Balancing practice and theory. The current educational system often prioritizes the accumulation of knowledge while neglecting the ability to translate knowledge into practice. Programs should cultivate reflective professionals capable of advancing social change and sustainable urban development and should emphasize the organic integration of theory and practice.

(7) Introducing frontier theories. Theoretical education should incorporate new theories - particularly theories of digital intelligence - and integrate them with planning theory and practice. Faculty should follow theoretical developments closely and guide students toward the most advanced and up-to-date online educational resources worldwide, keeping pace with contemporary change and broadening academic horizons.

(8) Integrating online and in-person teaching. Urban and rural planning programs face persistent difficulties in online interaction and design-studio guidance. Blended classrooms should therefore become an important direction for adaptive teaching. Integrated repositories of course materials, assignment systems designed for efficient feedback, and open online discussion platforms can greatly improve teaching efficiency and student participation.

(9) Public participation and transparency. Planning education and practice should strengthen public participation and make planning processes more open and transparent, thereby safeguarding fairness and justice and building wider social recognition and support.

(10) Digital-intelligent evaluation systems. In response to trends toward online and blended learning and occupational skills education, new evaluation tools are needed. Programs should improve the applicability of micro-credentials, strengthen digital-intelligent evaluation and decision systems, and enhance the assessment of and feedback on educational outcomes.

(11) Platforms for university-industry-research collaboration. Universities should establish digitally enabled collaborative platforms linking industry, academia, and research, create efficient models for educating urban and rural planning professionals, and strengthen the integration of academic research with practice.

(12) Infrastructure and data sharing. Research and investment in information and communications infrastructure should be strengthened, urban sensing systems improved, data silos dismantled, and unified data-sharing platforms established to support the intelligent development of planning and urban management.

In conclusion, the digital-intelligent transformation of urban planning education is an unavoidable path for responding to future urban challenges. Through sustained innovation and deeper reform, we can cultivate more highly qualified professionals suited to the needs of intelligent cities and provide a solid foundation for sustainable urban development①.

**Note**

① After extended reflection, I have come to believe that urban planning education - a practice-oriented, innovation-oriented, and future-oriented professional field - may be confronting the most significant transformation and challenge since its establishment. Accordingly, the 2024 National Conference on Urban Planning Education formally adopted "Renewing Urban Planning Education" as its theme, largely because digital and intelligent technologies are likely to play a decisive historical role in the future reform and renewal of planning education.

It was especially encouraging that more than 200 teachers nationwide responded and participated in a chain discussion on this theme. BI Linglan contributed the keywords "smart + professional education," "professional education in the new era," "professional values of planning," and "a comprehensive competency system." WEI Shichuan emphasized the close integration of planning education with territorial spatial planning practice. WEI Xiaofang proposed "iterative upgrading of urban and rural planning education" and "cross-institutional, cross-regional, and cross-disciplinary virtual teaching and research studios." TANG Le highlighted "sustainable urban operation and maintenance." DENG Chunfeng emphasized the "ecological character of urban and rural planning as a discipline" and "knowledge graphs." YU Yafang proposed "integration of industry and education," "learning communities," and "virtual simulation." LU Zhangwei, FAN Jia, LIN Conghua, ZHANG Xiao, GAO Yuan, and others developed ideas concerning the objectives and systems for educating urban and rural planning professionals. ZHANG Xiuqin considered the "architecture of the professional knowledge system for urban and rural planning in the AI era." GU Kangkang proposed a "consortium for professional practice education." FAN Lingyun reflected on the "transformation and upgrading of planning education amid an industry downturn." HE Hui proposed the "deep integration of government, industry, academia, and research." DUAN Wen emphasized "localized, broad-based talent development" and "big-data empowerment." LI Bin conceived an innovative graduate education model for urban and rural planning under the integration of engineering and business. HU Junhui highlighted a "localized model of planning education." WU Wei proposed the "optimization and development of knowledge-graph-based teaching resources for urban and rural planning in the context of digital intelligence." YUAN Jingcheng proposed an "AI-based course teaching community." HUANG Jianwen highlighted "digitally and intelligently empowered urban design and knowledge-graph development in Guangdong, Hong Kong, and Macao." MENG Yuan proposed "innovation and practice in community planners' participation in grassroots governance." DENG Xueyuan contributed the theme "the international genealogy and local origins of the renewal of urban planning education." I am grateful to every teacher who offered valuable ideas and insights for the future of planning education.

This chain of keywords was profoundly inspiring and became a key intellectual foundation for the development of this article. I hope the article also serves as a response to the enthusiasm, perceptive observation, and sustained reflection that these teachers have devoted to the digital-intelligent renewal of planning education.

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