

# Digital Intelligence Education at Wuhan University: Practice and Innovation

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As a new form of education stemming from the deep integration of digital technologies into the education sector, digital intelligence (DI) education upholds the historic mission of driving innovation in modern educational paradigms, thereby contributing to the evolution of China into a powerful country in terms of both education and talent cultivation. In this regard, General Secretary Xi (2021) remarked, “In today’s world, the competition for comprehensive national strength is essentially a competition for talents and the quality of the workforce.” In an era where international competition is increasingly centered on technology and talent, DI education has come to hold a vital position in national development strategies. It has become the key driving force for China to reach commanding heights in international education and pioneer new paths for educational development. Therefore, the advancement of DI education is not only crucial for educational modernization and transformation but also embodies national rejuvenation in the educational sphere. It plays an invaluable strategic role in promoting China’s transition from an education giant to an education power that cultivates high-quality and innovative talents to meet the demands of the digital era, thus establishing a strong talent base capable of contributing to national development.

In recent years, Wuhan University has actively responded to the national call for digital transformation in education by maintaining a strong sense of political responsibility and taking significant steps in pursuit of this historic mission. The university recognizes that the digital transformation of education is inevitable, considering the trends of the times and national strategies. As a result, Wuhan University has set its sights on establishing a world-class, Chinese-characterized, regionally advantageous digital talent training system for higher education. Driven by its

commitment to nurturing new generations capable of shouldering the critical task of national rejuvenation, the university has proactively embraced cutting-edge concepts in DI education. The university, as a leading institution in the research and practice of DI education, has focused its efforts on mobilizing university-wide efforts and pooling resources from various sectors, thus fostering innovation and offering a model for talent development.

Through these relentless efforts, Wuhan University has achieved notable results in promoting the DI transformation of higher education. Driven by the valuable experience it has accumulated, the university serves as a model for DI development in China’s higher education. Moreover, the university’s actions have injected strong momentum into the advancement of the country’s higher education, thereby demonstrating the responsibility and mission of a higher education institution in the era of DI transformation.

This special issue focuses on representative research achievements in DI education practice and innovation at Wuhan University, featuring 13 academic papers authored by experts and scholars across various disciplines. Among these, 4 papers approach the topic from a holistic perspective, exploring the theoretical advancements, current contexts, and future trends in DI education at Wuhan University. The remaining 9 papers delve into the application of DI technologies in education. Drawing on specialized knowledge and practices within their respective fields, these papers analyze and investigate the incorporation of DI technologies into teaching, research, curriculum reform, talent training, and evaluation systems to explore novel ways to cultivate innovative and interdisciplinary talents consistent with the educational modernization trends in the DI era. Notably, some of these representative works also employ empirical research methods, such as surveys, experiments, and data analyses, to validate the effectiveness and feasibility of DI education-related technologies, systems, and

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methods, thus enhancing the scientific rigor of the research.

Three articles in this special issue utilize theoretical research focusing on the reality and trends in DI education at Wuhan University that also explore prospects based on the university's achievements. Based on the perspective of the strategic development of national higher education, Zhang (2025) analyzed Wuhan University's practical implementation of integrating DI education into the higher education system. Sun and Feng (2025) reviewed the core contents and practical values of *The white paper on DI education of Wuhan University* (Zhang, 2024), expressing their approval of its positive role in guiding higher education toward DI talent training. Meanwhile, Wu et al. (2025a) employed the "AI +" professional knowledge graph as an example to demonstrate Wuhan University's efforts to build a new model for DI education, offering fresh ideas for addressing common challenges encountered in teaching, learning, management, and evaluation at higher education institutions.

This special issue also comprises 4 engineering research papers based on specific case studies conducted on application scenarios on DI education and its revolutionary significance in transforming higher education. Using human-intelligence co-creation in forward-looking robotic application scenarios as a typical case, Deng et al. (2025) revealed the crucial role played by human-intelligence collaboration in reshaping design industry development patterns through the enhancement of designers' work efficiency and the cultivation of DI design talents. Qin et al. (2025) employed the DI education and reform practices included in the data acquisition and preprocessing course as a typical case to introduce the acquisition and preprocessing of various data based on DI thinking. Therefore, this successful attempt facilitates the development and practice of the data acquisition and preprocessing teaching platform based on the open geospatial engine. Tang et al. (2025) focused on electrical engineering courses to construct a three-layer graph, including the knowledge layer, the issue layer, and the competency layer to help students improve their learning abilities, innovative thinking, and interpersonal coordination abilities. Furthermore, Xiao et al. (2025) attempted to construct a talent training system for robotics engineering that aligns with the demands of the DI era. This talent training system suggests that a progressive curriculum system should comprise a project-driven innovation and practice platform for cultivating students' foundational theoretical knowledge in robotics, innovative thinking skills, and practical skills in solving complex engineering problems.

Three research papers in liberal arts included in this special issue focus on theoretical analysis and

model construction aimed at including DI education in specific disciplines, such as business, psychology, and biology. Huang et al. (2025) studied major issues prevalent in the existing digital economy talent training system to propose a solution that addresses these challenges through the establishment of a DI education system. Meanwhile, Yu et al. (2025) emphasized the need for innovation in psychology education. They proposed the integration of AI into knowledge-oriented teaching through a loop model while simultaneously using a chimeric research framework to nurture innovative and research-oriented students to align with the demands of modern society. Li et al. (2025) argued that in the field of biology, various large language models had been developed to interpret genomic information, which helped students acquire cutting-edge genomics knowledge from the perspective of AI.

Moreover, 3 evaluation research papers employed empirical analysis as their primary method to investigate the practical effectiveness of DI education applications. First, based on bibliometric research using CiteSpace, Yang et al. (2025) analyzed the core aspects of the literature on DI education in new medicine, including annual publication volume, authorship patterns, national and institutional collaboration, co-citation patterns, and key topics evolution. Subsequently, they created a visual knowledge graph to identify trends, key themes, and emerging frontiers in the digital transformation of medical education. The results revealed key research areas and developmental trajectories in new medicine DI education and provided valuable references for future research and practice in the area. Second, Wang et al. (2025) focused on biochemistry courses, using AI teaching assistants and generative AI to train students and develop their critical thinking skills concerning clinical dialectics, diagnosis, and therapeutic decision-making. Follow-up surveys revealed the effectiveness of employing DI teaching assistant technology to foster students' thinking skills. Third, Wu (2025b) measured the AI literacy of undergraduates at Wuhan University using an empirical research method to develop a scientific evaluation system that offers data support and theoretical references for AI education policy formulation and curriculum design at higher education institutions.

Furthermore, our special issue extends our sincere gratitude to all the reviewers, who dedicated their efforts to assessing the research articles. Their comments, both practical and timely, provided robust insights that contributed to perfecting the papers. We also express our heartfelt thanks to the authors for their enthusiastic submissions. Their research outcomes have greatly enriched this special issue. Last but not least, the editorial office of *Frontiers of Digital Education* deserves recognition for its indispensable role in the publication

of this issue. We hope this special issue will be well received and pave the way for further academic exploration.

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