

UDC 377.031

**AI-DRIVEN INDUSTRY – EDUCATION INTEGRATION:
EMPOWERING VOCATIONAL EDUCATION THROUGH
INFORMATION TECHNOLOGY FOR INNOVATIVE
PRACTICAL TEACHING**

Meng Yuqing, master's degree student

*Supervisor – PhD in Linguistics, Associate Professor Astapkina E. S.
Belarusian State University
Minsk, Belarus*

Abstract. The transformative impact of industry – academia – research integration in the context of new-generation information technology, proposes strategies to achieve collaborative education technology.

Keywords: intelligent education, next-generation information technology, industry – academia – research collaboration, vocational education, practical teaching, talent cultivation.

The arrival of the artificial intelligence era has enabled the new generation of information technology to penetrate deeply into various fields. Education, as the cornerstone of national development, also faces both opportunities and challenges in this digital revolution. The 2024 World Digital Education Conference, themed "Digital Education: Application, Sharing and Innovation," explored how to fully empower digital education and help build a learning society [1]. The integration of industry, academia and research has long faced structural problems such as low collaboration efficiency, difficulty in resource matching, and weak value transformation. The new generation of information technology (such as artificial intelligence, big data and 5G) provides a new opportunity to reconstruct collaboration mechanisms and break down resource barriers.

The author believes that the next generation of information technology will significantly promote the interaction and integration among stakeholders in the innovation ecosystem by building efficient collaborative media and knowledge dissemination mechanisms. For example, big data

technology can integrate massive amounts of scattered information, enabling universities to accurately grasp the technological needs and market dynamics of enterprises, and allowing enterprises to keep abreast of the research progress of universities.

Theoretical Foundation of Information Technology Empowering Vocational Education.

The innovation ecosystem theory posits that innovation is not an isolated individual endeavor, but rather a complex ecosystem composed of multiple actors and elements that interact and depend on one another [2]. Within this innovation ecosystem, universities, enterprises, research institutions, government departments, and various intermediary organizations serve as key innovation actors, each fulfilling distinct functions. The theory of knowledge spillover posits that knowledge spreads and diffuses among different entities, thereby enhancing the knowledge base and innovation capabilities of other actors [3]. In the process of industry-academia-research integration, knowledge spillover plays a vital role. Universities, as key centers of knowledge production, continuously generate new research outcomes and knowledge.

Innovative Practical Teaching of Information Technology.

With the advancement of national strategies such as “Manufacturing Powerhouse”, “Digital China”, and the “Education Informatization 2.0 Action Plan”, many of China's top universities have already begun practical explorations of industry – academia – research integration driven by next-generation information technology. The four cases listed in the table below vividly illustrate the cutting-edge applications and innovative paths in this field [4].

Table 1 – Industry – University – Research Integration and Innovation Application Practices of New Generation Information Technology in Chinese Universities

Technology	Typical Case	Core Practice	Main Outcome	Applicable Scenario
1	2	3	4	5
Artificial Intelligence (AI)	Tsinghua–ByteDance Joint Lab	Joint development of large models and algorithm optimization	Model accuracy +12 %, writing efficiency +28 %, error rate –17 %	Smart product R&D and algorithm enhancement

Continuation of table 1

1	2	3	4	5
AI Talent Development	East China Normal Univ.–Baidu	Co-developed courses, dual mentorship, and internship programs	Covered 32K teachers/students, salary +18 %, top-tier employment +22 pp	University AI curriculum and talent training
Cloud Computing	Shanghai Jiao Tong Univ.–Huawei 'Smart Base'	Built cloud platform for shared research computing resources	Efficiency +45 %, research cycle shortened by 30 %	High-performance research and resource sharing
Internet of Things (IoT)	Nanjing Agric. Univ.–Sinochem Agriculture	Sensor networks and smart irrigation data analytics	Water saving 30 %, yield +23 %	Smart farming and precision agriculture

As shown in the tab. 1, driven by new-generation information technology, the integration of industry, academia, and research presents a multi-dimensional innovation path: AI promotes joint research between universities and enterprises, achieving two-way empowerment of algorithms and products; cloud computing builds a resource-sharing platform, improving the efficiency of collaborative research; and the Internet of Things accelerates the intelligent transformation of industries, achieving energy conservation and efficiency goals. These practices signify the evolution of the industry – academia – research model from knowledge transfer to collaborative innovation, forming a closed-loop ecosystem of “research – application – feedback”, significantly improving the efficiency of technology transfer and the ability to create social value.

The advantages of next-generation information technologies further deepen the integration of industry, academia, and research, providing robust talent support and technological safeguards for the national innovation-driven development strategy. This advances the global competitiveness of vocational education systems in the era of technological advancement.

Table of contents

1. Huai, Jinpeng. Keynote speech at the 2024 World Digital Education Conference: Promoting digital education application, sharing and innovation / Huai Jinpeng // Ministry of Education of the People’s Republic

of China. – 2024. – URL: http://www.moe.gov.cn/jyb_xwfb/moe_176/-202402/t20240201_1113761.html (date of access: 17.10.2025).

2. Li, W. Innovation 3.0 and innovation ecosystem / W. Li [et al.] // Studies in Science of Science. – 2014. – Vol. 32, № 12. – P. 1761–1770.

3. Xin, C. The impact of innovation ecosystem cooperation models / C. Xin, Y. Xu, Y. Wu // R&D Management. – 2022. – Vol. 34, № 3. – P. 54–65.

4. Liu, J. Research on the Innovation Mechanism of AI / J. Liu, W. Li // Science and Technology Management Research. – 2023. – Vol. 43, № 15. – P. 27–36.

UDC 378.147: 004.8

ARTIFICIAL INTELLIGENCE IN TEACHING FOREIGN LANGUAGES AND TRAINING STUDENTS FOR THE DIGITAL ECONOMY

Slassi Moutabir S. A., Phd student

*Supervisor – PhD in Pedagogy, Associate Professor Solovyova I. V.
Belarusian National Technical University
Minsk, Belarus*

Abstract. This article examines the pedagogical potential of artificial intelligence in foreign language teaching for economics students in the context of the digital economy. The successful integration of AI requires deliberate methodological guidance that supports critical thinking and digital literacy.

Keywords: artificial intelligence, professional communication, foreign language teaching, digital economy.

The artificial intelligence (AI) has significantly reshaped the architecture of higher education, particularly in the sense that it has started to require intensive linguistic, analytical and communicative engagement. As the digital economy increasingly depends on multilingual communication, data-driven decision-making and AI-supported tools, so higher education institutions face the imperative of integrating intelligent technologies into foreign-language instruction to enhance students' professional readiness and employability [2]. Contemporary research highlights that AI has evolved from being a supplementary digital aid into a powerful driver