

INSTRUCTIONAL DESIGN OF A WORKPLACE-ORIENTED GENERAL AIGC COURSE IN THE ERA OF DIGITAL INTELLIGENCE

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Abstract: In the era of digital intelligence, artificial intelligence generated content (AIGC) has become deeply integrated into workplace workflows. However, a growing gap has emerged between corporate demand for AIGC-driven productivity and the lag in talent development. Current introductory AIGC courses suffer from fragmented content, superficial assessment methods, and limited adaptability. To address these challenges, this study proposes a holistic instructional design framework based on the "structural reconstruction, capability building, and closed-loop evaluation" model, featuring an 8-hour modular curriculum: prompt engineering (2 hours) to establish foundational concepts for cross-domain transfer, core tool mastery (4 hours) covering four mainstream AI platforms (ERNIE Bot, DeepSeek, WPS AI, and Doubao), and role-specific applications (2 hours) offering tailored practical exercises across five key professions (finance, education, software development, copywriting, and design). The framework employs a hybrid assessment model combining self-evaluations, instructor feedback, and AI-driven evaluations to target real-world problem-solving skills and adaptability to new tools, while a data-driven feedback loop enables continuous optimization of both course content and personalized learning interventions. Ultimately, this study provides a scalable, iterative system framework for empowering today's AI-driven workforce.

Keywords: AIGC course; Prompt engineering; Workplace workflows; Feedback loop

1 INTRODUCTION

With the rapid development of artificial intelligence, artificial intelligence generated content has moved from exploratory use to large-scale commercial and workplace adoption. Through content generation, data processing, and creative assistance, AIGC is reshaping workflows and value chains across industries [1]. At the same time, a growing mismatch has emerged between technological adoption and workforce preparedness: employers increasingly expect employees to use AIGC to improve productivity [2], while current general-purpose training remains insufficient, leaving new employees with a steep learning curve and existing employees with limited ability to transfer skills across tools [3]. Universities, companies, and training providers have therefore begun to invest in dedicated AIGC application courses.

Several initiatives illustrate this trend. Communication University of China launched an "AIGC + Integrated Media Production and Innovative Application Skills" training program [4], covering AI fundamentals, mainstream AIGC tools, and hands-on content planning and creation. In the corporate sector, Skyworth College introduced an "AIGC Application Practice" course for mid- to high-level technical personnel [5]. The course combines emerging technological developments, application scenarios, algorithmic concepts, and case-based practice to strengthen learners' ability to use AIGC in real work. Large online learning platforms, including MOOCs, have also expanded AIGC-related offerings through video lectures, interactive exercises, and online support [6].

Despite this rapid expansion, three limitations remain prominent [7-10]. First, course content is often fragmented. Individual courses tend to focus on specific tools or isolated application areas, rather than presenting AIGC as a transferable, cross-domain capability. Second, assessment method is typically narrow. Many courses rely mainly on basic computer-based exercises, which do not capture learners' ability to apply AIGC in authentic tasks. Evaluation of AIGC-generated work also depends heavily on instructor judgment, with limited use of multiple evidence sources. Third, current courses do not sufficiently develop adaptability to new tools. Because AIGC platforms evolve quickly, tool-specific instruction can become obsolete unless learners also acquire transferable principles for working with unfamiliar systems.

To address these limitations, this study develops a workplace-oriented AIGC literacy course organized around three integrated elements: curriculum restructuring, capability development, and closed-loop assessment. The design combines an 8-hour modular curriculum, occupation-based hands-on tasks, and a data-informed feedback mechanism intended to support continuous improvement. The framework is designed as a replicable approach for workplace training and digitally enabled educational transformation.

2 INSTRUCTIONAL DESIGN OF THE AIGC COURSE

The instructional design is guided by three core strategies. First, the curriculum structure and content are reorganized to create a coherent and progressive knowledge system. Second, learners are trained to develop flexible adaptation skills by mastering general principles for interacting with AIGC tools. Third, a systematic assessment mechanism combines quantitative and qualitative evidence to evaluate learners' level of mastery from multiple perspectives. Figure 1 summarizes the overall framework.

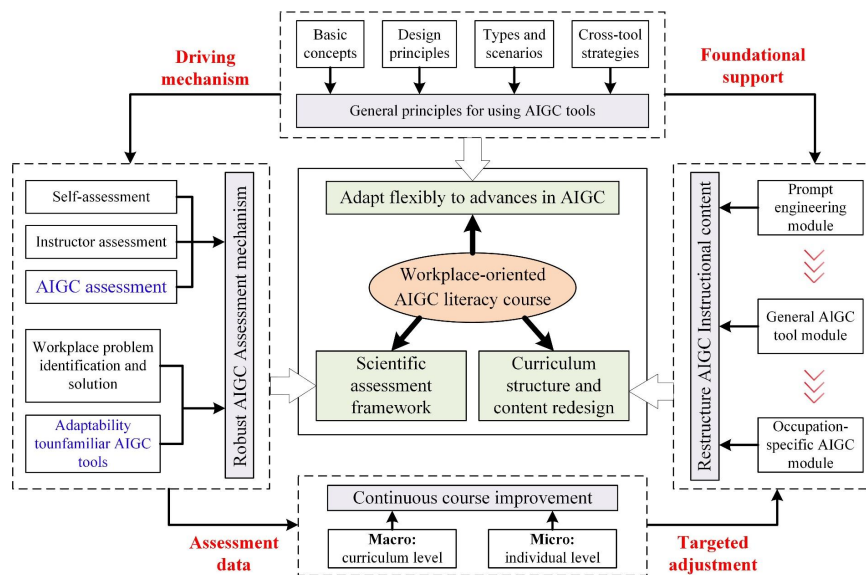


Figure 1 Instructional Design Framework for a Workplace-Oriented AIGC Literacy Course

2.1 Curriculum Structure and Content Redesign

To improve the quality and transferability of AIGC instruction, the course is organized into an 8-contact-hour modular sequence with three progressive stages: prompt engineering (2 h), general AIGC tool instruction (4 h), and occupation-specific AIGC applications (2 h). The sequence follows a foundation–general application–professional application progression, enabling learners to move from basic interaction skills to domain-specific use.

(1) Prompt engineering module. Although AIGC tools evolve rapidly, they share common interaction patterns for processing user instructions. Prompt engineering therefore provides a transferable foundation: learners practice how to formulate inputs that guide a model toward the intended output. The 2-hour module focuses on core prompting principles and practical techniques, with the goal of enabling learners to construct effective instructions and adapt quickly when they encounter unfamiliar AIGC tools. Figure 2 summarizes the instructional content.

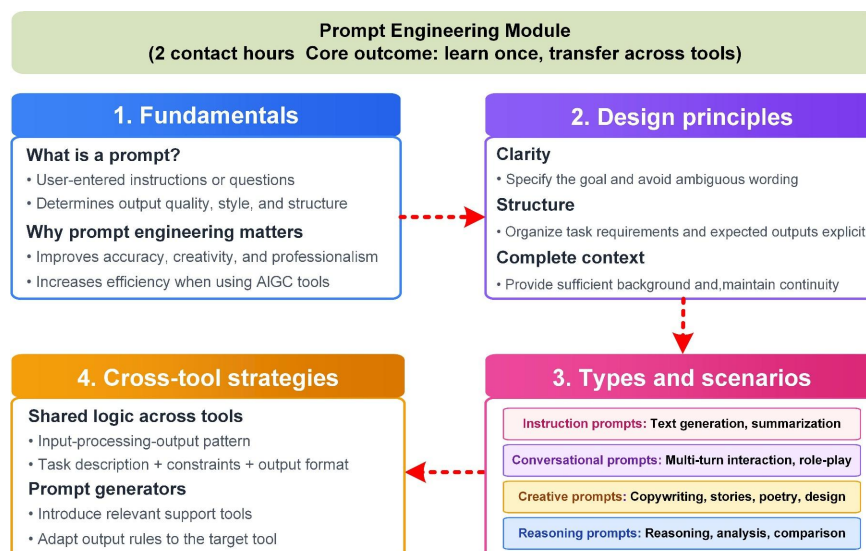


Figure 2 Instructional Content of the Prompt Engineering Module

(2) General AIGC tool module. This stage combines concise conceptual instruction with hands-on practice. Learners are introduced to four widely used AIGC tools—ERNIE Bot, DeepSeek, WPS AI, and Doubao—and practice their general functions and commonly used prompting techniques. The module is intended to establish a reusable foundation that

links tool literacy with scenario-based application and prepares learners for the specific module. Table 1 summarizes the content.

Table 1 Content of the General AIGC Tool Module

Contact hour	Instructional content	AIGC tool
Hour 3	Short-form copywriting, multilingual translation, rapid Q&A, and information retrieval	ERNIE Bot
Hour 4	Differences between R1 and V3; techniques for querying R1; combined use of V3 and R1	DeepSeek
Hour 5	Document summarization and Q&A, text polishing, mind maps, and basic data processing	WPS AI
Hour 6	Creation and use of Doubao agents; AI video-call function	Doubao

(3) Occupation-specific AIGC module. This stage is designed to move learners from basic users toward advanced practitioners and potential innovators by integrating intensive hands-on practice with authentic workplace scenarios. Learners select a 2-hour professional track that matches their occupational background and needs. The design therefore supports differentiated instruction while maintaining a common AIGC foundation. Table 2 presents the proposed tracks and tasks.

Table 2 Content of the Occupation-Specific AIGC Module

Contact hours	Target occupation	Instructional content	AIGC tools
Hours 7–8	Finance / accounting	Advanced spreadsheet processing and intelligent analysis; financial analysis and investment research reports; automated generation of financial statements and AI-assisted audit	WPS AI; DeepSeek
Hours 7–8	Teachers	Automated generation of teaching slides; syllabus design; AI-assisted question generation; automated assignment grading; intelligent teaching assistants	WPS AI; DeepSeek
Hours 7–8	Programming / software development	Requirements analysis; multilingual code generation; code debugging and correction; software functionality testing	DeepSeek; Tongyi Lingma
Hours 7–8	Copywriting / planning	Competitor-copy deconstruction; rapid remixing of trending content; advanced copywriting and proposal generation; style transfer for written content	DeepSeek; ERNIE Bot; Qwen
Hours 7–8	Art / design	AI-assisted image editing and generation; video production; creation and use of digital humans	LiblibAI; HeyGen; Midjourney

2.2 Teaching Quality Evaluation Framework

To make learning outcomes assessable, quantifiable, and actionable, the course uses a multidimensional evaluation framework aligned with its core objectives. Two mechanisms underpin the design: embedding assessment in authentic workplace scenarios and testing whether learning transfers to unfamiliar tools. The framework therefore extends beyond theoretical knowledge to workplace performance and sustained adaptability. It also combines self-assessment with external assessment to balance learner perceptions with standardized criteria. Figure 3 shows the overall framework.

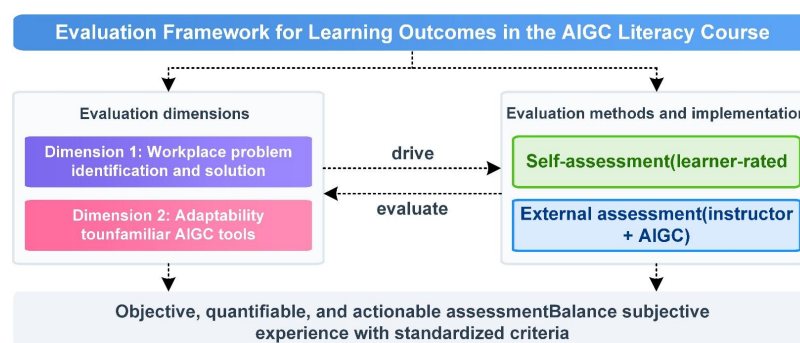


Figure 3 Framework for Evaluating Learning Outcomes in the AIGC Literacy Course

(1) Evaluation dimensions. Two core dimensions are assessed. First, workplace problem identification and solution requires learners to identify recurring problems in their own professional context that could be addressed with AIGC, such as efficiency bottlenecks, creative blocks, or complex data-processing tasks, and then solve those problems using the prompting and tool-use techniques taught in the course. This dimension captures problem awareness and the ability to map AIGC capabilities onto real work scenarios. Second, adaptability to new AIGC tools is assessed by introducing a tool that was not covered during instruction and requiring learners to complete a specified task within a limited time. The purpose is to test whether learners can transfer general prompting principles to an unfamiliar system and still produce a usable output.

(2) Evaluation methods and implementation. The assessment uses a three-source model combining learner self-assessment, instructor ratings, and AIGC-based ratings. For self-assessment, learners rate the workplace

applicability of their AIGC-generated outputs before and after the course using an AIGC workplace application questionnaire, allowing changes in perceived competence and satisfaction to be compared. For external assessment, the instructor evaluates each output using an AIGC work rubric covering completeness (30%), professional quality (30%), originality (20%), and prompt efficiency (20%). The same rubric and learner output are then submitted to DeepSeek and ERNIE Bot for rating on the same dimensions. A composite external score is calculated using a 50% weight for the instructor score and 25% each for DeepSeek and ERNIE Bot.

2.3 Continuous Course Improvement

After assessment, learner-level data are incorporated into a feedback loop for continuous improvement. Quantitative indicators—including the composite external score, change in self-assessment, and scores for individual capability dimensions—are combined with qualitative feedback from AIGC systems and instructors. These data support improvement at two levels. At the curriculum level, aggregated results can reveal common weaknesses. For example, consistently low scores for prompt efficiency or unfamiliar-tool adaptation would indicate a need for additional prompt-optimization practice or a timed challenge using a previously unseen tool. At the individual level, learner profiles can support targeted recommendations. A learner who performs well in copywriting but poorly in data analysis could be directed to advanced DeepSeek data-analysis cases, whereas a learner with weak originality scores could be assigned exemplars of highly creative prior work.

Through this data-informed feedback mechanism, the course is designed to evolve from a static lesson plan into an adaptive instructional system that can respond to technological change and heterogeneous learner needs. In this way, instruction, learning, assessment, and revision form a continuous improvement cycle.

3 CONCLUSION

This study proposes a workplace-oriented AIGC literacy course organized around curriculum restructuring, capability development, and closed-loop assessment. The 8-contact-hour modular sequence progresses from prompt engineering to general tool use and then to occupation-specific applications, providing a coherent alternative to fragmented, tool-by-tool training.

The curriculum is designed to strengthen both immediate workplace utility and transferability. Prompt engineering serves as a common foundation for adapting to rapidly changing AIGC tools, while occupation-specific modules connect general principles to professional tasks. The assessment system integrates learner self-assessment, instructor ratings, and AIGC-based ratings, and evaluates both workplace problem solving and adaptability to unfamiliar tools. These results then feed into a data-informed process for revising the curriculum and providing targeted learner support. The framework is intended to be replicable and scalable for workplace AIGC training. Future work should test and refine the design across multiple industries and learner populations, with particular attention to moving beyond tool operation toward more durable forms of AI-enabled problem framing and reasoning.

COMPETING INTERESTS

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REFERENCES

- [1] Gu M. Educational reform and innovation in the era of “AI+”: A dialogue between Mingyuan Gu and the iFLYTEK Education Technology Research Institute. *Modern Educational Technology*, 2024, 34(8): 5-12.
- [2] Sun Y. AI presses the “accelerator” for digital office work. *People’s Daily Overseas Edition*, 2024: 10.
- [3] Li Z, Hu H. Mechanisms and pathways through which generative AI drives productivity transformation in manufacturing: Evidence from Guangdong Province. *Industrial Engineering*, 2025, 28(2): 1-11.
- [4] Communication University of China. Enrollment brochure for the 2024 “AIGC + Integrated Media Production and Innovative Application Skills” training program. 2026. <https://ccs.cuc.edu.cn/2024/0426/c5559a219179/page.html>.
- [5] Skyworth College. Launch of the “AIGC Application Practice” course. 2026. <https://mp.weixin.qq.com/s/shGf2VzhZwn5jIy-9CxpQ>.
- [6] A Qiu. Creative transformation and innovative development: “AIGC+” opens a new direction for the digital transformation of MOOCs. 2023. <https://zhuanlan.zhihu.com/p/605541342>.
- [7] Liang Y, He G, Jin M. Effects of using generative artificial intelligence to evaluate employee creativity. *Foreign Economics & Management*, 2024, 46(10): 71-88.
- [8] Yu G, Cui X, Su M, et al. Pathways and value boundaries of generative AI in empowering cloud classrooms. *Education Media Research*, 2024(5): 5-10.

- [9] Gu M, Qin Y, Zhang S. Applications of generative AI in office scenarios. *High-Technology & Industrialization*, 2025, 31(9): 37-39.
- [10] Chen Y. Applications and ethical issues of generative AI in office scenarios. *Office Operations*, 2024(19): 36-38.