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Teaching Reform of the "Principles of Management" Course in the Context of Artificial Intelligence

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Abstract: Since the end of 2022, Artificial Intelligence Generated Content (AIGC) technology, exemplified by ChatGPT, has rapidly garnered global attention, especially for its significant potential in the educational field. However, effectively integrating AIGC technology into course instruction remains in its nascent stages. This paper explores the research and practice of teaching reform in the "Principles of Management" course under the backdrop of artificial intelligence. It identifies key "pain points" in the teaching process, such as the lack of students' self-directed learning habits, a limited understanding of management theories, and insufficient management thinking skills. In response to these issues, this paper proposes strategies for applying AIGC technology in course design across three phases: pre-class learning support, in-class interaction, and post-class practice. AIGC technology aids in implementing personalized teaching, enhancing students' interest and engagement in learning. However, attention must be paid to the integration of technology with educational content, as well as the evolving role and skills of educators.

Keywords: Artificial Intelligence; AIGC; Teaching Reform; Principles of Management; Management Thinking

1. Introduction

The 2024 Government Work Report outlined an ambitious plan to strengthen the construction of a modern industrial system and promote the development of new productive forces. The report particularly emphasized the research and application of cutting-edge technologies such as big data and artificial intelligence, launching the "Artificial Intelligence+" initiative aimed at cultivating globally competitive digital industry clusters. This initiative presents both opportunities and challenges for the education sector. As early as 2017, relevant policy documents such as the "New Generation Artificial Intelligence Development Plan" have advocated for the use of intelligent technologies to promote the innovation of educational models and teaching methods, aiming to build a new type of educational system. Subsequently, the policy document "Guiding Opinions on Accelerating Scenario Innovation to Promote High-Level Application of Artificial Intelligence for High-Quality Economic Development" further emphasized the importance of deeply exploring AI application scenarios in the field of education.

AIGC, as an emerging content production method following Professional Generated Content (PGC) and User Generated Content (UGC), has reached new heights in breadth, precision, and depth [1,2]. With the advent of disruptive AI technologies represented by ChatGPT, the global community is actively exploring how to gain a competitive edge in educational reform through AI technology. In September 2022, the United Nations Summit on Transforming Education identified digital education in STEM as a key driver of educational transformation. The integration of AIGC and education shows broad application prospects in areas such as teaching assessment, personalized learning support, and intelligent tutoring systems [3]. At the same time, the application of AIGC in teaching has sparked in-depth discussions on educational ethics, academic integrity, and the potential reshaping of teaching methods [4].

The proliferation of AIGC requires us to enhance our understanding of user-AI interaction behaviors and to strengthen the capability for effective interaction with AI. Scholars suggest incorporating digital literacy

in AIGC environments into information literacy education to cultivate users' critical thinking and skills, helping them adapt to the ever-changing digital landscape [5,6].

In the field of education, existing research has explored the application of AI technologies such as ChatGPT. ChatGPT is widely used as a tool to assist teaching and learning, supporting personalized learning, adaptive learning, and aiding in academic writing [7,8]. Studies have shown that the instant feedback provided by ChatGPT can meet students' emotional needs and improve work and learning efficiency [9,10]. Additionally, ChatGPT has demonstrated potential in providing conceptual explanations and applications and can be used for automated assessment and foreign language teaching software development. In AIGC scenarios, human-machine co-creation is viewed as a new paradigm for the development of digital educational resources, with the potential to address issues of scale, efficiency, and quality.

Nonetheless, effectively integrating AI technology into China's educational landscape remains in the early stages of exploration. This project uses the "Principles of Management" course as a practical case study to explore the deep integration of Artificial Intelligence Generated Content (AIGC) technology with higher education curricula and summarizes effective application paths for AIGC technology in course reform.

2. Key Challenges Addressed by the Teaching Reform of This Course

The "Principles of Management" course is a mandatory foundational course for undergraduate students majoring in economics and management. It plays a crucial role in developing students' management thinking. The main content of this course includes topics such as management and managers, the management environment, management ethics and corporate social responsibility, decision-making, and the four management functions (planning, organizing, leading, and controlling).

(1) Lack of self-directed learning habits among students

First-year students typically have limited theoretical knowledge, lacked management experience, and have weak self-learning abilities. A core challenge for this course is guiding students to develop the correct perspectives on learning and thinking, stimulating their interest in learning, transitioning to the university learning model, and laying a solid foundation for subsequent specialized courses.

(2) Students' superficial understanding of management theories

The theoretical system of management is complex, with numerous schools of thought, and a wealth of related textbooks, case studies, and resources. How to follow the new liberal arts development requirements, select and iterate teaching resources according to course needs, grasp the theoretical frontiers, and directly address management practice issues are key concerns of the course.

(3) Lack of management thinking among students

The study of management theories and the construction of management thinking require practical application to achieve a deep understanding, transitioning from learning management to applying management, and eventually mastering management. The challenge lies in how to use AI-driven blended online and offline teaching, integrating innovative combinations of various teaching methods, to achieve the internalization of individual knowledge and enhance students' comprehensive management abilities, as is shown in Table 1.

Table 1. Pain Points in Course Teaching

Issue Description	Simplified Explanation
Lack of Self-Directed Learning Habits Among Students	Students need guidance to develop good learning habits and transition to university learning.
Students' Superficial Understanding of Management Theories	The course aims to select appropriate resources to deepen students' understanding of management theories.
Lack of Management Thinking Among Students	The challenge is to integrate practical application and innovative teaching methods to enhance students' management skills.

3. AIGC Empowerment in the Course Design of "Principles of Management"

(1) Pre-class preparation: Enhancing the richness of teaching content with AIGC technology

Compiling AIGC technology tool manuals:

Develop manuals for AIGC technology products (such as Wenxin Yiyan, KIMI, etc.), guiding students on how to select and effectively use these tools, particularly in practical tasks and projects. Include solutions to common issues to help students better understand and utilize these tools, especially when completing complex tasks such as corporate culture research and entrepreneurship project design.

Dynamic update of course cases and exercise banks: Establish a dynamic update mechanism, using AIGC technology to regularly integrate the latest research and case studies in management, as well as industry trends, ensuring the timeliness and foresight of teaching content. The teaching team can also use AIGC tools to build and expand the exercise bank.

(2) In-class instruction: Focusing on key issues to deepen understanding

Problem-Focused Teaching Based on the Five-Star Method: Addressing key and challenging points of the course using the Five-Star Teaching Method, which includes focusing on problems, activating prior knowledge, validating new knowledge, applying new knowledge, and integrating it. This approach helps students build knowledge during class and deepens their understanding and application of theoretical knowledge through various methods.

Promoting classroom interaction with AIGC technology: Increase the use of AIGC technology for interactive activities during classroom instruction, such as real-time generation of discussion questions or case analysis, enhancing student participation. AIGC tools can also be used to instantly generate multimedia content, such as dynamic charts, videos, and simulated scenarios, further deepening students' understanding of the principles of management.

(3) Post-class practice: Diverse practical tasks to strengthen application skills

Setting various practical tasks: Tasks such as manager interviews, decision-making activity design, organizational management planning, and team presentation videos are designed to improve students' management application abilities, problem-solving skills, and innovation capabilities.

AIGC-assisted practical tasks: Design comprehensive practical projects based on AI-assisted learning, such as "Tracing Chinese Culture, Telling Entrepreneurship Stories." In this project, students need to use AIGC technology to design startup projects that integrate Chinese traditional culture with modern technology, creating culturally enriched entrepreneurial projects. Teachers can use AIGC tools to provide real-time guidance and help students refine their design plans through AI-generated cases and simulations. To enhance students' practical abilities, a corporate culture research task is designed. Students can use AIGC technology to create virtual characters who introduce the cultural status of the researched companies (*e.g.*, Figure 1. AI-generated explanations). This task not only hones students' research and analysis skills but also enhances the interactivity and engagement of the task through AI tools.

Figure 1. AI-Generated Explanations

Personalized Q&A: Using AIGC technology to provide personalized post-class Q&A services, allowing students to ask questions at any time and receive timely answers and explanations, thereby consolidating their learning outcomes.

(4) Teaching reflection: Continuous feedback and optimization

Collecting and analyzing student feedback: Regularly collect student feedback on the effectiveness of AIGC tools through surveys or group interviews, understanding the difficulties and needs they encounter during the learning process, and continuously optimizing course design based on the feedback.

Collaboration between teachers and technical support: Strengthen collaboration between educators and computer science professionals to ensure that the application of AIGC technology in teaching can be promptly adjusted and optimized to meet teaching objectives and student needs.

4. Effects of the Teaching Reform

In this teaching reform, we analyzed the feedback from 175 students across three

classes on their experiences with AIGC-assisted practices. This analysis allowed us to deeply explore the actual effects and challenges students faced when using AIGC technology. The survey results indicate that AIGC demonstrated significant value in the "Principles of Management" course and had a positive impact on teaching outcomes.

(1) Improved learning efficiency and stimulation of innovative thinking

Students generally agreed that AIGC tools played a crucial role in enhancing learning efficiency. By utilizing various AIGC tools such as "KIMI," "Wenxin Yiyan," and "Jianying," students could quickly generate and organize learning materials, significantly improving efficiency in tasks such as enterprise design, copywriting, PPT creation, and video editing. Moreover, the application of AIGC technology stimulated students' innovative thinking, helping them to propose creative solutions in areas like logo design, cultural construction, and organizational structure design.

(2) Enhanced personalized learning and team collaboration

AIGC tools not only supported personalized learning but also played a positive role in team collaboration. With the support of AIGC technology, students were able to better understand and master the principles of management while also improving cooperation efficiency and task quality in team assignments through the use of AIGC tools.

Despite the numerous advantages of AIGC technology in teaching, students encountered some challenges in its use, primarily related to difficulties in understanding and expression, the complexity of the technology, and the limitations of available resources. To overcome these issues, students adopted strategies such as adjusting their questioning methods, learning technical knowledge, and optimizing data, thereby enhancing the practicality and accuracy of AIGC tools.

Through the analysis of feedback on AIGC technology in teaching, this teaching reform demonstrated its effectiveness in improving learning efficiency, stimulating innovative thinking, and promoting team collaboration. However, further optimization of AIGC tool usage and technical support is needed to address the challenges faced by students and to continue advancing personalized and intelligent learning.

5. Conclusions

The teaching reform of the "Principles of Management" course, by introducing AIGC technology, effectively improved teaching outcomes and promoted innovation in teaching models. AIGC technology showcased various advantages in teaching, particularly in supporting personalized instruction and enhancing student interest and engagement, providing valuable practical experience for future educational reforms.

AIGC technology offers strong support for personalized teaching by generating intelligent learning resources and facilitating interaction, which enhances students' self-directed learning abilities and interest. Students can leverage AIGC tools both in and out of the classroom to engage in deep learning and inquiry according to their own learning needs and pace. This personalized learning experience effectively promotes the holistic development of students.

AIGC technology not only assists teachers in course design and teaching evaluation but also encourages a shift from a traditional "teacher-centered" approach to a "student-centered" one. By using AIGC tools, teachers can more flexibly adjust teaching strategies, monitor students' progress and feedback in real-time, thereby achieving more refined and personalized teaching management.

Although AIGC technology demonstrates great potential in teaching, it still faces challenges, such as the complexity of technology usage, effective integration of resources, and the need to avoid students' over-reliance on technology. In future educational reforms, it will be essential to further optimize AIGC application strategies to ensure that it serves as an auxiliary tool that enhances rather than replaces students' self-directed learning abilities. Additionally, as technology continues to evolve, the role and skills required of teachers will also undergo corresponding changes. Teachers will need to continuously enhance their digital literacy to adapt to the new educational environment.

In the future, AIGC technology is expected to have an even more profound impact on the field of education. As technology further develops and improves, teaching models will become more diversified, students' self-directed learning and innovation abilities will

be further enhanced, and educational quality will reach new heights.

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References

[1] Campbell C, Plangger K, Sands S, et al. Preparing for an era of deepfakes and AI-generated ads: A framework for understanding responses to manipulated advertising. Journal of Advertising, 2022, 51(1): 22-38.

[2] Liu R, Chen B, Guo X, et al. Another AI? Artificial imagination for artistic mind map generation. International Journal of Multimedia Data Engineering and Management (IJMDEM), 2019, 10(3): 47-63.

[3] Bahroun Z, Anane C, Ahmed V, et al. Transforming education: A comprehensive review of generative artificial intelligence in educational settings through bibliometric and content analysis. Sustainability, 2023, 15(17): 12983.

[4] Cooper G. Examining science education in ChatGPT: An exploratory study of generative artificial intelligence. Journal of Science Education and Technology, 2023, 32(3): 444-452.

[5] Wang B, Rau P L P, Yuan T. Measuring user competence in using artificial intelligence: validity and reliability of artificial intelligence literacy scale. Behaviour & information technology, 2023, 42(9): 1324-1337.

[6] Lo L S. The CLEAR path: A framework for enhancing information literacy through prompt engineering. The Journal of Academic Librarianship, 2023, 49(4): 102720.

[7] Guo K, Wang D. To resist it or to embrace it? Examining ChatGPT's potential to support teacher feedback in EFL writing. Education and Information Technologies, 2024, 29(7): 8435-8463.

[8] Zhang L. Reform and Innovation of Higher Vocational Information Technology Courses from the Perspective of AIGC. Advances in Vocational and Technical Education, 2024, 6(3): 199-205.

[9] Rudolph J, Tan S, Tan S. ChatGPT: Bullshit spewer or the end of traditional assessments in higher education. Journal of applied learning and teaching, 2023, 6(1): 342-363.

[10] Yang S, Yang S, Tong C. In-Depth Application of Artificial Intelligence-Generated Content AIGC Large Model in Higher Education. Adult and Higher Education, 2023, 5(19): 9-16.