



The Application of Generative Artificial Intelligence in POA Guided Foreign language Teaching

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Abstract. As a teaching method that absorbs the essence of Western second language teaching and is innovated and reformed by Chinese scholars, the Production-Oriented Approach (POA) has proved its effectiveness in improving the quality of English teaching. Generative Artificial Intelligence (Generative AI) technology is also developing rapidly. Teachers and scholars are applying it in the field of foreign language teaching which lead to the great potential for improving teaching efficiency and personalized learning in higher education. This study focuses on how to enhance the execution of POA through the introduction of Generative AI technology, aiming to create a richer, more interactive, and highly personalized learning environment for learners. By exploring the application of Generative AI in key teaching processes this paper demonstrates the process of Generative AI optimizing POA teaching, improving the quality of foreign language education, and promoting innovative and upgraded teaching methods.

Keywords: Generative Artificial Intelligence, POA, classroom teaching, foreign language education

1 Introduction

1.1 Production-Oriented Approach (POA)

POA theory combines cognitive linguistics and communicative language teaching methods to promote the development of learners' language abilities through practical language tasks. It is based on core teaching concepts such as "learning center", "integration of learning and application", "cultural exchange", and "key competencies" [1] and is supported by four teaching hypotheses: the output driven hypothesis advocates that language output is the key to improving language ability, the input driven hypothesis emphasizes the importance of high-quality input, the choice of learning hypothesis advocates selecting learning content based on output goals, and the evaluation based learning hypothesis emphasizes the role of evaluation and feedback in the learning process. These concepts and assumptions collectively guide the teaching process, content selection, and goal setting.

The POA theory adopts a "motivating-enabling-assessing" teaching process, forming a circular chain to achieve the objectives of teaching units. Each teaching unit is defined by an overall objective, which is further subdivided into multiple sub output objectives. These small goals are achieved through the microcirculation of "motivating-enabling-assessing", which is independent but logically related to ensure the coherence and systematicity of teaching. With the completion of these circular chains, the achievement of small goals one by one has jointly promoted the achievement of big goals.

1.2 Generative Artificial intelligence in foreign language education

The application of Generative Artificial intelligence is spreading rapidly. The discussion about AI has shifted from the question of "whether to use it or not" to "how to use it more effectively" [2]. Teachers' AI literacy has been an important part of building an AI-era education ecosystem [7]. Teachers have already been aware of the importance of Generative AI tools and began make use of appropriate cognition and skills [3] so as to adapt themselves to the fast growing trend. Generative AI, particularly Large Language Models (LLMs), has begun to demonstrate its potential in the field of foreign language teaching. For instance, ChatGPT, as an advanced language model, has been utilized to assist in English writing instruction, offering personalized feedback and assessment [4]. Furthermore, ChatGPT can generate language learning texts, perform information retrieval and summarization, support multilingual translation, and design tests and reviews [5]. Despite the challenges in the application of Generative AI in teaching, such as potential technological dependence and ethical issues, these risks can be effectively mitigated through reasonable teaching design and strategic adjustments, maximizing the use of AI technology.

2 Generative AI in POA guided teaching process

2.1 Generative AI in motivating process

Designing motivating scenarios is quite brain-intensive, and with the help of ChatGPT, the efficiency of completing tasks has been significantly improved [6]. Take teaching condolence letter writing as an example, according to the teaching materials and student conditions, I negotiated with KIMI, an AI tool that is popular in China right now, and refined the teaching objectives into three sub-targets of content, language, and structure under the guidance of the POA theory, and I used clear and accurate language to fully describe the set objectives and then issued instructions to KIMI, an AI tool that is popular in China right now, asking KIMI to test the validity according to the four elements of the motivating scenario in POA teaching theory and confirm that they are in line with the situation of related professional students.

Table 1. Negotiating process of Generative AI in motivating process

Prompt 1	KIMI's feedback
Students are first-year automotive majors at a vocational college, learning to write condolence letters. I will conduct teaching design under the guidance of the Product-Oriented Approach (POA). Please design a motivating scenario according to the four elements of the POA teaching theory: topic, identity, occasion, and purpose, to determine if it is realistic and reasonable.	Based on the Product-Oriented Approach (POA) teaching theory, you can design your scenario like this: You are an office assistant in a Sino-foreign joint venture. The company boss asks you to draft a letter of condolence to express concern to Jack, an important client of the company, after seeing his WeChat Moments about the earthquake in Nepal, his country. The letter should also propose necessary assistance that can be provided.

As can be seen in table 1, the teacher is convinced that the motivating scenario is proper for students. Teachers should discern and select the content generated by Generative AI, confirming it conforms to teaching logic before using it. The above case is a teacher's adaptation based on textbook content. If the textbook does not have a clear driving scenario, teachers can also directly negotiate with Generative AI to generate appropriate driving scenarios.

2.2 Generative AI in enabling process

In practical POA guided teaching, designing and implementing enabling activities is a challenge for teachers' teaching ability. Wen Qiufang has proposed three criteria to assess whether the activities are well designed: precision, progressiveness, and diversity ^[1]. A single teacher's time and knowledge capacity are limited, no matter how much additional help is provided to good students, it is insignificant compared to AI ^[2]. Based on the level of students, teachers can quickly design exercises of different levels with the assistance of Generative AI, for example, in the language enabling activity of condolence letter writing, the design for the basic level aims to meet the basic communication needs of most students, ensuring they can achieve the expected communication goals. For students with stronger abilities, they are encouraged to directly challenge higher-level learning tasks to further expand and enhance their language abilities.

Table 2. Negotiating process of Generative AI in enabling process

Prompt 2	KIMI's feedback
My students are not in the same level, please design 2 levels of exercises with the following chunks: take turns visiting let me know think of you sorry to	Certainly! Here are two levels of exercises tailored for students of different proficiency levels using the provided chunks: Level 1: Basic Understanding and Usage Exercise 1: Sentence Completion For beginners or lower-intermediate students, focus on basic understanding and correct usage of the chunks. If you need help with your homework, please _____. We plan to _____ the new patient in the hospital every day.

hear about feel better very soon	I'll always _____ when I study abroad. I was _____ your accident, and I hope you _____. Could we _____ the museum this weekend? Level 2: Advanced Application and Conversation Exercise 2: Gap Fills in Dialogues For intermediate to advanced students, use the chunks in dialogues to practice more complex language use. Dialogue 1: A: I heard you were in the hospital last week. B: Yes, it was just a minor procedure. A: _____, I hope everything went well. B: Thank you. I'm feeling much better now. Dialogue 2: A: With the project deadline approaching, we need to coordinate better. B: Agreed. _____ so we can manage our tasks effectively. A: Right, and if there are any changes, _____.
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The above differentiated teaching strategy in table 2 not only meets the learning needs of students at different levels but also provides a personalized learning experience for students. With the help of generative AI, teachers find it less time-consuming and more effective to meet the needs of different students.

2.3 Generative AI in assessing process

The assessing process of POA emphasizes the close integration of teaching, learning, and evaluation, overcoming the subjectivity and disconnection between evaluation steps in traditional evaluation. By negotiating directly with Generative AI tools, students can find out whether their objectives of communication is achieved or not. The introduction of AI technology not only greatly improves the efficiency and objectivity of evaluation, reducing the burden of teacher evaluation work, but also ensures the diversification and detailed evaluation process, helping students make substantial progress in language expression and critical thinking.

3 Conclusion

The integration of Generative AI into POA guided teaching process has revolutionized the landscape of foreign language teaching. This study has demonstrated that by harnessing the potential of Generative AI, educators can enhance the execution of POA, leading to a more dynamic, interactive, and personalized learning environment. The application of AI in key teaching processes, such as motivation, enabling, and assessing, has optimized the POA methodology, improved the quality of foreign language education, and promoted innovative teaching methods. As AI technology continues to evolve, the future of foreign language teaching lies in the synergistic combination of AI and pedagogical innovation, positioning educators to navigate and leverage these advancements for the benefit of educational excellence and student success.

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