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Expanding L2 Learners' Essay Topic Ideas with ChatGPT and DDL

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Abstract

This study explores the integration of ChatGPT and data-driven learning (DDL) tools to enhance intermediate English learners' ability to generate and develop essay topics in a Japanese university context. Through structured brainstorming sessions using both ChatGPT and corpus-based tools, the study assesses the effectiveness, benefits, and limitations of each method from the learners' perspectives. The results indicate that ChatGPT supports idea structuring and skill development but requires verification of its suggestions, while corpus research enhances vocabulary acquisition but lacks contextual clarity. The study underscores the complementary roles of artificial intelligence (AI) and corpus tools in fostering a comprehensive and contextually rich essay-writing process, contributing to the evolving understanding of digital tool integration in language learning frameworks.

Keywords: ChatGPT, Data-driven learning (DDL), Essay writing, Language learning, Artificial intelligence, Corpus linguistics

Introduction

The effectiveness of data-driven learning (DDL), where learners analyze real language data using corpora to discover patterns and usage, has gained attention (Lin, 2021; Satake, 2020). Since the advent of ChatGPT, there has been discourse on its inclusion in DDL (Crosthwaite & Baisa, 2023). ChatGPT's capabilities offer opportunities for linguistic applications, making it promising for DDL. However, a knowledge gap remains regarding the effects of incorporating ChatGPT into DDL. This study addresses the following research

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questions: (1) How does the integration of ChatGPT and DDL tools affect intermediate English language learners' ability to generate and develop essay topics in a Japanese university context? (2) What are the perceived benefits and limitations of each method according to the learners?

Literature

DDL uses authentic language data from corpora to help learners identify patterns and improve proficiency (Johns, 1991). Integrating AI tools like ChatGPT complements DDL by offering interactive support. Combining DDL and AI enhances learning outcomes, though its suggestions need critical evaluation (Crosthwaite & Baisa, 2023). This study, based on constructivist and sociocultural theories, emphasizes active engagement, real-world contexts, and social interaction in learning (Piaget & Cook, 1952; Vygotsky, 1978), with AI providing scaffolding and DDL fostering deeper engagement.

Method

This study involved 32 intermediate English learners from a Japanese university who used both ChatGPT and corpus-based tools in brainstorming sessions on essay topics at the beginning of second language (L2) essay writing. In the ChatGPT sessions, participants used the free version of ChatGPT-3.5 with structured prompts to explore essay topics within their fields of interest, stimulating idea generation and thematic development. The prompts were open-ended to encourage diverse responses. Participants' interactions with ChatGPT were recorded and transcribed for analysis. They saved the generated responses and their reflections.

The corpus-based sessions involved learners creating a mini-corpus from academic papers related to their studies, enabling them to analyze language patterns and thematic trends. This method engaged students with authentic language data, fostering a deeper understanding of vocabulary and structures in their field. Data was collected through recordings of their corpus analysis process, notes, and reflections.

Finally, a post-session survey was administered to gather learners' perceptions of each tool's effectiveness and usability.

Results and Discussion

The results highlight the advantages and disadvantages of each method. Students expressed mixed feelings about using ChatGPT to brainstorm essay topics. Some found it insightful and helpful. For instance, several students

noted that ChatGPT helped them understand essential qualities, such as time management and effective communication, aiding in essay planning and enhancing their understanding of successful student attributes. This indicates that AI input broadened their perspectives on essential student qualities.

However, some students were skeptical about the accuracy and applicability of ChatGPT's suggestions. One student stated, "While I agree with the information provided by ChatGPT, there is no evidence to support it, suggesting that it is important to verify the AI's suggestions with reliable sources." This highlights the need to critically evaluate AI-generated content. Concerns about accuracy and the need to cross-reference AI suggestions with credible sources underline the importance of critical thinking skills when using such technology.

Regarding the use of a corpus for vocabulary research for their essay topics, students had varying reactions. Many appreciated the depth of information and exposure to specialized vocabulary provided by corpus research. One student noted, "The structured data from the corpus helped in identifying key terms and concepts relevant to my essays." This reflects how corpus data can offer concrete examples of language use, aiding students in selecting appropriate vocabulary for their essays.

Another student found the corpus useful in understanding real-world applications of vocabulary, stating, "This information is accurate because several articles on the internet also feature these traits." They saw the ability of corpus data to validate and enhance existing knowledge with real-world examples as a significant advantage. This practical application of vocabulary learning is crucial for students aiming to write essays that are not only well-structured but also contextually relevant.

However, some students encountered difficulties due to the lack of context in the corpus data, making it challenging to use the vocabulary effectively in their essays. One student mentioned, "I agree with the information given by the corpus, but there is no evidence, so we don't have to believe all the information given by the corpus." This reflects a critical view of the reliability and applicability of corpus data without proper contextual understanding. The absence of contextual clues in the corpus data can make it difficult for learners to grasp the nuances of language use, underscoring the need for supplementary explanations or examples.

Conclusion

In summary, ChatGPT aids in idea structuring and skill development, though its suggestions need verification. Corpus research enhances vocabulary but

lacks context. Combining both tools supports comprehensive, contextually rich essay writing.

This study expanded the scope of DDL by incorporating ChatGPT to facilitate learners' brainstorming and deepen their thoughts on topics when they start to write L2 essays. This approach represents a shift toward more engaging and responsive educational experiences, where learners can explore language use in diverse contexts provided by AI, unlike static corpora datasets. ChatGPT's dynamic interaction helps students understand their essay topics holistically, complementing the static but rich data from corpora.

Theoretically, this study contributes to the evolving understanding of how digital tools can be harmonized with established educational frameworks to enhance language learning. It challenges and extends the traditional DDL approach, which considers corpora the basis for language learning, by demonstrating how AI can complement and augment language learning strategies. The integration of AI tools like ChatGPT into the DDL framework can provide a more interactive and adaptive learning environment, potentially leading to improved learning outcomes.

Overall, this study blends the benefits of DDL with the latest AI technology to offer enhanced learning outcomes. It underscores the potential of integrating technological advancements like ChatGPT into language learning, paving the way for further innovations in educational practice and research. Combining ChatGPT and corpus-based research creates a more balanced and effective approach to teaching essay writing, benefiting learners in their academic pursuits.

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