

Teaching with GenAI: Custom GPT as a Scaffolding Tool for Phrasal Verb Learning

TERRENCE TIANZHI ZHANG, JIQING XIANG

Summary: This study explores the potential of customizing ChatGPT as a scaffolding tool for multilingual English learners (MELs) studying phrasal verbs. Grounded in sociocultural theory, we designed a Custom GPT following a seven-step scaffolding sequence to guide MELs in understanding the semantic roles of particles in phrasal verbs. Four college-level MELs participated in five GPT-assisted tutoring sessions. Findings indicate high technical feasibility and strong conversational accuracy of the GPT tool, although occasional glitches and cognitive overload were observed. Students reported that the GPT mediation enhanced their conceptual understanding and made phrasal verbs easier to remember.

Keywords: generative AI, Custom GPT, scaffolding, phrasal verbs, vocabulary instruction

Introduction

Generative artificial intelligence (GenAI) has become an emerging presence in language education, with over 180 million people engaging with tools like ChatGPT daily. Studies indicate that many users report using these tools specifically for language learning (Kim et al., 2023). Its widespread adoption by language learners has made it an unavoidable part of the learning landscape, influencing how language is acquired and practiced. As AI continues to shape language education, learning how to effectively use it has become inevitable for ESL teachers. Exploring its potential, considering ways to integrate it into teaching strategies, and reflecting critically on its benefits and limitations has become a hot-button topic in language education since the advent of ChatGPT. While many ESL practitioners and scholars have raised concerns about AI's role in language learning, such as discouraging critical thinking and leading to over-reliance on AI for language learning (Pack & Maloney, 2023), many scholars and educators see its potential as a valuable teaching tool. They recognize its ability to personalize learning, provide instant feedback, and support students in refining their language skills (Baskara, 2023). However, in most cases, ChatGPT is used to enhance language performance, such as providing automated writing feedback and adaptive grammar correction (Al-khresh, 2024), but not necessarily to develop a deeper understanding of the underlying linguistic principles that govern these outputs. As a result, rather than scaffolding learning, AI often functions as a tool for immediate results, reinforcing language output without fostering metalinguistic awareness

or conceptual understanding of complex grammatical structures (Teng, 2025).

Building on these discussions, there remains a lack of research into whether ChatGPT can be leveraged not just as a tool for improving English output but as a scaffolding mechanism to deepen conceptual understanding of linguistic knowledge in English. This study addresses that gap by examining the effectiveness of a customized GPT-based tutoring tool in facilitating the learning of English phrasal verbs for intermediate-level multilingual English learners (MELs). Grounded in Vygotskian sociocultural theory and scaffolding frameworks (Aljaafreh & Lantolf, 1994), we investigate the potential of a customized GPT as a scaffolding tool for MELs to develop a deeper conceptual understanding of English phrasal verbs. Additionally, this study provides a practical implementation framework, offering insights into how ESL educators can effectively integrate ChatGPT into their teaching without requiring advanced coding skills. By presenting a replicable model, we aim to empower educators to harness AI-driven scaffolding in a way that is both accessible and pedagogically feasible.

How Did We Leverage ChatGPT as a Customized Tutoring Tool?

Custom GPT is a customizable version of ChatGPT that allows users to tailor the model's behavior, focus, and knowledge base to meet specific needs. Unlike the default version, Custom GPT enables users to define personas (e.g., an ESL tutor specializing in academic writing for intermediate Chinese-speaking learners), objectives, and instructional approaches, making it an adaptive tool for personalized

learning and teaching. A key advantage of Custom GPT is its ability to follow user-defined instructions that shape interactions. Educators can specify the tutor's role, tone, and pedagogical approach to ensure structured guidance and effective feedback. This customization enables scaffolded learning where students receive purposeful, adaptive guidance that fosters internalization of the phrasal verb as a concept. The Custom GPT can detect errors, offer corrections, and explain linguistic principles, thereby promoting metalinguistic awareness of linguistic structures and usage. For example, in our study, we structured the Custom GPT to follow a scaffolding approach for teaching phrasal verbs. This structured approach enables the AI tool to progressively support learners on an implicit-to-explicit continuum (e.g., starting with contextual observation of phrasal verbs in authentic texts before providing conceptual hints and explicit explanations) to enhance both linguistic accuracy and a deeper conceptual understanding of phrasal verbs.

Another critical feature of Custom GPT is knowledge integration, which allows educators to embed domain-specific content to enhance instructional quality. Teachers can upload instructional materials, such as assignment guides, vocabulary lists, explanations of linguistic concepts, and task samples, enabling the AI to reference and apply the information in responses. The uploaded knowledge enhances the accuracy and relevance of AI-generated responses to enact more precise and contextually appropriate interactions with students. In our study, we developed documents explaining phrasal verbs by their particles (e.g., *in*, *out*, *up*) based on existing scholarship on their semantic roles within the framework of conceptual metaphor theory (Lakoff & Johnson, 1980). For example, the document explains how *off* conveys a sense of separation, as seen in *take off* (departure from a surface) and *cut off* (disconnection), while *in* represents containment, as in *bring in* (movement into a space) and *sink in* (gradual absorption of information). These materials included definitions of particle meanings and concrete example sentences that demonstrate how particles contribute to the meaning of phrasal verbs with different semantic meanings. These documents serve as a knowledge base for the AI, allowing it to incorporate new data points into its pre-trained model. By integrating these materials, the AI can retrieve relevant information from the uploaded documents to generate precise, contextually appropriate explanations of phrasal verbs, therefore providing students not just definitions of phrasal verbs but nuanced semantic meanings of phrasal verbs to deepen their understanding of phrasal verbs as a linguistic construction.

In addition to instructions and knowledge integration, Custom GPT offers features such as descriptions and conversation starters, which guide users to use the Custom GPT. Descriptions provide users with a clear understanding

of the GPT's purpose and capabilities. Conversation starters serve as prompts that guide students in using the Custom GPT. For example, we designed prompts such as “Explain *kick off* for me” and “Can you help me understand the difference between *take in* and *take out*?” These features ensure that students can efficiently navigate the tool and actively engage in meaningful linguistic exploration.

The Scaffolding Procedures of the Customized Tutor Tool

Scaffolding, rooted in Vygotsky's (1978) sociocultural theory, is a dynamic instructional strategy that provides learners with structured support within their zone of proximal development, which conceptualizes the cognitive space between what a learner can achieve independently and what they can accomplish with guidance. This study designs scaffolding procedures within the framework of Vygotskian sociocultural theory (Lantolf & Thorne, 2006). Developing the scaffolding process begins with implicit support, such as prompting students to locate a contextual sentence for a target phrasal verb, and gradually transitions to explicit guidance, including direct explanations of conceptual metaphors underlying particle meanings (Aljaafreh & Lantolf, 1994). This structured sequence ensures that students engage in guided discovery before receiving explicit instruction, allowing them to develop a deeper conceptual understanding of phrasal verbs. The following section details the seven-step scaffolding process implemented in the Customized Tutor Tool (see Figure 1).

Initially, learners engage in a low-support task to activate prior knowledge, searching for a contextual sentence that contains their target phrasal verb. This encourages self-directed exploration and prepares them for deeper analysis. Next, the Custom GPT retrieves conceptual meaning categories of the particle based on pre-uploaded instructional materials to provide learners with example sentences to infer meaning from context. This aligns with the Noticing Theory (Schmidt, 1990), which emphasizes the importance of directing learners' attention to linguistic features.

To further deepen understanding, the AI provides metaphorical hints that prompt students to analyze the verb's meaning through visualization. For example, students were asked to imagine a book sliding off a table to conceptualize *off* as separation. This stage draws on cognitive linguistics principles, which emphasize how embodied experience shapes language comprehension (Lakoff & Johnson, 1980). Following this, categorization prompts explicitly guide learners by presenting common meanings of the particle and asking them to classify their verb accordingly. For instance, *off* may denote detachment (e.g., *take off*), deactivation (e.g., *turn off*), or removal (e.g., *cut off*).

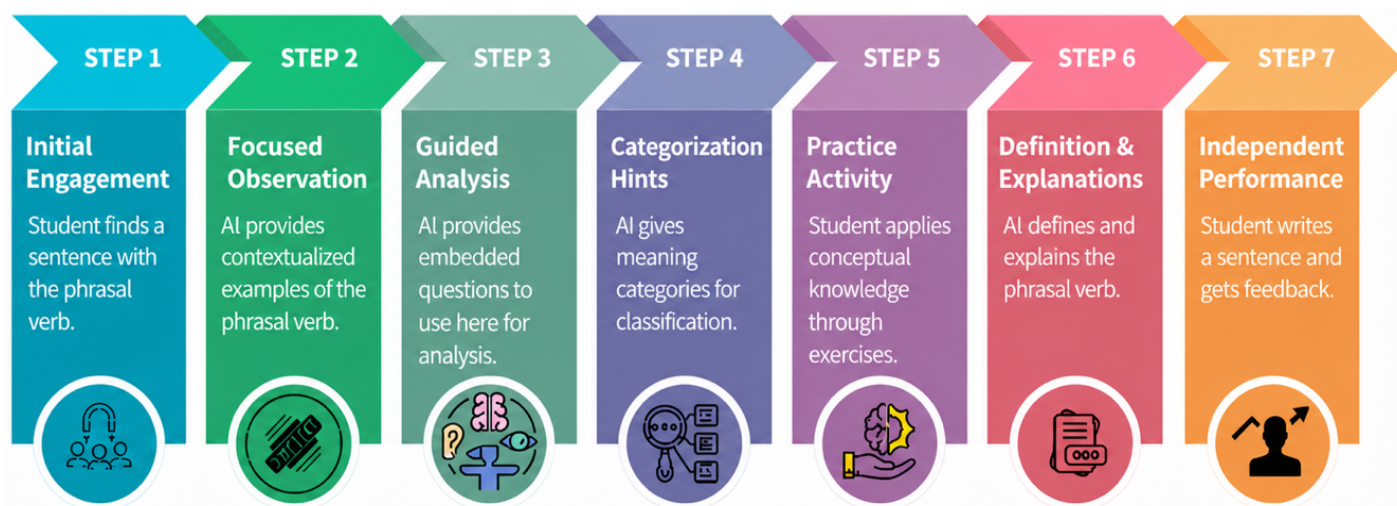


Figure 1. Seven-Step Scaffolding for Phrasal Verb Learning

After categorization, students engage in a practice activity where they select the most appropriate explanation for a given phrasal verb in multiple-choice tasks. This phase fosters metalinguistic reflection and assesses learners' understanding of the semantic roles of particles in the phrasal verbs. Subsequently, the AI tutor provides the definition of the phrasal verb and explicit conceptual clarification, explaining the underlying metaphorical meaning of the particle. For example, *off* in *take off* conveys separation, whether from the ground (airplane) or from the body (removing clothing). This phase bridges implicit discovery with explicit instruction.

Finally, learners moved on to independent application by generating their own sentences using the target phrasal verb and receiving GPT's feedback. This step encourages self-regulation, which aligns with Vygotsky's principle that externally mediated learning is intended to support learners in internalizing and independent performance (Lantolf & Thorne, 2006). By progressing from implicit engagement to explicit instruction, the customized GPT fosters a deeper conceptual understanding of phrasal verbs, ensuring that students grasp not only their usage but also the underlying cognitive and semantic relationships between the verb and its particle.

Method

This study performed a qualitative examination of the effectiveness of a Custom GPT in scaffolding phrasal verb comprehension among higher-intermediate MELs. The investigation specifically focused on the feasibility of Custom GPT as a scaffolding tool and the learners' perceptions of this GPT tool.

Context and Participants

This study took place at an English Language Center (ELC) in a private university in Washington State, U.S., which offers both coursework and supplemental tutoring for international students seeking to improve their English profi-

ciency for academic purposes. Four MELs, all Level 5 students at the ELC, participated in this research: two were native speakers of Vietnamese, and two were native speakers of Chinese. They regularly visited the tutoring center for additional support with class assignments and language development. The participants were recruited through informational posters and an email invitation circulated by the ELC staff.

Data Collection and Analysis

Our data collection lasted seven weeks, with weekly meetings with each student. At the outset, each learner took part in a pre-interview exploring their existing knowledge of phrasal verbs and typical self-learning practices. Afterward, they engaged in five GPT-assisted tutoring sessions, during which they learned six targeted phrasal verbs; a human tutor was present but offered minimal instructional input, instead clarifying the GPT's instructions as needed. Finally, a post-interview was conducted, focusing on learners' current understanding of phrasal verbs, evolving study habits, and attitudes toward the GPT tool.

Data for this study comprised:

- 1. Transcripts of pre- and post-interviews:** Audio recordings were transcribed and coded for insights into participants' perspectives on phrasal verbs and on using AI for language support.
- 2. GPT interaction logs:** The text-based exchanges on ChatGPT were collected to document how learners and the AI co-constructed understanding of the target phrasal verbs.

The GPT interaction logs were analyzed through three interrelated criteria, adapted from holistic evaluation frameworks for AI in education (Mittal et al., 2024; Virvou & Tsihrintzis, 2023) to assess the Custom GPT's feasibility and effectiveness as a scaffolding tool: (1) technical feasibility, focusing on whether the GPT followed the seven-step scaffolding procedures as designed; (2) conversational in-

telligence, referring to the model's ability to provide accurate and contextually appropriate explanations using uploaded materials; and (3) student uptake, examining the accuracy of learner responses and the appropriateness of their self-generated example sentences. Together, these criteria were developed to offer a comprehensive evaluation of how well the Custom GPT supported learners' conceptual development and independent application of phrasal verbs. The interview transcripts were analyzed through thematic analysis (Braun & Clarke, 2006) to identify MELs' attitudes, preferences, and concerns about AI-assisted vocabulary learning.

Findings

Technical Feasibility

The Custom GPT demonstrated strong technical feasibility, successfully following the instructed seven-step scaffolding procedure with an overall adherence rate of 97.6%. This high rate suggests that the tool reliably delivered structured support to learners across most interactions. All seven scaffolding steps exhibited robustness above 95%—except for Step 4, where notable inconsistencies emerged. Specifically, Step 4 occasionally failed to prompt learners to categorize the phrasal verb by particle meaning, either skipping the step entirely or giving less than three possible particle meanings as instructed. Other glitches included prematurely offering a direct definition of the phrasal verb in Step 1 before other scaffolding steps had been completed, misordering Step 2 and Step 3, and occasionally skipping Step 6, a final explanation reinforcing the phrasal verb's meaning. Importantly, these misfunctions were not evenly distributed across participants. Two students experienced seamless tutoring sessions with no procedural violations, while the other two showed adherence rates of 97.6% and 92.9%, respectively. Closer examination of the AI-learner interactions revealed that most deviations stemmed from learner-initiated disruptions, such as requesting a new phrasal verb explanation before the previous scaffolding cycle concluded. However, a small number of glitches could not be traced to any user input or identifiable trigger, suggesting some instability in the AI's ability to consistently retrieve and execute certain scaffolding instructions. Despite these isolated issues, the overall high fidelity indicates that Custom GPT is a technically robust tool for delivering conceptual scaffolding steps following the researchers' instructions.

Conversational Intelligence

The Custom GPT exhibited robust conversational intelligence—its ability to generate context-appropriate and accurate responses at each turn—achieving 97.5% accuracy across 840 coded scaffolding moves in 20 tutoring sessions. The tool performed flawlessly in the opening two steps—diagnosing each learner's sentence and providing an initial semantic hint—and it maintained accuracy above 98% in

Step 3, where the AI supplied metaphor-based visualization hints to help learners infer the particle's meaning, and in Step 7, where it evaluated learners' self-generated sentences and offered formative feedback. The only glitch in these phases was a mismatch between the explanation provided in Step 3 and the semantic hint given in Step 1. These near-perfect scores show that GPT reliably guides learners through the instructed scaffolding procedures from initial hinting to meaning negotiation and final sentence production. The main challenges surfaced in Step 4, where GPT prompted learners to categorize the target phrasal verb under a set of particle meanings drawn from the uploaded knowledge. Though Step 4 accuracy remained at a solid 93.3%, 8 of the 120 Step 4 instances were problematic: four delivered an incorrect conceptual explanation after the learner selected a particle meaning, and four omitted the step altogether. These glitches show that GPT can still misapply or fail to retrieve the uploaded knowledge when generating explanations of the particles in the phrasal verbs. These findings suggest the value of human intervention during concept-heavy explanations. In fact, students themselves noticed these discrepancies during interaction; the researcher then negotiated the correct meaning with them, and learners ultimately achieved accurate understanding. Therefore, human mediation and ongoing monitoring of AI–student exchanges remain indispensable.

Student Uptake

The overall student accuracy rate across Steps 4, 5, and 7 was 90.1%, with individual step accuracies of 92.1%, 93.2%, and 85.1%, respectively. The high accuracy of selective responses in Steps 4 and 5 suggests that students grasped the metaphorical or spatial logic of the particles used in phrasal verbs. No clear upward or downward trend was observed across the five sessions, indicating that GPT's explanations were generally accessible from the outset, and no prolonged exposure is needed.

The slightly lower performance in Step 7, where students independently produced example sentences using the target phrasal verbs, revealed nuanced challenges. Out of 120 total responses, 18 were incorrect. Two primary patterns of error emerged. First, some students demonstrated an understanding of the general meaning of the phrasal verb but had difficulty applying it appropriately in context. For example, in one participant's sentence, “fight beat up him” (Session 5, *beat up*), the intended meaning aligns with the target verb, but the usage lacks contextual appropriateness and natural phrasing. Second, a few students formed a basic understanding of the phrasal verb through GPT's English explanations, but their comprehension was limited by the lack of support in their first language. For instance, in another participant's sentence, “She smuggle in a textbook into the lecture class” (Session 1, *smuggle in*), the structure is appropriate, but the incorrect use of *smuggle* suggests a gap in her conceptual grasp of the verb, likely due to the ab-

sence of an equivalent term or insufficient translation support.

These observations suggest that while GPT facilitated conceptual understanding, productive accuracy was mediated by students' L1 knowledge and language transfer. In fact, two students mentioned in the post-interview that having L1 definitions available during Step 6 would have improved their understanding, highlighting the value of translanguaging support during AI-assisted instruction.

MELs' Attitudes Toward GPT-Assisted Language Learning

The thematic analysis of post-interview transcripts revealed that students' perceptions of the GPT-based scaffolding tool clustered around four interrelated areas: conceptual understanding of phrasal verbs, usability of the tool, emotional responses, and user feedback. Overall, participants expressed that GPT was helpful in understanding the conceptual structure of phrasal verbs, particularly the semantic role of particles. One student reflected,

[Understanding the preposition] will help me to guess the meaning like, because when I know the meaning of the verb, but we just feel different or difficult to differentiate the preposition. So if you know the meaning of preposition, it will help you understand the whole set.

This comment highlights how the conceptual scaffolding provided by GPT helped students understand the semantic role of particles in shaping the overall meanings of phrasal verbs, supporting the study's aim of fostering deeper, meaning-based vocabulary comprehension.

Students also valued the structured feedback and cumulative nature of the GPT scaffolding process, contrasting it with traditional dictionary-based approaches. One participant noted, "Using GPT really gives you more feedback. . . . you know, dictionaries are dead. They just tell you what it is. They don't tell you how and why the phrasal verb means that." This comparison illustrates that students saw the GPT as a conceptual tutor that helped them understand the semantic roles of the particles and enhance their abilities to analyze phrasal verbs as a grammatical structure.

REFERENCES

- Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, 78(4), 465–483. <https://doi.org/10.1111/j.1540-4781.1994.tb02064.x>
- Al-khresheh, M. H. (2024). The future of artificial intelligence in English language teaching: Pros and cons of ChatGPT implementation through a systematic review. *Language Teaching Research Quarterly*, 43, 54–80. <https://doi.org/10.32038/ltrq.2024.43.04>
- Baskara, R. (2023). Exploring the implications of ChatGPT for language learning in higher education. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(2), 343–358. <https://doi.org/10.21093/ijeltal.v7i2.1387>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Kim, S., Shim, J., & Shim, J. (2023). A study on the utilization of OpenAI ChatGPT as a second language learning tool. *Journal of Multimedia Information System*, 10(1), 79–88. <https://doi.org/10.33851/JMIS.2023.10.1.79>

Despite these benefits, some participants raised concerns about the cognitive load of the tool. As one student said, "I'm really confused sometimes because they give me too much." This sentiment highlights the potential for scaffolding overload, particularly when learners are required to navigate multi-step explanations for each phrasal verb. Two of the four participants specifically recommended integrating L1 definitions into Step 6, suggesting that bilingual explanations would significantly aid comprehension. Additionally, several students expressed a preference for shorter, more direct explanations in each step to reduce reading time and minimize cognitive fatigue. These comments indicate a need for calibration between depth of explanation and cognitive accessibility.

Conclusion

This study demonstrates that Custom GPT can serve as a feasible and intelligent scaffolding tool to support multilingual English learners' conceptual development of phrasal verbs. The GPT tool effectively guided learners through the instructed scaffolding steps to understand both the overall meaning of phrasal verbs and the nuanced meanings of the particles within them. We suggest that its potential as a scaffolding tool can extend to other grammatical knowledge in English, such as verb tense and aspect, or other context-dependent linguistic constructions that require contextual, step-by-step scaffolding. However, it is not surprising that GPT occasionally failed to deliver or correctly explain key conceptual steps, which underscores the necessity of teacher mediation in AI-assisted learning. As such, while Custom GPT serves as a promising tool for vocabulary instruction and conceptual scaffolding, it should not be viewed as a replacement for teacher-guided learning. Instead, it can serve as a practical self-learning aid when individualized support is needed but difficult to provide in limited class time. Moving forward, we believe that knowing how to leverage the strengths of AI tools like Custom GPT while remaining mindful of their limitations will be one of the essential skills for ESL teachers navigating the evolving landscape of language education.

- Lakoff, G., & Johnson, M. (1980). The metaphorical structure of the human conceptual system. *Cognitive Science*, 4(2), 195–208. https://doi.org/10.1207/s15516709cog0402_4
- Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and genesis of second language development*. Oxford University Press.
- Mittal, U., Sai, S., Chamola, V., & Sangwan, D. (2024). A comprehensive review on generative AI for education. *IEEE Access*, 12, 1–27. <https://doi.org/10.1109/ACCESS.2024.3468368>
- Pack, A., & Maloney, J. (2023). Potential affordances of generative AI in language education: Demonstrations and an evaluative framework. *Teaching English with Technology*, 23(2), 4–24. <https://doi.org/10.56297/BUKA4060/VRRO1747>
- Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129–158. <https://doi.org/10.1093/applin/11.2.129>
- Teng, M. F. (2025). Metacognitive awareness and EFL learners' perceptions and experiences in utilising ChatGPT for writing feedback. *European Journal of Education*, 60(1), e12811. <https://doi.org/10.1111/ejed.12811>
- Virvou, M., & Tsihrintzis, G. A. (2023). Is ChatGPT beneficial to education? A holistic evaluation framework based on intelligent tutoring systems. *2023 14th International Conference on Information, Intelligence, Systems & Applications*. <https://doi.org/10.1109/IISA59645.2023.10345940>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

CITE THIS ARTICLE:

Zhang, T. T., & Xiang, J. (2026). Teaching with GenAI: Custom GPT as a Scaffolding Tool for Phrasal Verb Learning. *WAESOL Educator*, 51(1), pp. 33–38.
