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Monster in a forest: Leveraging genAI to create interactive narratives

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Generative Artificial Intelligence (GenAI) enables educators to create multimodal, interactive stories that promote engagement, facilitate L2 vocabulary acquisition, and scaffold language comprehension. However, developing tailor-made narrative games for language learning requires substantial time and effort, potentially limiting the feasibility of creating such in-class tools. This study explores how GenAI can streamline the process of creating interactive narratives designed for language learning purposes. Specifically, this study utilized ChatGPT, DALL-E 3, and ElevenLabs to create a fully illustrated interactive story with branching narrative paths designed to help facilitate English as a Foreign Language (EFL) instruction both in and out of classroom settings.

Keywords: GenAI, interactive narratives, narrative choice games, SLA, vocabulary acquisition

Introduction

The advent of Generative Artificial Intelligence (GenAI) presents new opportunities for foreign language educators to create novel and interactive instructional tools that target certain aspects of the language learning process. The process of vocabulary acquisition benefits from the utilization of multimodality (Bisson et al., 2014; Ginns, 2005; Wrobetz, in press), streamlined access to dictionary lookups and translations (Hulstijn, 2001; Mahdi et al., 2024), active participation in narrative creation (Franciosi, 2017), and repetition (Hintzman, 2010; Rasti-Behbahani, 2021). This study presents how GenAI was used to help create two different iterations of an interactive narrative called *Monster in a Forest* (MIAF), the design of which was informed by the principles of how the acquisition of English vocabulary for English language learners functions.

ChatGPT 4o (OpenAI, 2024a) was used to suggest the general framework for a short interactive narrative involving a young man who encounters a monster in a dark forest. Using the suggested narrative-choice structure, the author wrote the

actual narrative and refined the choice structure as the plot emerged from the writing process. The final narrative structure encompasses a maximum of four narrative choices and four narrative prompts across five steps with images depicting main-sequence narration and sub narration blocks. This narrative structure is summarized in Table 1. The images for each narration block were created using DALL-E 3 (OpenAI, 2024b).

Table 1. Narrative choice flow

Step ID	Player options	
Step 1	Narration with image	→ Choice 1 (C1) / Choice 2 (C2)
Step 2.x (C1/C2)	Sub narration with image	→ Narrative prompt based on previous choice
Step 2.x (C1/C2)	Narration with image	→ C1 / C2

Method

Research details

The data from MIAF presented in this study were collected from April 2025 to October 2025 (*n* = 94). The majority of the data was collected (*n* = 80) in English as a Foreign Language (EFL) classes at two Japanese universities. The student participants were either enrolled in Business English courses or English Literature courses and their levels ranged widely from level A2–B2 using the CEFR evaluative framework. The remainder of the sample (*n* = 14) comprises data from a demo to other EFL educators.

Research objectives

MIAF was created with the explicit purpose of optimizing English vocabulary acquisition and was designed with four principles to facilitate this process (see below). The lexical structure used in the interactive narrative primarily consisted of high-frequency vocabulary (e.g., action verbs, emotional descriptors) but also made purposeful use of high-level vocabulary (e.g., undulate, malevolent). Two iterations of MIAF were created, one version with multiplayer functionality for class use and one single-player version for extramural engagement.

- 1. Multimodality (images and audio narration)
- 2. Dictionary and translation capability
- 3. Interactive narrative eliciting English production
- 4. Replayability for repetition

Collective-choice narrative

The multiplayer version of MIAF, a collective-choice narrative (CCN) programmed in Numbers on MacOS, uses QR codes to collect player choices and narrative prompt responses from a gaming session. The choice with the highest percentage becomes the collective choice, and anonymized player responses to the narrative prompts can

be randomly selected for class discussion. The following sections will detail how the instructional process works with the CCN version of MIAF.

The players are first introduced to the narration in English (see Figure 1). The players are then asked if there are any English words they do not understand. A static English to Japanese dictionary of every word in each narration/sub narration block is preloaded into the spreadsheet (see Figure 2). A full English to Japanese translation of each narration/sub narration block is also preloaded to help clarify narrative details (see Figure 3).

Start		Change language?
It's late at night, and you are walking through a dark forest. The air is cold, and the trees are tall and silent. Suddenly, you hear a low growl behind you. Your heart starts pounding. What will you do?		Input word here
Type 'Run' Or 'Look behind me' below.		

Figure 1. Step 1 in English without dictionary input (CCN)

Start		Change language?
It's late at night, and you are walking through a dark forest. The air is cold, and the trees are tall and silent. Suddenly, you hear a low growl behind you. Your heart starts pounding. What will you do?		うなり声 growl
Type 'Run' Or 'Look behind me' below.		

Figure 2. Step 1 in English with dictionary input (CCN)

Start		日本語
夜遅く、あなたは暗い森の中を歩いています。空気が冷たく、木々は高く静まり返っています。突然、背後から低いうなり声が聞こえます。心臓が高鳴ります。どうしますか？		growl うなり声
下に「Run」または「Look behind me」入力		

Figure 3. Step 1 in Japanese with dictionary input (CCN)

After discussing the meaning of the narration block, the players are shown a QR code to both make one of two narrative choices and to answer the English prompt leading into the sub narration sequence (see Table 1). The QR code links to a Google Forms page, and the downloaded CSV file is then uploaded into the spreadsheet. The spreadsheet then lays out the ratio of answers visually and randomly calls out player responses to the English prompt from that gaming session (see Figure 4). The choice with the highest ratio is used as the collective choice of that gaming session (see Figure 5).

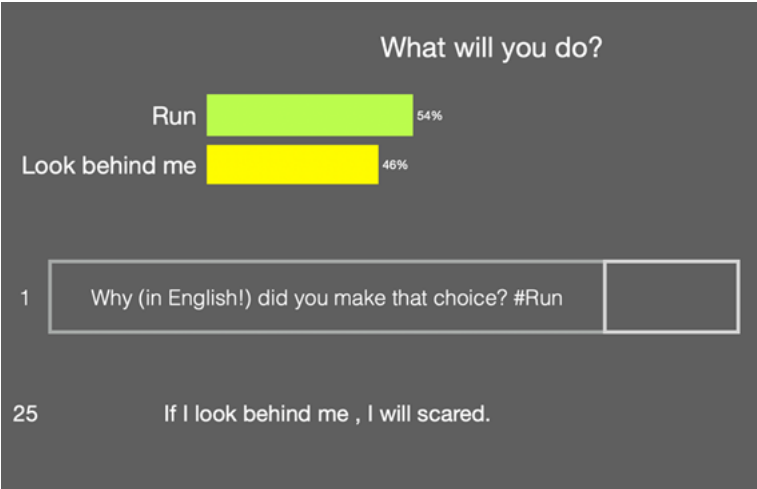


Figure 4. Collective choice poll and random response caller (CCN)

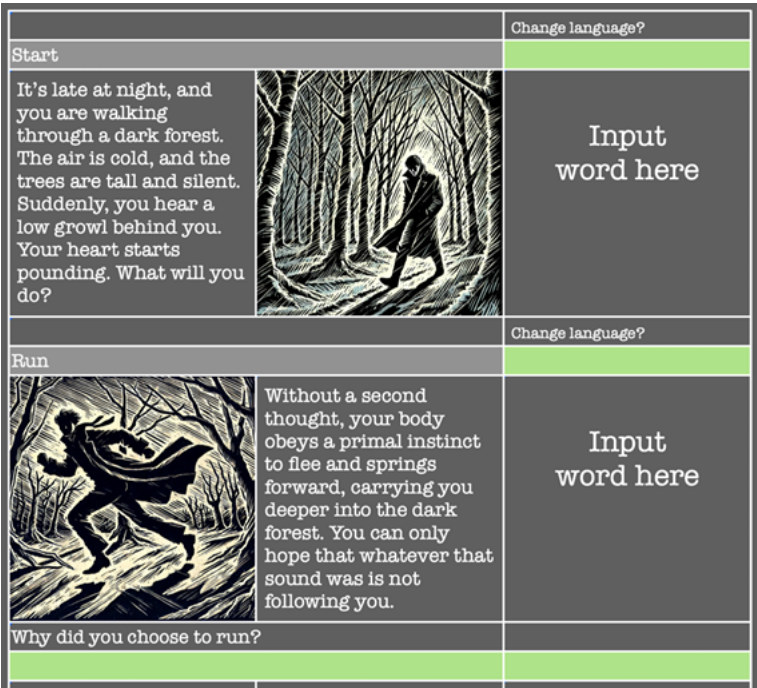


Figure 5. Steps 1 and 2 in English with dictionary input (CCN)

Single-player website

The single-player version of MIAF (see Figure 5) was programmed in HTML and JavaScript and is hosted on Render (Render, n.d.) with coding assistance from ChatGPT 4o. The single-player version complements the CCN version in four important ways:

1. Increased multimodality
2. Increased player autonomy and immersion
3. Personalized review functionality
4. Smartphone compatibility

Figure 6 . MIAF website QR code



<http://monster-nc31.onrender.com>

As shown in Figure 7, the player has access to a control panel on the righthand side of their screen, enabling them to (1) play/replay scene audio, (2) adjust font size, (3) toggle story language, and (4) access dictionary and translation functions without leaving the page. ElevenLabs (ElevenLabs, 2024) was used to create text-to-speech audio files which the player can play back as many times as necessary using the control panel (see Figure 7), adding an additional dimension of multimodality. Similar to the CCN version, the player may also change the script language (see Figure 7) and utilize automatic translator API requests to translate English text into Japanese (see Figure 8). However, unlike the CCN version, the player can run API requests to an English language dictionary to pull up English language definitions of the lookup target (see Figure 9). By plugging multiple dictionary functionalities into the control panel, the player does not have to switch back and forth between the website and external dictionary applications, thus increasing the level of immersion in the narrative experience. Finally, the dictionary functionality in the control panel also allows players to review target lookups as each lookup is saved in a running log until manually cleared by the player, a log which may also be exported as a PDF as homework or for personal review (see Figures 8 and 9).

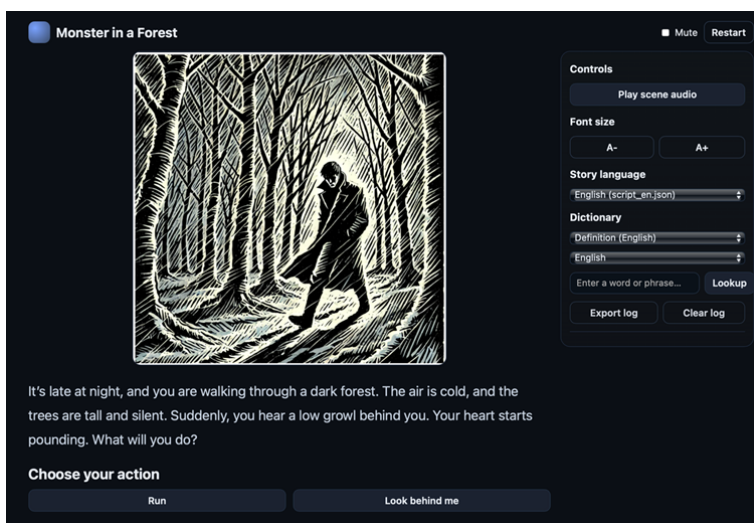


Figure 7. Step 1 and control panel on MIAF Website



Figure 8. Automatic translator API request on MIAF website

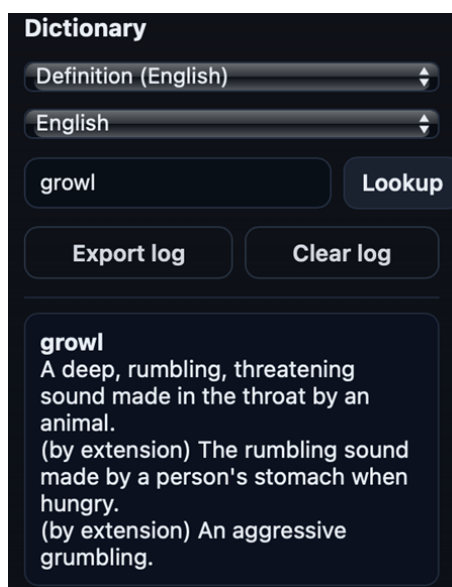


Figure 9. English dictionary API request on MIAF website

Results

The following results summarize observations on player interactions with the CCN version of MIAF. The following results reported here focus entirely on interaction patterns and classroom behavior rather than a structured analysis of vocabulary learning outcomes.

Evidence for replayability

Replayability of a narrative-choice game in instructional settings is desirable as it increases the frequency of vocabulary repetition without sacrificing the novelty of the narrative experience. Depending on the path taken through the story, the players

may experience a new story in later narrative steps while repeating some earlier branches and their associated vocabulary. Evidence for this type of player interaction is demonstrated in Figure 10 ($n = 94$).

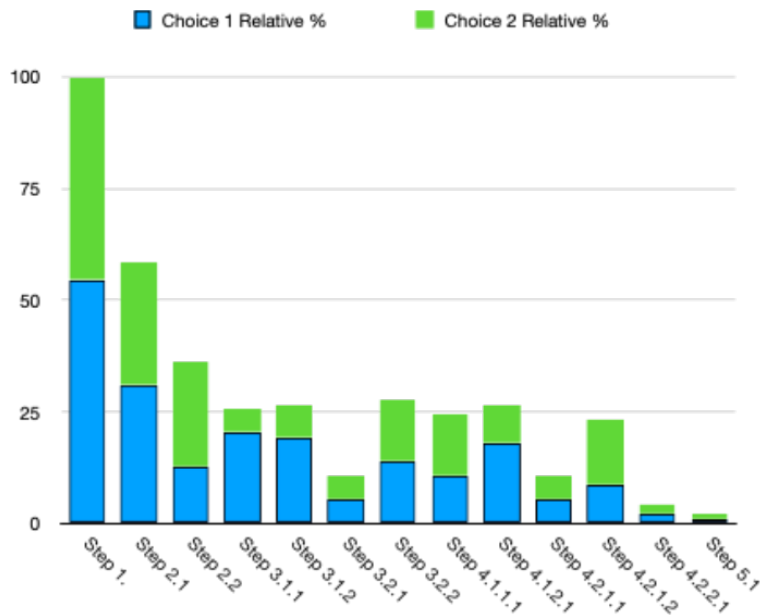


Figure 10. Narrative steps interaction summary

English production & story engagement

Apart from involving the entire class in the choice mechanics in the CCN version of MIAF, the narrative prompt mechanics in the sub narration sequence (see Table 1 and Figure 4) facilitates English production. These English responses can serve several important pedagogical functions. Within the student responses ($n = 80$), three types of responses represent a selection of instructional possibilities in the classroom.

Humorous responses to the narrative prompts (see Table 2) draw students into the narrative and increase the entertainment value of the experience. Grammatically incorrect responses (see Table 3) serve as the basis for targeted discussions on grammar and cultural differences in word use. Short or vague responses (see Table 4) stimulate brainstorming sessions on how to elaborate upon ideas in English, increasing lexical variety.

Table 2. Humorous responses

Step ID	English prompt	Response ID	Humorous responses
Step 3.2.2	How fast can you run? #Drop the weapon	1_6	I can run as fast as Usain Bolt.
Step 4.2.1.2	What is courage? #Follow it	1_5	I am UFC champion.

Table 3. Grammatically incorrect responses

Step ID	English prompt	Response ID	Incorrect responses
Step 2.2	What do you think will happen if you attack the monster? #Defend myself	2_3	The monster attack myself too. [sic]
Step 3.1.2	Why didn't you put your trust in that old man? #Go alone	2_8	Because I just met to uncle [sic]

Table 4. Vague/short responses

Step ID	English prompt	Response ID	Vague/short responses
Step 1.	Why (in English!) did you make that choice? #Run	1_21	Instinct feeling
Step 2.1	What do you think the shiny object is? #Go inside	1_3	Something magical

Discussion

The two iterations of MIAF serve as examples of how GenAI can reduce the time necessary for educators to create custom-made instructional tools to suit specific pedagogical and curricular goals. Although made using the same theoretical foundation in Second Language Acquisition (SLA), narrative structure, and gameplay mechanics, both iterations of the game serve different pedagogical functions and represent different educational opportunities.

In-class

The CCN version of MIAF provides a narrative experience which elicits active participation from every student in class. Due to the branching narrative structure (see Figure 10), the narrative may be used across several lessons and simultaneously expose players to repeated vocabulary and entirely new narrative branches. Additionally, the random caller of individual responses to narrative prompts (see Figure 4) allows for targeted discussions on language and culture to evolve organically as the narrative progresses.

Out-of-class

The single-player website version of MIAF was primarily designed to allow students to interact with the game on their smartphones outside of class. The use of GenAI to create text-to-speech audio files for each narration block increases the multimodality of each player’s self-driven vocabulary study and adequately simulates authentic native English pronunciation. Additionally, as all vocabulary looked up in the control-panel dictionaries are saved in a PDF-exportable log, the player has increased agency over their own learning progress on a mobile platform while providing the instructor with a tool to track player interactions.

Limitations and implementation considerations

While GenAI can significantly reduce the time required to create custom-made instructional tools, successful implementation still requires significant infrastructure and pedagogical oversight. In addition to the necessity of having access to the technology required to implement such a pedagogical intervention, the initial workload for the instructor to set up the spreadsheet logic, branching narrative design, and website design is significant and requires sufficient preparation time. Furthermore, there are broader pedagogical questions about effective SLA instruction that are not directly addressed by this research such as whether increasing the ease of access to dictionaries and translations will promote overreliance on technology and reduce inferencing strategies. This research is largely explorational in design, albeit based in both SLA theory and practice.

Conclusion

This study is a preliminary look at how GenAI was used to create custom-made instructional tools for the language classroom. Across both iterations of MIAF, GenAI was utilized to structure a narrative-choice game, generate images, and assist in the creation of a website version designed for single-player use on smartphone platforms outside of class. Although MIAF was designed with psycholinguistic principles in mind to facilitate the acquisition and long-term retention of vocabulary (e.g., multimodality, repetition, and dictionary/translation access), there is no evidence at this stage that this instructional tool succeeds at what it was designed for and represents a need for future research. Observationally, however, MIAF has proven itself to be a flexible and popular instructional tool in university-level EFL classes. Furthermore, as the basic programming structure has been fleshed out in an iterative design process, the MIAF framework can be used to create other interactive instructional experiences tailored to different curricular goals. GenAI in conjunction with purposeful and theoretically grounded design choices, can now help educators create custom-made, effective, immersive, and entertaining instructional tools now more easily than ever.

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