Enhancing World Language Instruction With AI Image Generators

ChatGPT & Generative AI

By crafting an AI prompt in the target language to create an image, students can get immediate feedback on their communication skills.

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Providing immediate, actionable feedback can be challenging in language classrooms. This is especially true in a learner-driven setting, since typically many people are using the target language at once. While this type of environment offers many advantages, one of the biggest challenges is that without immediate feedback, linguistic faults can become fossilized. Research overwhelmingly shows that without prompt feedback, learners lose their motivation to improve. Formative feedback is therefore critical to advancing proficiency.

Using AI Image Generators for Feedback

One solution to this problem I recently experimented with was asking my learners to use artificial intelligence (AI) image generators to create visual depictions of a new set of vocabulary. Given world language teachers' emphasis on multiple literacies, I chose to implement this lesson with a notoriously tricky set of vocab for beginning language learners: daily routine. What seems like a simple, even boring, vocab set is difficult for students learning Romance languages because it introduces reflexive pronouns.

Typically, once words using the reflexive pronoun are introduced, learners tend toward one of two errors: They either forget the reflexive pronoun that precedes the verb, thus changing the meaning, or they hypercorrect, adding the reflexive pronoun to verbs that they already know and that don't demand the use of the pronoun. Normally, it takes dedicated practice and intense teacher correction to overcome this challenge, and I was curious to see if AI could help me maintain my learner-centered environment by providing feedback.

To begin, I provided my learners with three basic pieces of information: a theme for the new vocabulary (daily routine); a list of 12–14 basic verbs in the first-person singular; and a goal: using Adobe Firefly to create a set of images that demonstrate the meaning of each expression.

Additionally, I imposed two constraints. The first was that they were required to change the language in Adobe to the target language, in our case French. Many of my learners are familiar with Adobe products, so using the software in French helped to create an immersive experience and to familiarize them with a secondary set of tech and design vocabulary that they wouldn't have otherwise encountered. As an additional constraint for this exercise, they were not permitted to use outside resources such as dictionaries or translation services.

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Prompt Crafting as a Vehicle for Expanding Language

With those constraints in place, they were turned loose to create and learn. And here's where the magic began. To start, my learners were excited because this exercise had the air of the illicit; many of the students' teachers in other subjects had come down hard against

the use of AI, and so being asked to use it in school struck them as rebellious. They were certainly more excited about daily routine vocabulary than I'd ever seen them. They quickly started to realize that my basic prompts, provided exclusively in the first-person singular, were not sufficiently precise to generate an image.

As a result, it took only about five minutes for them to start asking one another and me how to form the third person. So, for example, they naturally moved beyond the provided prompt of "*Je me brosse les dents*" ("I brush my teeth") to "*Elle se brosse les dents*" ("She brushes her teeth") or "*Il se brosse les dents*" ("He brushes his teeth"). For some learners, this progressed to asking how to use the third-person plural, thus further expanding their range of vocabulary.

Creating Cognitive Dissonance to Promote Language Acquisition

"*Il se brosse les dents*," however, universally gave rise to another challenge, because with zero exceptions, Adobe took this prompt and generated an image of a toothbrush standing on end in a river valley, surrounded by mountains. First of all, this added an unexpected element of playfulness to the assignment. Every learner knew instantly what the sentence meant but was presented with the new challenge of refining the prompt so that it yielded an image of someone brushing their teeth.

Consequently, they were able to work collaboratively to come up with a phrase in the target language, "*Il se brosse les dents dans la salle de bains*" ("He brushes his teeth in the bathroom"), that accurately generated an appropriate image.

Similarly, another learner attempted to change the mountains to a yard, using the prompt "*dans le cour*." The misgendering of "*cour*," which should use the feminine article "*la*," led to the incorporation of hearts in the mountain valley. Initially the student chalked this up to a quirk in AI, but we ultimately decided that AI chose to read "*cour*" as a misspelling of "*coeur*" ("heart") and ignore the incorrect use of gender.

AI-generated image created with Adobe Firefly

Why did the app produce a heart and mountains with the expected toothbrush? Students need to work on their prompts to get a correct image.

AI-generated images also provided an interesting opportunity to highlight to learners the importance of using the reflexive pronoun. When students prompted Firefly to create an image of a man shaving ("*Il se rase*") but omitted the reflexive pronoun, they were confronted with an image of men at a construction site in front of a pile of rubble. The feedback was instantaneous; faced with an image they didn't expect, they asked questions, checked their spelling, and accurately revised their prompt.

Both of these scenarios highlight the importance of letting students bridge the gap between what they know and what they don't yet know. Given the context of "daily routine" for our vocabulary set, the toothbrush set in a mountain valley created just enough dissonance that students knew the image was incorrect but simultaneously had an idea of the path forward; they could ask the right questions that allowed them to build new knowledge focused on location: How do we identify the spaces in which we carry out our morning routine? Their omission of the reflexive pronoun created a similar dissonance and reinforced a different concept: the importance of reflexive pronouns in French.

Educators are, perhaps rightfully so, cautious about incorporating AI in their classrooms. With thoughtful implementation, however, AI image generators, with their ability to use any language, can provide powerful ways for students to engage with the target language and increase their proficiency.