

Toys to Stories

Bilingual Learning Through Play Time Storytelling

How might we help bilingual parents seamlessly integrate storytelling into daily play to strengthen their child's early language acquisition and foster consistent bilingual engagement?

[Video Link](#) | [Demo Site](#) | [Github](#) | [Favorite Generated Stories](#)

Abstract:

Objective

Bilingual parents struggle to reinforce their child's heritage language in an English-dominated environment. Children aged 0-5 are in the critical period for language acquisition, but without consistent exposure, they risk losing fluency (Kuhl, 2010). Parents, often exhausted after work, lack the energy to create engaging learning experiences. Our project leverages AI to make bilingual learning effortless, immersive, and enjoyable.

Method

Storytelling is a natural and effective way to teach language (Grolog et al., 2020). Our system enables parents to **scan their child's toys**, allowing AI to generate personalized stories in the heritage language while highlighting four key vocabulary words. These words are sent to a **Pokédex-like interactive soundboard**, where children can hear them and interact with the toy's digital representation, reinforcing learning through play. Inspired by a 4th-grade teacher's technique of using sound to emphasize vocabulary, this approach enhances retention and engagement.

Innovation

Unlike conventional language-learning apps with rigid lessons, our system **seamlessly integrates AI storytelling into playtime behaviors**. By personalizing stories around children's toys, leveraging interactive sound elements, and embedding language learning into everyday play, our approach **creates an intuitive, low-effort solution for bilingual families**.

Outcome

We built an **AI-powered website using Gemini Flash 2.0** that generates stories based on the **chosen language, reading level, and uploaded toy**. The connected **interactive soundboard**

functions as a **digital toy library**, playing corresponding sounds and vocabulary words to reinforce learning. Parents found this system **effortless yet highly effective**, enabling **consistent bilingual engagement even on busy days**, while allowing them to spend **more meaningful time focusing on their child**.