

# Stagecraft: Promoting Language Learning Through Play

Jen Helms, Playmation Studios Inc.  
Justin Helms, Playmation Studios Inc.

**Short Game Description:** Stagecraft is a foreign language puzzle game designed by Playmation Studios for players to interact with a world closely tied to the semantics and syntax of language. Stagecraft moves beyond simply tying vocabulary to pictures and enables learners to fully immerse in their target language through the broader context of each puzzle. When players move objects in game play, they can immediately read and hear how those changes are reflected in their target language. The game is intended to improve reading and listening comprehension and has been released in Spanish, French, and English.

## Game Play Description

Each puzzle in the game is comprised of a target sentence, a description sentence, and game sprites. As the player moves around the sprites in the game, the description sentence changes to match what has been created. For instance, if you put a cat next to a table (see Figure 1), the description sentence will tell you (in the target language), “The cat is next to the table,” and if you move her to the top of the table, the description will update to, “The cat is on top of the table.” The objective is to visually match the meaning of the target sentence, at which point the description sentence and the target sentence will match.

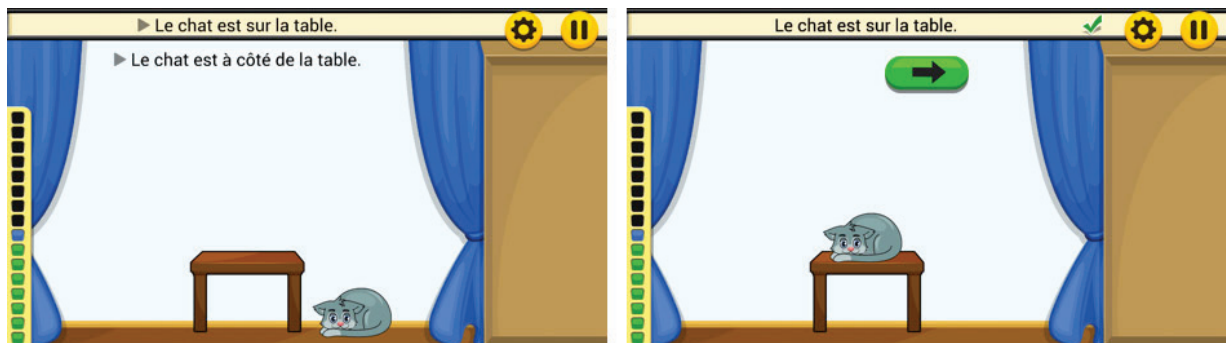


Figure 1: An example of moving game sprites to solve the puzzle.

The changes in the description sentence allow the player to explore and play with their target language. This instant feedback enables players to deconstruct meaning and allows the game to remove the layer of obstruction created by translation based learning methods.

Stagecraft has three modes (see Figure 2). In the first players explore how words, images, sounds, and grammar all fit together. Only after completing this mode can the player unlock the next two. The second is a reading comprehension challenge in which players are on the clock and docked for incorrect attempts at solving the puzzle. The final is a listening challenge in which players have to solve each puzzle by listening to the target sentence only.

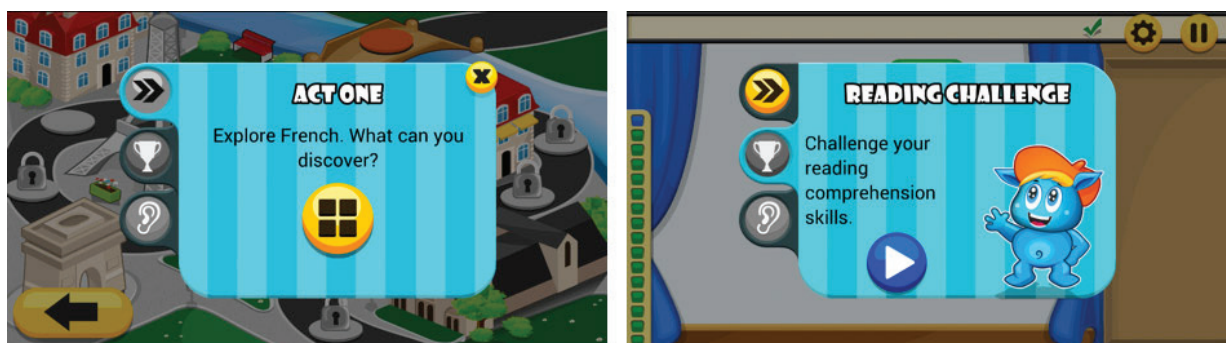


Figure 2: The three modes for the game, accessed through the three tabs.

## Level Design and Emergent Complexity

Our game introduces over 200 words in various semantic contexts. Players progress in a way that ensures progression and learning without the player being able to guess what comes next. Additionally, by staging scenes at various intervals, previously learned words are reinforced. Puzzles become increasingly complex (see Figure 3) throughout the game. The number of possible descriptive sentences that can be invented before the completion of the puzzle increases dramatically as the target sentences become more complex. In total, our game produces tens of thousands of different sentences because of this emergent complexity.



Figure 3: Levels of increased semantic complexity.