

Learning Subject-Verb Agreement in English: An Archaeological Adventure

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Abstract: With a development team of five people (one producer/designer, two engineers, and two artists) working for ~6 months, we created an English language learning game for Android tablets. The game, named *Unearthed*, is designed to help 6th graders learn subject-verb agreement. The game has an archaeological theme and players reconstruct broken bones to form grammatically correct, though sometimes silly, sentences. As players match bones, they increase in level and unlock harder sentence constructions, like subjects with a compound OR. Also, players may periodically trigger one of three bonus games, which are designed to reinforce the educational concepts while providing a diversity of gameplay experiences. To ensure that very quick guessing isn't the optimal strategy, players earn a streak bonus for each correct answer in a row. The game is completed and, as of January 2012, is being pilot tested in some New York public schools.

Overview

The primary scene of the game takes place at an archaeological dig site with a top-down view (see Figure 1). Players touch-and-drag, touch-touch, or multi-touch bones to form grammatically correct sentences. At beginning levels, icons above the bones provide a hint about the grammar of that half sentence. Puzzle pieces with one prong represent singular nouns and verbs, and puzzle pieces with two prongs represent plural nouns and verbs. When the player makes a correct match, the pieces slide together satisfyingly. When the player makes an incorrect match, the pieces attempt to slide together and obviously fail to mesh.

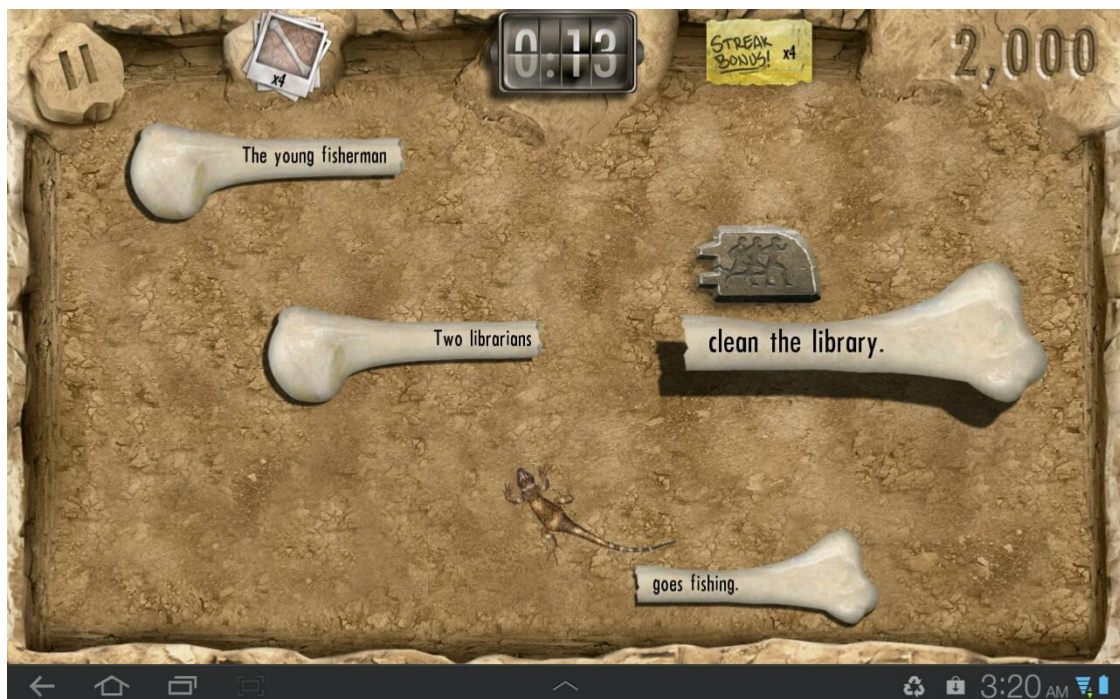


Figure 1: Sample screenshot of *Unearthed*

When a player touches the lizard that crawls around the playfield, a random minigame begins. In one minigame, the player must fill in a grammatically correct word from a selection of words floating in a water trough (see Figure 2). In another minigame, the player must choose between two words and pick the grammatically correct word to swap into the existing sentence. In a third minigame earned by collecting several artifacts that appear on the playfield, the player creates a mad-lib style sentence from scratch.

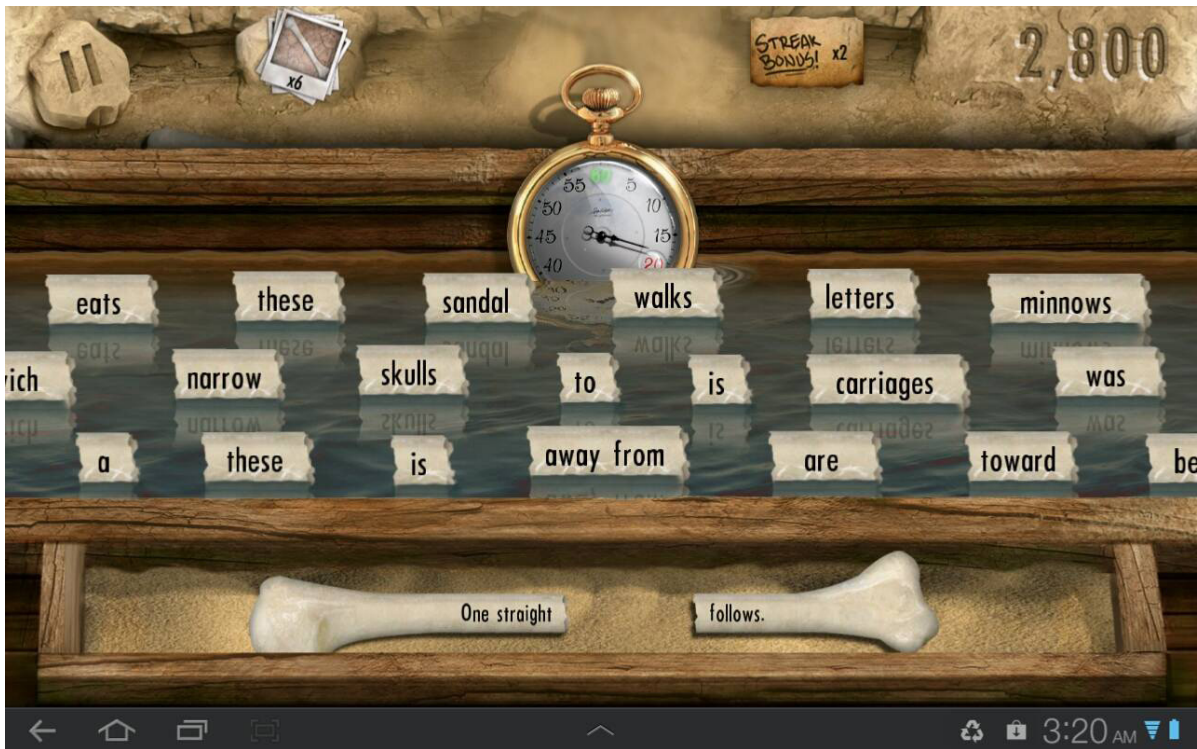


Figure 2: A screenshot of a minigame in *Unerthed*

At the end of each 60 second game, the game summary screen shows the player's score, lifetime progress, a review of the sentences formed that game, and tips (see Figure 3). To discourage mindless guessing, the game penalizes incorrect answers and rewards correct answers with a progressive streak bonus. For example, in 10 seconds, a player could guess quickly 20 times, making ~10 matches and ~10 mistakes, netting ~0 points. In the same 10 seconds, a player could think carefully, making ~4 correct answers with no mistakes, earning a much higher score.

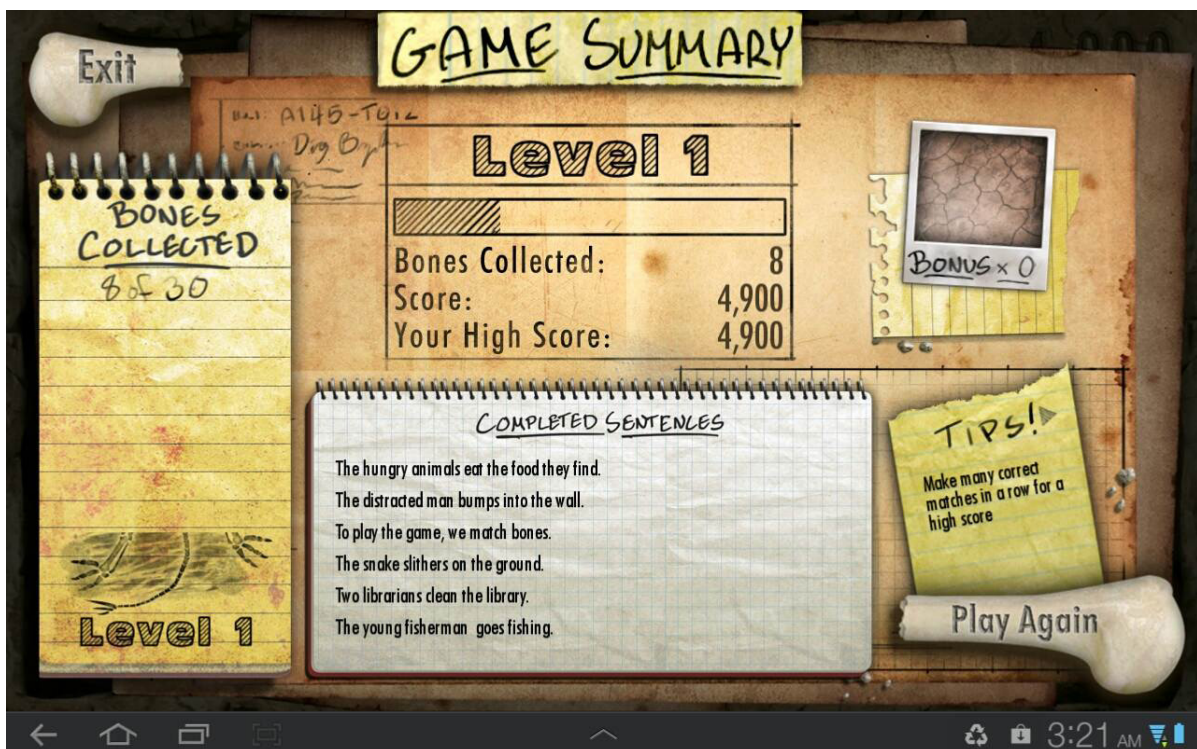


Figure 3: Game Summary screen with score, progress, completed sentences, and tips