Learning English with FLAX Apps

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ABSTRACT

The rise of Mobile Assisted Language Learning has brought a new dimension and dynamic into language classes. Game-like language learning apps have become a particularly effective way to promote self-learning outside classroom to young learners. This paper describes a system called FLAX that allows teachers to use their own material to build digital library collections that can then be used to create a variety of web and mobile based language games like Hangman, Scrambled Sentences, Split Sentences, Word Guessing, and Punctuation and Capitalization. These games can be easily downloaded on Android handheld systems such as phones and tablets, and are automatically updated whenever new materials are added by teachers through a web-based interface on the FLAX server.

Keywords: Mobile language learning, Computer Assisted language learning, language learning games

1. INTRODUCTION

With their superior portability and wide accessibility among young learners, the use of mobile devices in education is growing in popularity. Mobile Assisted Language Learning (MALL) focuses on the "continuity or spontaneity of access and interaction across different contexts of use" (Kukulska-Hulme, 2009; Begum 2011). The great advantage of mobile learning is that it enables learners to create personalised learning environment by choosing where and when to learn (Tayebinik, 2012). The use of mobile devices in the design and implementation of language activities has also added significant value to what teachers can now offer to students in terms of challenging and productive interactive language games (Wu *et al*., 2012).

This paper presents an explanation of a system (FLAX) that builds digital library collections from the materials teachers select and prepare for their students and provides for automatic generation of web and mobile based language games. Teachers are provided with options to set particular parameters when designing the games. In such a way, the games are controlled by the teacher both in terms of content, form, and level of difficulty or complexity. Using teacher provided material to generate games means that learners are exposed to and can manipulate language items that are not only authentic but also related to their current study, an important consideration in language learning (Gardner, 2008; McAlpine & Myles, 2003).

The language items are also continually being refreshed whenever materials have been updated or added by teachers.

We focus on the description of the Scrambled Sentence game, including its mobile interface and teacher's design interface, and briefly discuss other four games − **Hangman, Split Sentences, Word Guessing**, and **Punctuation and Capitalization**. We use a collection of articles named *Read in Easy English* built by a language teacher at Waikato Institute of Technology in New Zealand as an example to demonstrate the games and functionality the FLAX system provides. This particular collection contains 18 short articles and more than 100 web-based language games. The collection and the games created based on the articles in the collection have been used by the teacher in teaching for more than a year.

2. FLAX LANGUAGE LEARNING APPS

Language learners compose text from words; they build words into sentences, and sentences into paragraphs. To do this they need knowledge of words, grammar, text structure and punctuation. We have designed and implemented five language learning games on words, sentences and paragraphs, which can be played on desktop computers or Android mobile devices.

Hangman is a version of the classic paper and pencil word guessing game, designed to train players' spelling skills. The task is to guess an unknown word, presented as a row of dashes representing each letter of the word. The player suggests one letter at a time by clicking on the provided 26 letter buttons. **Split Sentences** splits each sentence in half, and the parts of sentences are placed on the left and right columns. Students must match the second half of each sentence to its first half. Split Sentences aims to train students to read in chunks. Chunk reading can increase reading speed and lead to better comprehension. **Word Guessing** is similar to "Fill in the blanks" that are widely used for testing knowledge of vocabulary and syntax, as well as ability in reading comprehension. Words are removed from an article and students must put them back. The target words can be content words, such as nouns, verbs, adjectives and adverbs, or function words, such as prepositions, pronouns, conjunctions and auxiliaries. **Punctuation and Capitalization** asks students to place punctuation marks in the appropriate positions, and to put capital letters on words that need them. In order to do this, students need to understand the flow of text and identify individual sentences.

In a **Scrambled Sentence** game, the words of a sentence are rearranged and students must put them into their original order. It enhances students' ability to group words into meaningful

chunks, which is crucial to fluent reading. With practice, students become more adept at grouping words into phrases and sentences. As they put the sentences together, their awareness of both sentence structure and phrase structure improves. They soon learn to identify subjects and predicates, organize words into phrases, link adjectives and adverbs to the words they modify, and use conjunctions to provide cohesive ties.

Figure 1 shows the game screens. The left screen lists available **Scrambled Sentence** exercises in the *Read in Easy English* collection. They are grouped by the teachers based on levels (e.g. Level A, B, and C). The screen on the right shows the first scrambled sentence− *in lives Hamilton. Halima* −created from the article "Back to school". In this case, three words misplaced (the ones not in bold). The preceding or following sentences−*she has three children who go to school*−are given, displayed in a small font, to provide context. Students need to move the words to their correct positions. An encouraging message is displayed when they succeed. Then they can proceed to the next question by flicking the screen to the left, or, restart the game using the third button at the bottom on their mobile device.
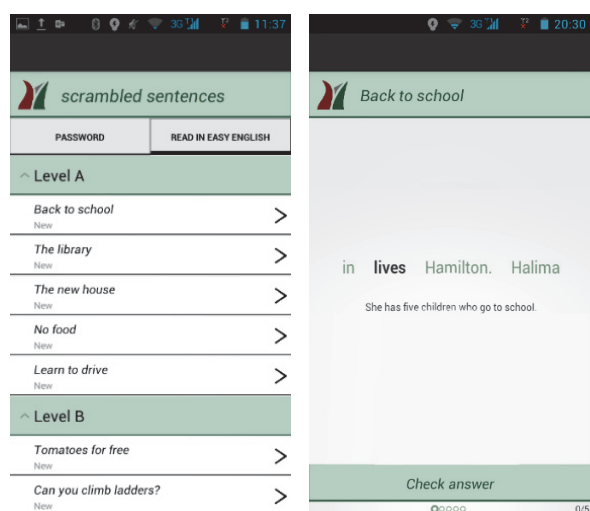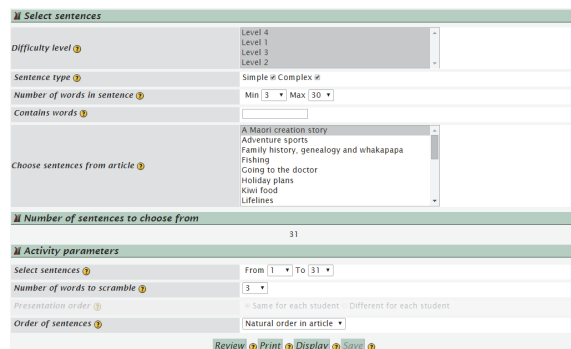

Figure 1 Scrambled Sentence game interface

3. CREATING GAMES FOR FLAX APPS

All games described above are created automatically under the guidance of a designer, usually the teacher, through a web interface shown in Figure 2. FLAX allows registered teachers to create both web and mobile based games using the same interface. The interface varies slightly from one game to another depending on the parameters that can be manipulated.

Creating a game can be simply accepting all the defaults, then clicking Save, or clicking Display to play the game if you want to see what it's like before making it available to students.

However, there are many options that can be specified using this form.

In the Select Sentences section, teachers can (1) specify from which document or documents the sentences are taken, by either naming the articles or selecting a difficulty level, (2) choose Simple (single clause) or Complex (multi-clause) sentences, (3) specify how many words the sentences should contain (from 3 to 30 words by default), and (4) even give a word or words that the target sentences must contain. Click on any of the yellow question-mark icons to learn more about each option.

Figure 2 Teacher's interface for Scrambled Sentence game

The *Number of sentences to choose from*, halfway down the form, changes dynamically to show how many sentences match the restrictions you have chosen.

Under *Activity parameters*, teachers can (1) specify which sentences should be selected for the game, (2) also specify the number of words to scramble, and whether the sentence order should be fixed, or differ for each student. If they are presented in a fixed order, teachers can specify whether it should be the natural order in the article, shortest or longest first, or random.

When *Review* at the bottom of the form is clicked, the sentences proposed for the game will appear below. If some are unsuitable, deselect them using the checkbox beside them.

Once a game is created and saved, it can be downloaded onto the app.

4. CONCLUSION

We have described a particular system, FLAX, which automatically generates five mobile language games, with many parameters for teacher manipulation. We are currently evaluating these mobile apps with language teachers at Waikato Institute of Technology and look forward to considering this as potential facilities of language learning. We will also continue with current developments exploring how best to provide learners with opportunities to interact with their peers or teachers through mobile communication tools such SMS messaging.

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