MALL with WordBricks – building correct sentences brick by brick

Marina Purgina[1], Maxim Mozgovoy[2], Monica Ward[3]

Abstract

MALL use is increasing and it is good to be able to provide language learners with new resources to enhance their language learning experience. One such resource is WordBricks, a non-commercial, educational app that facilitates the learning and reinforcement of grammar rules. It uses bricks and connectors of different colours and shapes for different parts of speech, and the learner can (only) form grammatically correct sentences. Learners can choose to form sentences from examples or create their own original sentences. Originally WordBricks was designed for personalised, individual, out-of-classroom learning for English language learners. This paper provides an overview of research on the original WordBricks app for English. A version of WordBricks has been developed for Irish and adapted for use in the primary school setting. There are very few interactive resources available for Irish and the Irish WordBricks app is a new l addition to the Irish CALL cannon.This paper reports on how the Irish WordBricks app was used by teachers and students in a primary school and the feedback received on the app.

Keywords: MALL, WordBricks, mobile app, Irish, grammar

1.   Introduction

Mobile Assisted Language Learning (MALL) is one of the newer aspects of CALL and may become more prevalent (Stockwell, 2010) and normalised in the future. WordBricks (Mozgovoy and Efimov 2013) is a MALL resource that enables learners to construct grammatically correct sentences. Learners have to join the appropriate words together to make a sentence. WordBricks leverages visual learning techniques in order to facilitate the language learning process. Language learners can use WordBricks to reinforce topics covered in a traditional classroom, while independent learners can use the WordBricks app to check their own understanding of grammar. WordBricks can be integrated into a traditional classroom setting as it enables teachers to make the in-class learning experience more interactive and engaging for learners.

The WordBricks engine/template is language independent and appeals to learners of all ages. It was originally designed as a MALL app for adult learners who may wish to revisit a previously learnt language or who are learning a new one. It is appropriate for young learners as the construction of sentences, using blocks of different colours and shapes (corresponding to different parts of speech), appeals to them and is akin to constructing items using Lego or light-touch programming with the visual programming environment Scratch.

This paper shows how WordBricks has been used for two different languages (English and Irish) in two different contexts (university and primary school) and provides feedback on the use of this visual sentence construction tool from teachers and learners.

2.   Method

2.1.   Overview of WordBricks

The WordBricks system is based on a traditional approach to grammar learning, using a system of rules to combine words into sentences. Learners can test themselves with a set of pre-defined exercises, but they

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[1] University of Aizu, Aizu, Japan; mapurgina@gmail.com

[2] University of Aizu, Aizu, Japan; mozgovoy@u-aizu.ac.jp

[3] Dublin City University, Dublin, Ireland; monica.ward@dcu.ie

do not have the opportunity to try out different words and rules. WordBricks enables learners to construct grammatically correct sentences, and it can provide feedback on which rules have been violated if the learner tries to construct an incorrect sentence. WordBricks is influenced by the visual programming language Scratch (Resnick et al., 2009). WordBricks uses shaped blocks and connectors which the learner can combine into sentences.

2.2. Overview of English Word Bricks

The first WordBricks app was for English. The target users were L2 English language learners. The words of a sentence are jumbled up and the bricks have different colours and shapes based on their grammatical category (see Figure 1).

Figure1. Screenshot of the English WordBricks
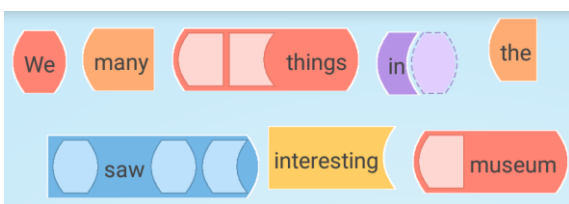
An experimental study using the English WordBricks app was carried out with computer science students in Japan (n=21) on an elective English grammar course (Park et al., 2016). The control group (G1) studied two grammar topics using a traditional textbook (Murphy, 2012) and the test group (G2) used WordBricks exclusively to understand the rules of English grammar by experimenting and playing with the bricks. The test group (G2) shows a greater improvement for both topics, based on comparing pre-test and post-test results. The control group's (G1) scores increased from 15.18 to 21.0 (out of 30), while the test group's (G2) scores increased from 15.90 to 24.20. A second experimental study showed slightly different results. There were 16 students and in this study the control group's scores improved from 17.13 to 20.70, while the test group had a smaller increase from 17.94 to 20.31 (see Park et al., 2016 for details). Qualitative data was also collected from the students and while some reported their preference for using a book, many of the students reported that they enjoyed using the app for learning.

2.3. Overview of Irish Word Bricks

Irish is a Verb-Subject-Object (VSO) language, which can make sentence construction challenging for students, the vast majority of whom have English as their L1. Sometimes students try to use two verbs at the beginning of a sentence. They also have problems with Irish spellings as the orthography Irish is not very transparent to learners. WordBricks can help to overcome these issues as students can only construct grammatically correct sentences and they do not have to spell words as they are already written on the bricks.

Figure 2: Screenshot of Irish WordBricks
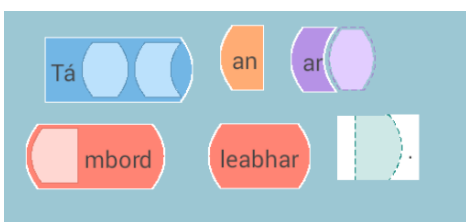
WordBricks was originally intended for use by adults but it can be used by learners of all ages, as it is colourful and has an easy-to-use interface. It was not possible to use a mobile device in the primary school classroom, so an alternative approach was adopted. The classroom laptop was used and the Irish WordBricks app was displayed for all students to see. The teacher had covered the topics in advance and used the Irish WordBricks app as a tool for review. A study was conducted in a (typical) primary school in Ireland, with 5 different classes. There were two cohorts: the first had two classes (C1, C2) of students aged 10-11, and the second had three classes (C3, C4, C5) of students aged 8-9. All classes covered the first three topics, while C2 covered four topics and C1 covered six topics.

The aim of the study was to see if the Irish WordBricks app could be used successfully in the classroom. The feedback from the teachers and the students shows that the app can be used without any major problems. The feedback from cohort 1 indicates that the majority of students said 1) they enjoyed the app, 2) it was easy to use, 3) they thought it helped them to learn Irish and 4) they would like their teacher to use the app again in class. Just over half of the students would like to use the app at home. Further analysis is being carried out on the feedback from cohort 2, but the initial indications are that both the students and the teachers are also positive about the Irish WordBricks app. They have made several useful suggested for future improvements to the app.

3. Discussion

Educational apps must have a pedagogical focus and sometimes the focus is very narrow and the app may not be very practical. In the past, some edutainment apps adopted a 'chocolate covered broccoli' approach, which still exists today (Chen, 2016). Sweetser &Wyeth (2005) note the individual fun factors that contribute to the overall enjoyability of an app. The WordBricks app aims to provide a fun educational app that covers a specific grammar topic. WordBricks apps have been developed for both English and Irish, two languages that have a different word order and different morphological complexity (Irish is a morphologically rich language (Christian Brothers, 1980). One of the benefits of the WordBricks app is that it can be used inside the classroom as well as by learners outside the classroom.

4. Conclusions

MALL is not going to be a silver bullet for language learning as some may assume (Stockwell, 2012). However, MALL does have the potential to enhance the language learning process and this study shows that MALL resources such as WordBricks can be used effectively by learners and also adapted and used in the classroom setting. The key is to adopt a user-centred and collaborative design approach. It is important that the pedagogical motivations are clearly understood and implemented and that the students' needs are at the centre of the design process.

5. Acknowledgements

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