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Concepts and Prospects for Creating OWL Jr.: A Recommendation Report

Introduction

Our task was to conduct an analysis of the Sugar Operating System on XO laptops and to recommend how and where to integrate reading and writing resources into Sugar. These resources could come in the form of OWL Jr., an online writing lab for children. Our focus was on the needs and wants of American children in third and fourth grade. Our findings and recommendations can later be adapted to children of similar age living in other countries and speaking other languages.

Background

We conducted both primary and secondary research to determine the educational needs of third and fourth graders and the best ways for them to attain and retain that information.

Primary Research

An XO was brought to Morgan and Mya, 12 and 7 respectively, in an attempt to expose what desires children have with a personal laptop. Mya found the XO to be captivating and compelling, showing ostensible interest in the ability to explore—pioneer in her own regards—the assortment of games available. When asked what she would use it for, she said both homework and entertainment. Morgan wished it offered more Role Playing Games (RPG), but she would use it for homework as well. Initially the machine provided a brief learning curve, but both of them realized how to navigate the XO within 10 to 15 minutes. Mya enjoyed the XO so much that she expressed precocious interest in purchasing one.

We also sampled children's educational games at a public library. *Reader Rabbit*, *The Cluefinders*, and *Jumpstart* are simple yet effective. These games integrate the material kids need to learn and conceal the lessons in playable and entertaining games.

We conclude that games are one of the most efficient and engaging means of teaching children. Immersing a child in a fantastical world—even on a small scale—where they are positioned to save a princess or complete a noble task while concurrently learning about the nuances of language is a vastly underrated scholastic tool. By drawing the attention of a child to a story line or an interactive reward system instead of the tedium and repetitiousness of writing and reading drills, we can create an innovative learning environment. Such an environment would encourage exploration and interaction outside of the confines of a classroom. Motivating children to engage in educational pursuit on their own time is an extraordinary feat, one that has only recently become plausible.

Secondary Research


To narrow our focus of content needed in XO games, we researched a general curricula for reading and writing in the United States. The following is a list of key concepts taught to third and fourth graders (the curricula overlap considerably):

- The 8 parts of speech (noun, verb, adjective, adverb, conjunction, preposition, interjection, pronoun), articles, helping verbs
- The correct spelling of words


- Suffixes, prefixes, synonyms, antonyms, homonyms, idioms
- Grammar, punctuation, capitalization
- The observation of unnecessary information and incorrect words
- Sentence types and ways to combine them
- Topic sentences, transitions, organization, sequential order, coherency, supporting details, concluding sentences
- Characters, setting, plot, main idea
- The audience for which a text is written, the author's purpose for writing
- Sequential order, fact and opinion, cause and effect, inferences, compare and contrast
- The reading comprehension process of summarizing, predicting, visualizing, questioning, and clarifying
- Process of revising and proofreading

XO laptops already include many games, but none that incorporate the previous material. However, on the Sugar Labs website, we found several applications (created by various developers) that are available for download to Sugar OS. Specifically, these games address spelling, reading, and writing in their most broad applications.


Spelling Games

 **Letters** (by mulawa1) was inspired by the TV show, "Letters and Numbers." This game gives players 8 letters and has them make as long a word as possible. *Letters* contains a dictionary of 42,566 English words, giving children endless possibilities to test and improve their vocabulary.




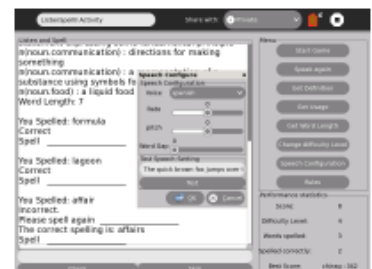
 **GCompris Missing Letter** (by Activity Tea) gives players a word and requires them to fill in the missing letter(s). This activity promotes the growth and use of cognitive functions by teaching words and spelling in a non-traditional way.




 **Falabracman** (by alecu, hectorsanchez) contains a character named Falabracman. Players help this character to learn new words by collecting all of the letters in the correct order, which helps improve their memorization.




 **Listen and Spell** (by Manusheel, Chirag, Assim) helps children to learn and revise word spellings, vocabulary, and pronunciation. It includes an extensive database of words with their usage and definitions categorized according to their difficulty levels. *Listen and Spell* even gives players feedback on the development of their skills, and seeing progress will keep kids motivated to continue learning.




Reading Games

 **Textdungeon** (by Tony Forster) places the player in a dungeon setting and aims to improve literacy and numeracy. There isn't much information available on this game yet, but the idea of a dungeon game (one that involves a character defeating challenges and reaping rewards for his/her triumph) creates a strong premise.




 **GCompris Click On Letter** (by Activity Team) has the child listen to a sound and select the corresponding letter, which will enhance the phonological aspect of language and literacy acquisition.




 **Read ETexts** (by James Simmons) lets children read free e-texts from Project Gutenberg or use *Text to Speech* to have e-texts read to them. This application has over 24,000 titles available for browsing and downloading and will provide all children with access to interesting stories that can spark their interest with reading.




Writing Games

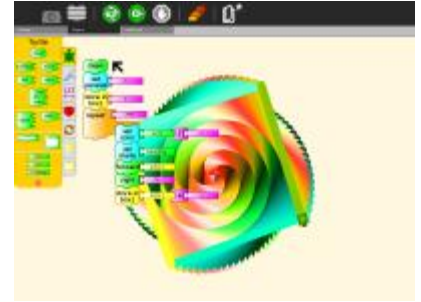
 **Story Builder** (by Morgs, Activity Team) is a graphical story constructor tool for children to drag and drop a variety of characters into a background and create an imaginative scene. It includes simple word-processing capability to encourage and facilitate free-form creative writing and original stories.



 **OOo4Kids** (by Bastien, Activity Team) is an Office suite for creating texts and presentations. This program is fully OpenOffice.org and MS Office compatible. The diversity of the sheets promotes the transfer of knowledge at a very young age. The Microsoft Office suite is one of the most prevalent computer packages in the educational, professional, and recreational spheres of contemporary society, so starting children on them at an early age would be greatly beneficial to their future success.



 **Turtle Blocks 117** (by Walter) is an activity with a Logo-inspired graphical "turtle" that draws colorful art with snap-together visual programming elements. We would like to contact the game developers with the intentions of expanding the purview of the existing game to orient more around our linguistic lessons. We envision a "Writer's Blocks" game (pun intended), where several blocks will appear with different words on them. The blocks can then be manipulated into a variety of structures, encouraging students to explore the basic parts of speech and the composition of sentences.



Though we found multiple applications related to reading and spelling on the Sugar Labs website, there are several important curriculum points that are only partially addressed or entirely omitted. Lessons on grammar, sentence types, introductory audience awareness, and revision are largely omitted from the extant games. Some of them don't readily align with the game formats we've investigated thus far and will, therefore, require creativity when adapting the content to new programs.

OWL Jr.

The OWL Jr. could be a great source for the entire curriculum to be explained in great depth. The Purdue OWL is a current online writing lab written and intended for students at the college level. It contains some material relevant to third and fourth graders and can be a starting point for creating OWL Jr.

We recommend that OWL Jr. resources be created and made available as a searchable offline application on XO laptops, similar to the XO's offline version of Wikipedia. This resource would be the ultimate culmination of everything third- and fourth-grade students would be learning. But students also need opportunities to apply information for reading and writing. Games make learning fun, and children forget they are learning when they are immersed in the ideas of competing and winning. Just as XO laptops provide games to teach children to type and do math, they should also provide games to teach children to read, write, spell, and learn the parts of speech. We further recommend combining OWL Jr. resources with the related games.

These recommendations are broad, and there are several options to make them happen.

Options for Creating OWL Jr.

1. Create an entirely new children's resource from scratch, using the most employed curriculum for third- and fourth-grade classes as our foundation. This would require the following:
 - a. Researching effective ways to teach third- and fourth-graders.
 - b. Simplifying definitions and explanations.
 - c. Incorporating font color changes, pictures, and diagrams to demonstrate concepts.
 - d. Discussing grade-school assignments.

Options for Gaming

1. Modify and include any of the aforementioned reading and writing games already developed for Sugar OS and available on the Sugar Labs website.

2. Develop new games/applications to cover curriculum points not stressed in current games.
 - a. Develop mini-games to be bundled within the OWL Jr. resource.
 - b. Create a broad independent adventure game that incorporates all curricula.
 - c. Include some elements of popular commercial games, such as designing a character/avatar and other RPG elements.
 - d. Include tiered difficulty levels with each game so beginners and advanced learners can both be entertained and educated while advancing their comprehension of language mechanics.
3. Investigate the potentialities of embedding games within our new conceptualizations of OWL Jr. resources. Some activities will correspond better with certain lessons. We will investigate the possibility of configuring our OWL Jr. resource to include links to applications that correspond with their lessons. Conversely, we can include links within the game to access the formal OWL Jr. resource.

Suggestions for Further Development of This Project

The most important aspects of this project are incorporating games and creating OWL Jr. We propose that a new group begin developing content for OWL Jr. while another new group researches games to include all aspects of OWL Jr. This will necessitate close cooperation and communication between both groups while simultaneously and expeditiously fostering the development of both OWL Jr. and the more specific application of OWL Jr. lessons to XO programs.

References

Purdue Online Writing Lab. (2011). Purdue Online Writing Lab (OWL). Retrieved October 18, 2011 from <http://owl.english.purdue.edu/owl/>

Sugar Labs. (2010). Sugar Labs. Retrieved October 18, 2011 from <http://www.sugarlabs.org/>

Internet4Classrooms. (2010). Grade Level Help. Retrieved October 18, 2011 from http://www.internet4classrooms.com/grade_level_help.htm

Time4Learning.com. (2011). Homeschool Curriculum, After School Learning, Summer Use: Preschool, Elementary, & Middle School Students. Retrieved October 18, 2011 from <http://www.time4learning.com/>