Alpha Child Testing

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***Introduction***

The following quick findings are the result of a child test of PenPal, Alpha version A4.

Quick Findings are developed by reviewing the notes taken during the test sessions for general patterns and observations. The order of the comments does not have any significance. A more in-depth analysis, with more discussion and recommendations, will be delivered May 13.

***Findings***

**Major Finding.** There were only two major problems uncovered with this usability evaluation and they are linked. The children were unable to develop and work with the actual user interface model that everything they create, text and pictures, are handled as documents. Specifically, the children’s mental distinction that their words (or documents) and their pictures were different made it difficult for them to adopt the behavior of going to the Word Processor to save their pictures. After being shown how to save a picture, even the most experience computer and word processor users continued to have trouble with this treatment. This is a serious finding and it needs to be given serious attention if the basic usability of this product is to be improved.

Second, even when the children were assisted in saving their pictures, they then have to use “cut and paste” from one document to another to place their picture in their work. Again, even the children who used “cut and paste” easily with text had difficulty applying this notion to put pictures they created into their work. Since UWCC uses a single document design (i.e., only one document can be opened at a single time), this type of transfer process is clumsy at the least and, at the worse, it is an extremely difficult cognitive task, especially for the younger children.

It should be stated that when a child begins writing, then goes to the Picture Place to make a picture for the text currently being created, and then returns to the document, UWCC’s user interface model works fine and as the children expect. However, we cannot assume that work will always be created in this logical order. In fact, children often draw pictures without linking them to any text at all or they draw first and then want to annotate their pictures with words.

**Suggestion.** I’m not sure this will work, but here goes: The original user interface design utilized an *open* Binder for art and sounds where the children could save their art or recorded sound directly into the Binder and access it just like any other art or sound clip. If we create two sub directories when the child signs-in, one for documents and one for pictures, we might be able to “fake” the *open* Binder approach.

Specifically, a “My Stuff” icon would need to be added to the **Binder** Menu options. When the child clicks on it, in either the Word Processor or the Picture Place, they will essentially see the Save and Open dialog box fields, but instead of using the Backpack background, we could use the Binder background. All I/O here would go to and save to the child’s picture subdirectory unless the child specified another path. If possible, the left-hand page of the binder would display the “open” I/O fields and the right-hand side would display the “save” I/O fields. If the art can’t be made to fit both open and save on the binder background, we could add “Open My Stuff” and “Save My Stuff” or stay with “My Stuff”, but go to a two leveled design (top level with buttons to open or save taking child to next level of either open or save), but either of these would be less elegant.

The only potential problem I see occurring is if the child, while in the Word Processor, attempted to save a rich document (text and pictures) using the **Binder** “My Stuff” option. In this case, we should display a message box stating that only pictures can be saved in the Binder and to use the **File**/Backpack menu. This potential confusion will be greatly reduced (over other similar functions in the product under different menu items such as “Make Bigger” under both **Text** and **Graphics**) because the menu options are not the same (“Open” and “Save” under **File** and “My Stuff” under **Binder**) and because the graphical backgrounds are different and therefore provide strong visual clues.

Although this one binder, “My Stuff”, would look and act differently from the others (no tabs on the side or top, no thumbnails, etc.), I feel confident that the children could and would handle it with less confusion than what we saw with the current user interface approach. With this design, the child could create the mental model that their pictures were saved in the Binder and could be obtained from there as well. It does away with the “cut and paste” cognitive load problem because the children can utilize the mental model of the Binder as a container from which they put in and take out—much like the way adults utilize a clipboard model with “cut and paste”.

***Quick Findings***

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| **Finding** | **Discussion and Suggestions** |
| ***Main Menu*** |
| 1. Children used “Writing Ideas” signpost to get to writing idea lands
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| 1. Children quickly figured out how to access major product functions.
 | The Main Menu worked well. |
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| ***Word Processor*** |
| 1. **Navigation.**  Children navigated menus fairly well
 | Several children explicitly expressed that they liked the layout of the menus better than the more traditional pull-downs. Overall, the word processor worked very well for all the children, regardless of their previous, or lack of, experience with other word processors. |
| 1. **Graphics.** Children often went to the “Make Bigger” or “Make Smaller” function under **Text** when they wanted to resize their picture.
 | When the children tried to resize a picture while in the word processor, using the menu option under **Text**, nothing happened and they would assume that it wasn’t working.**Suggestion:** Change text under icons to “Text Bigger”, “Text Smaller”, “Picture Bigger”, and “Picture Smaller”. |
| 1. **Text**. Most of the children, even the advanced users, had trouble selecting sentences. In fact, almost all selected from the end of the sentence to the beginning with great difficulty.
 | This find motor problem complicates the “cut and paste” function. However, we were aware of this difficulty and that is why we included the “Select Sentence” and “Select Paragraph” menu options. |
| 1. **Sound Notes.** None of the children were able to select the sound note, embedded in text, and get it to play.
 | We need to look at this issue more carefully.**Suggestion:**  Padding the sound note with an additional space on each side, so that the “hot spot” is larger, might help. |
| 1. **Alignmen**t. The children used either the tab or space bar on the keyboard to center their text.
 | While one of the children thought that there should be a function in UWCC that centered the text, even he did not see it when he reviewed the “Layout” menu options.**Suggestion:** While the term, “Alignment”, was not known by any of the children, I would leave, as is, to be consistent with other word processors. |
| 1. **Spell Check.** Children didn’t know what to do when the word presented in the first spell check dialog box was spelled correctly.
 | There isn’t a “Skip Word” function in this dialog box like there is in the second box (where suggestions are offered). **Suggestion:** Add “Skip Word” function to this dialog box. |

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| ***Word Processor (cont.)*** |
| 1. **Spell Check.** The spell checker doesn’t work if the child has a picture selected. This caused the child to think that the spell checker was broken.
 | **Suggestion:** If a picture is selected when the child selects “Spell Check”, begin spell checking with the next word after the picture. If this is not possible, start spell checking at the beginning of the document. DO NOT force the child to click in the text somewhere. |
| 1. **Spell Check.** After a word was corrected, several children persisted in typing a word that had just been corrected—even though the dialog box presented a new word.
 | There are three problems here. (1) The dialog box was not placed so that the misspelled word was visible. I assume this is a bug. (2) There is no feedback that a word has been corrected. **Suggestion:** An auditory cue would be useful. (3) The presentation of the target word is not obvious enough. May be due to the fact that an old dialog box was used. We need to review problem with correct dialog box. |
| 1. **Navigation.** Several children attempted to go to the Picture Place to work on a picture in their document, but were unable to because they had not selected the picture.
 | **Suggestion:** When the child uses the Picture Place navigation button in the bottom left of the word processor, and they have not selected a picture, we should provide a dialog box that prompts them to select a picture. This dialog box should also give them the option to “Go to Picture Place” without selecting a picture. |
| 1. **Undo.** The children all clicked on the erasers to activate undo instead of the buttons. When they did try a button, they usually tried “Redo” and often didn’t appear to see the “Undo” button.
 | **Suggestion:** Since those little erasers are so tempting, I would make the two buttons, “Undo” and “Redo” look like erasers and have the 1,2, and 3 just be rounded, little puffy numbers in between the two erasers. (I may have to show this one rather than describe it.) |
| 1. **Read Words.** When the children had a picture selected and then pressed “Read Words”, nothing happened and they assumed that it didn’t work.
 | **Suggestion:** If a picture is selected, treat it as if it were a cursor in the text and begin reading with first word after the picture. If we are going to play the sounds and animations in pictures with “Read Words”, then begin with the picture. If this can’t be done, start reading at the beginning of the document. DO NOT make the child place a cursor in their text. |

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| ***Writing Idea Lands*** |
| 1. All children, even those who had used the product at home, persisted in single-clicking the objects.
 | While those who had learned that this required a double-click, were able to self-correct after single-clicking a few times, the single-click behavior persisted. In fact, two of the four children who used UWCC at home never found out that there were any animations or prompts in this area at all (except through the use of the buttons) because it never occurred to them to double-click. **Suggestion:** Change input so that single-click activated animations in the lands. |
| 1. The children loved this part of the product and it provide ideas even for the non-readers.
 | The children really had lots of positive things to say about this part of the product. They loved the way the lands looked, they liked the animations, and they even commented that they liked the ideas. Preferences for story ideas versus facts showed up which is great. The non-readers exhibited that the animations themselves provided great story ideas. |
| ***Picture Place*** |
| 1. The children were able to paint pictures with relative ease.
 | Overall, the paint place tools worked very well. The child who had used other paint products even commented on how they were able to transfer knowledge from one product to another (although the children didn’t exactly use those words.) |
| 1. Several children were confused by the background dialog box when they wanted a blank piece of paper.
 | This was obviously hampered by the fact that the blank/white background was missing and displayed with a gray box. However, one child commented, “I already have a piece of paper” and pointed to the white area under the dialog box. **Suggestion:** Make the picture area black until a background is placed. |
| 1. Several children pressed the “Cancel” button in the background dialog box and were surprised when they were taken back to the word processor.
 | When the children had not seen any backgrounds they liked, they clicked “Cancel” and expected to just be provided a plain piece of paper.**Suggestion:** Instead of placing the background immediately on a single click, have the child select and then press a button, “Use Background” located in the lower right corner of the dialog box. Children often click on things they like as a reflex. So with this change, the child can change their mind about which background they want, which they often do.  |

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| ***Picture Place (cont.)*** |
| 1. Most of the children did not think there were more than the six backgrounds displayed.
 | The arrows around the “Cancel” button are confusing. **Suggestion:** Place the arrows directly under the backgrounds with the left arrow placed left justified and the right arrow placed right justified. The point here is to visually cluster the arrows with the background choices. If this doesn’t work, an alternative is to place the text “More Backgrounds” (not a button) between the two arrows so that the arrows’ function is more obvious. |
| 1. Several of the more advanced computer users tried to resize their pictures by dragging or pushing the bounding box.
 | When asked specifically which method they preferred, they all said that the UWCC button method was preferred. Although some control is removed from the child (exact picture size), they don’t really have a need for such precision. |
| 1. Once they placed a sound in their picture, the children did not know where it was.
 | The build we were using let the child place a sound anywhere. I think the intent was to only allow sounds on stickers. With either approach, we need to provide a visible feedback cue for the child that there is a sound attached..**Suggestion:** A slow, small, “twinkle/blink” effect would be nice rather than a more permanent symbol. It would add to the “magical” feel that the children have when their art has sound/music embedded. |
| 1. The children were irritated when the mini-binder contents did not match with their expectations.
 | We should revisit our plan to provide stickers via the mini-binder. Originally, we designed an interface where the child could select categories in the mini-binder, similar to most of our competition. When that feature was dropped, we decided that we would do a “best guess” of what stickers went with a specific background. From observing the children, I’m not sure we should attempt that since what they want does not necessarily pertain to adult logic. In addition, none of them minded using the Binder to place their stickers. |
| ***Binder*** |
| 1. While the children did not initially know what the **Binders** feature was, once they used it once or twice, they had no trouble with it.
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| 1. Children used both side and top tabs easily, but the top tabs scrolled too slowly.
 | The current scrolling of categories is done by shifting category tabs one position to the left or right.**Suggestion**: Shift categories in groups of three. |
| ***Binder (cont.)*** |
| 1. Children were using “Find” function and expecting it to search across all binders.
 | **Suggestion:** Make the “Find” function “universal” and not binder specific. |
| 1. Children were assuming that specific clips they were looking for did not exist when they misspelled words or used phrases that did not match keywords in the “Find” feature.
 | I’m concerned about providing this feature due to the large number of missed hits I observed. We’ll need to look carefully at the trade-offs between the benefits and the costs. It may make sense to remove this function. |
| 1. All children wanted to preview the sounds in the Binder.
 | **Suggestion:** Could we place a “Play Sounds” button below the preview area on the left-hand side of the Binder which would play the selected sound? |
| 1. The children were surprised when the Binder didn’t open up where they had last left it.
 | Often the children wanted to place several pictures from the same category. Having to navigate to that place each time was irritating. |
| ***Red Notepad*** |
| 1. Children did not know how to move the Red Notepad and, after trying, they did not figure it out.
 | These children just assumed that it could not be moved. We need to make the coils look more like something to be used to move the notepad. I would hate to use text on this graphic, but it may be necessary. |
| ***Penny*** |
| 1. Most children who used UWCC at home before coming in mentioned that Penny talked too much at the beginning.
 | This is a bug and is being addressed by providing the user with dialog boxes to select what they want to hear. |
| 1. Children did access Penny, but it was always for help with the product.
 | I feel this is happening due to the children’s previous experience with help characters in competitive products who DO provide help on the product. The good news is that they find out what Penny does deliver. The bad news is that they don’t get what they initially wanted and often are left frustrated and feeling that Penny didn’t deliver.One child that mentioned Penny spoke too much in the beginning, commented, however, several times that the information in Penny’s speech about special features in the product was very useful.**Suggestion:** If possible, have Penny provide “NUMs” (New User Messages) in each area. Specifically, for each major module, have Penny briefly describe what can be done there and any other special features we want to highlight for the use. |

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| ***Penny (cont.)*** |
| 1. The children did not access Penny for writing help. When they were asked to do so and did not find Penny’s prompts related to their problem or interesting, they did not choose to “ask” for any other prompts.
 | It’s not possible to determine if the children would go for a more appropriate prompts if the delivery mechanism worked different. Specifically, the method for getting more help is to cancel Penny, and then begin the process all over again, a rather tedious process.**Suggestion:** Add a “More Ideas” button. It might result in a greater chance of the children attempting to access more of Penny’s prompts. |
| 1. When Penny’s speech crosses from one .WAV file to the next, it sounds rushed and the rhythm is noticeably different than the speech spoken from within a file.
 | Adjust the timing to add a little more delay between the end of one Penny. WAV file and the next. |
| ***Dialog Boxes*** |
| 1. Several of the children were having difficulty processing what the dialog boxes were communicating.
 | For example, in the Spell Check box, several did not really process the text “May Not be Spelled Correctly” and the word that followed.**Suggestion:** Adding a few additional words, to make the phrase complete and explicit would help., e.g., “This Word May Not be Spelled Correctly” |