Literacy and the Big Picture: Reading, Writing, and Storytelling
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Why:

The development of literacy has been shown to be a key component of early childhood education. Keith Stanovich's research over the past three decades is clear on the subject: early reading success leads to subsequent educational successes, while delays or difficulties that are not remedied in the early grades point to lifelong difficulties with the acquisition of other cognitive skills. An initial literacy gap leads to a broader cognitive skill gap that only gets worse over time. The ideal time to develop literacy skills is in early childhood education; unfortunately, about 25% of all children in the USA do not participate in any form of preschool education, and many of the children who do participate receive mediocre or outdated literacy instruction. A well-designed iPad flow for literacy can be of great use to a teacher or parent working with young children, and help shape practices to reflect modern research and comprehensive approaches.

How:

A common error in early literacy instruction is to focus solely on phonics and related topics, at the expense of "bigger picture" reading, and the production of written language as storytelling by children. Phonics can rapidly develop the capacity for reading autonomy - but when they become the sole focus of the work, they can also cause the learner to become both bored and uninterested in reading. Additionally, good literacy instruction helps children develop a sense of the different purposes and corresponding forms that texts might take. Much of the best research into comprehensive literacy instruction, such as that pioneered by Emilia Ferreiro, emphasizes purposeful storytelling as a central feature of the literacy development process, with children as both the recipients and creators of progressively more complex narratives. It is this latter approach that will be highlighted in this flow.

Flow Notes:

As will be seen in the diagram, not all steps of this flow need to follow sequentially - in fact, many of them benefit from being carried out in parallel. This is indicated with double-headed arrows in the diagram. Sequential notation will be retained elsewhere for the sake of clarity.
Flow Steps:
Step 1: Playing with Letters, Playing with Pictures

As a first step, preliterate children can enter the world of letters and the related world of iconic representation through play and storytelling. This type of engagement is one of the main reasons that magnetic boards have remained a staple in early childhood education for many years. The digital counterpart is no less valuable in providing the infrastructure for this key step.

![Image](image.png)

App Used: **ABC Magnetic Land**

App Notes: the app would be strongly enhanced by a built-in snapshot option that did not include the interface elements.

SAMR Level: S
Step 2: The Pleasure of the Text

Good readers start out by having engaging, beautiful stories read to them - the more, the better. Illustrations that support and complement the text without overwhelming it are an important component of the best storybooks. As children progress in their development of literacy, these stories can become the basis for their own independent reading, both directly and indirectly by providing elements that they can remix in their storytelling.

“WAS IT THE BONE?!” Rocket hollered. Suddenly he was rushing to the tree.

“WELL, WAS IT?”

App Used: How Rocket Learned to Read

App Notes: this app is an excellent exemplar of how to use the iPad as a platform for illustrated stories - the carefully chosen multimedia elements build upon the illustrations in much the same way that the illustrations build upon the text, providing nuance and additional depth to the story.

SAMR Level: S
Step 3: The Text, Atomized

As children learn to read, they need to be able to engage with the written word as a discrete element within sentences and stories. Apps that allow them to tap on an illustration and see its textual counterpart highlighted and pronounced, and where tapping on a word pronounces it, allow for this type of engagement to develop as independent interactive exploration.

App used: *Dr. Seuss's ABC*

App Notes: the Dr. Seuss apps achieve a perfect balance here - the multimedia elements are fun and entertaining, but always reenforce the meaning of the text.

SAMR Level: A
Step 4: The Phonic Domain

The atomic exploration outlined in Step 3 extends crucially to the letter-by-letter phonic domain. This exploration needs particularly strong support in languages such as English, where the distance between the name of a letter and its pronunciation in the context of the spelling of a particular word can be considerable and variable.

App Used: Montessori Crosswords

App Notes: the playful aspects of this app turn what can be an unenjoyable chore for most children into a fun game. It is important to note that the app succeeds because it is not based upon a drill-and-kill approach: rather, it encourages exploration and experimentation as the basis for development. In particular, it provides subtle clues that allow learners to figure out for themselves some of the trickier rules of spelling and pronunciation, instead of instilling them by rote. Equally important, it is not punitive in how it provides correction for errors.

SAMR Level: A
Step 5: Producing Letters

An important aspect of literacy mastery is for children to take ownership of what they have learned by producing the building blocks - letters - independently. This requires practice - lots of it - but there's no reason this practice has to be unenjoyable or boring.

App Used: LetterSchool

App Notes: an exemplary app - it thus far stands alone among the Montessori-based apps in having fully incorporated and expanded Maria Montessori's research on the topic. The multimedia elements provide both clear direction and reward, and are particularly effective at replacing the tactile feedback of traditional physical Montessori methods with dynamic visual and auditive feedback. While the app enforces some fairly strict letter stroke construction guidelines, it never does so punitively, and helpful hinting feedback always intervenes early enough to keep children from becoming frustrated, but not so early as to discourage fully independent letter construction.

SAMR Level: A
Step 6: Rebuilding from Phonics

Along with the atomization process described in Steps 3 and 4, children need to be able to rebuild the components into full texts. Providing some scaffolding at this stage, by asking learners to rebuild pre-constructed stories, is an excellent way to begin this process.

Apps Used: *Bob Books #1*

App Notes: while this app does an adequate job here, it would be nice to see more apps with a broader and richer range of approaches undertake this task. In particular, it should be noted that the Bob Books run into some problems by emphasizing aspects of letter capitalization that are not appropriate for its target audience.

**SAMR Level:** A
Step 7: Producing Text

The atomic components now need to be rebuilt into autonomous texts. In traditional settings, children only occasionally receive immediate interactive feedback on their production of text, and more typically receive feedback as part of a delayed editing cycle. This can lead to frustrating and slow learning cycles, where a child who makes a mistake does not receive the information they need to correct it at the time and in the fashion that would best allow them to make use of it. The iPad can help here, by providing a subset of the necessary feedback in interactive and exploratory fashion: Did the word I wrote spell what I thought it did? Did I write a complete sentence that makes sense?

App Used: [Word Wizard](#)

App Notes: this app does an excellent job in allowing children to build words and sentences that leverage their understanding gained in prior steps - it is much more than an overgrown Speak 'n Spell. In particular, the gentle differential highlighting of misspelled words allows children to remain focused on the primary task of producing text, while alerting them to the fact that there is something they might want to correct. A nice addition would be to allow children to copy the text they create, so as to use it in other apps, as in Step 8 below.

SAMR Level: M
Step 8: The Young Storyteller

Children need to become full-fledged producers of stories - the more, the better. A teacher or parent can assist with the process in the early stages, but the sooner the child can create stories fully autonomously, the better. An app that allows even the youngest children to merge text, image, and voice (spoken or synthesized) easily and attractively is what is called for here - there is no better reward for a child than to see their story take the form of the familiar picture books that they love.

App Used: Pictello

App Notes: Pictello was developed specifically so that even non-literate children could create and share stories, and its simplicity and ease of use make it ideal for young storytellers. The images to be used here can be sourced from Magnetic Land screenshots (see Step 1), or from any other drawing or photo app. The sharing and export capabilities are also particularly valuable in encouraging the development of storytelling as a shared social practice among children.

SAMR Level: R
Step 9: The Interactive Storyteller

In Steps 2 & 3 children were introduced to picture books where interactive multimedia elements expanded and enhanced the world of the printed picture book - it's only logical that they would want to take their own stories into this domain.

**App Used:** Demibooks Composer

**App Notes:** the app interface is a bit too complex for young children to handle, but perfectly reasonable for a teacher or parent that would like to create new interactive media books for children to read, or would like to work together with a child to create such a book. As children grow up, they can gain progressively greater autonomy and complexity in creating their own interactive stories.

**SAMR Level:** R