Book reading protocols for comparing children with typical versus impaired language

(by Kathrin Rees)

The general objective of one of our study components was to describe typically developing preschoolers (TD group) and preschoolers with language impairments (LI pre group) on their co-reading of a wordless print book and an interactive e-book. *Good Night, Gorilla* (Rathmann, 1994) is the suspenseful story of a gorilla remaining unnoticed by the zookeeper as he frees the other zoo animals from their cages in search of a more comfortable place for their good night's sleep. This wordless picture book requires its readers to create their own oral narrative assisted by a set of expressive illustrations, over and above a simple sentence-structure (*Good night, X.*) that reoccurs in variations. *Caillou: What's that funny Noise?* (TribalNova, 2014b) was presented as an e-book for the iPad. The story's plot is about a little boy's nighttime fears given some unidentifiable noise in his room, and his parents' various attempts to appease him, until the actual source of the noise is uncovered surprisingly. The four pillar profile-analysis (Hirsh-Pasek et al., 2015) can be employed to describe the e-book as follows: (1) joint reading is encouraged by a prompt bar featuring story-related questions and comments on every screen, thus supporting *social interaction* among readers; (2) *meaningful learning* is promoted by narrative that is closely related to a child's personal experiences; (3) *active, minds-on learning* is accommodated by the provision of "living words" in the text that, on touch, trigger linked animations between the letters of the word and the main illustration, creating a meaningful connection between surface and content characteristics of a word; and (4) hotspots serve to sustain reader *engagement*.

In the main phase of the study, children with LI were observed while co-reading three different books in a fixed order, once before (LI pre) and once after (LI post) the parents had undergone training in dialogic reading. The primary goal consisted in evaluating in how far beneficial reading strategies parents had practiced using print books would generalize to electronic books. Recordings always began with a wordless picture book, followed by a traditional picture book with text, and an interactive e-book.

Book titles shared at time one were (a) *Good Night, Gorilla* (Rathmann, 1994); (b) *Caillou: Show And Tell* (Johanson, 2012); and (c) *Caillou: What's That Funny Noise?* (TribalNova, 2014b). At test time two, the WL book category was exemplified by the title *AH HA!* (Mack, 2013). This time the presentation format of the Caillou stories that dyads already were familiar with from test time one was reversed. They hence were presented with *Caillou: What's That Funny Noise*? (Johanson, 2009) in print, finally the e-book app of *Caillou: Show And Tell* (TribalNova, 2014a). This crosswise arrangement allowed us to evaluate a potential impact of the order of presentation (traditional first vs. electronic first) of stories. Alongside, we were interested in how familiarity with the contents of both stories and the specific e-book design would influence parent-child behavior at the second testing. Titles from the wordless picture book genre mainly were chosen due to their reduced linguistic demands, making them suited as door openers for children less motivated by being read to. At the same time these offer an opportunity for children to take a share in oral story telling.

In retrospect, adding a third book from the same technology category (e.g., books 2 and 3 with the TD group both were "interactive e-books") or presented in the same way (e.g., books 1 and 2 with the LI group both were "print books") proved of value, since it deterred us from making gross generalizations about the larger e-book or print book category. Meticulous book analyses proved indispensable for identifying book extracts that were compatible on as many aspects as possible in order to create a basis for comparisons.

Hirsh-Pasek, K., Zosh, J. M., Golinkoff, R. M., Gray, J. H., Robb, M. B., & Kaufman, J. (2015). Putting Education in "Educational" Apps Lessons From the Science of Learning. *Psychological Science in the Public Interest, 16*(1), 3-34.

Johanson, M.S. (2009). *Caillou: What's That Funny Noise?* Montreal: Chouette publishing.

Johanson, M.S. (2012). *Caillou: Show And Tell*. Montreal: Chouette publishing.

Mack, J. (2013). *AHHA!* San Francisco: Chronicle Books.

Rathmann, P. (1994). *Good Night, Gorilla*. London, UK: Penguin Books.

TribalNova. (2014a). *Caillou: Show And Tell*

TribalNova. (2014b). *Caillou: What's That Funny Noise?*