Children's Reading and Writing on Screen: Final WG3 DigiLitEY Meeting

4th February, 2019 in Stavanger, Norway.

This Think Tank meeting brought together representatives from Norway, Sweden, UK, Netherlands, Germany and Ireland who work as researchers, children's app producers, publishers, literacy charity representatives, illustrators and e-book developers. The group discussed the state of art in the research and practice concerning young children's reading on screen across Europe and issued this statement:

We are concerned that the recent negative press about children's use of digital media side-lines the positive role many digital books play in children's lives. In particular, we highlight the significant potential of digital books to present stories in multiple languages, support children's (co)authorship and support children's story-immersion and story-enjoyment.

Our observations show that children who are good readers can flexibly engage with diverse formats and focus on the narrative, not the form it appears in.

Experiments show that even small changes in design can have significantly different effects on children's narrative comprehension. Enhancements that are not aligned with the narrative interfere with the cognitive capacity while content that is aligned with the narrative can enhance understanding.

Features (zooming in and highlighting specific features that aid understanding of the story) and interactivity (actions-promoting) support children's story comprehension and vocabulary development.

Our work revealed multimedia features in eBooks which make literary narratives better accessible for young children, as compared to print books. In addition to animations that guide children's visual attention through an illustration in a way that visual information matches the narrative, there is strong evidence for positive effects of interactive features promoting children's projection of themselves in the story characters' situation, thus deepening story comprehension.

In addition, pauses in text and quiet spaces in narration are important for slowing down children's immersion in the story and ensuring dialogue with others and self-reflection.

The approach to digitizing picture books that we used has proven to be particularly effective with easily distractible children, who are the most problematic readers.

The following publications illustrate these findings:

Kucirkova, N. (2017). An integrative framework for studying, designing and conceptualising interactivity in children's digital books. Br. Educ. Res. J. 43, 1168–1185. doi: 10.1002/berj.3317

Kumschick, Paciga, K. A. (2014). Their teachers can't be an app: Preschoolers' listening comprehension of digital storybooks. *Journal of Early Childhood Literacy,* 1–37.

Sargeant, B. (2015). What is in an ebook? What is a book app? And why should we care? An analysis of contemporary digital picture books. *Children's Literature in Education, 46*, 454-466.

Sarı, B., Asûde Başal, H., Takacs, Z. K., & Bus, A.G. (2019). A randomized controlled trial to test efficacy of digital enhancements of storybooks in support of narrative comprehension and word learning. *Journal of Experimental Child Psychology, 179*, 212-226.

Other qualities of best practice design:

All active hotspots on a screen need to be indicated with a button/ clear graphic.

All multimedia and interactive features should be offered as optional, with the possibility to switch on/off.

The quality of narration is as important as quality of images or text and should be developed with allocated budget and professional insight.

Platform-agnostic apps (such as Web Apps) are free from technical and commercial constraints imposed by App stores and offer greater potential for innovative design and privacy of personal data.

New Books Project:

The commercially available eBooks do not show these features and we therefore need new initiatives to make such eBooks available for young children and test their effects. One of the promising initiatives is the *New Books* project, a collaboration between an app developing studio and researchers. The project's aim is creating a set of 25 innovative eBooks that will be made available for all partners.

App developer, *Het Woeste Woud*, will develop five innovative eBooks in collaboration with each partner-researcher:

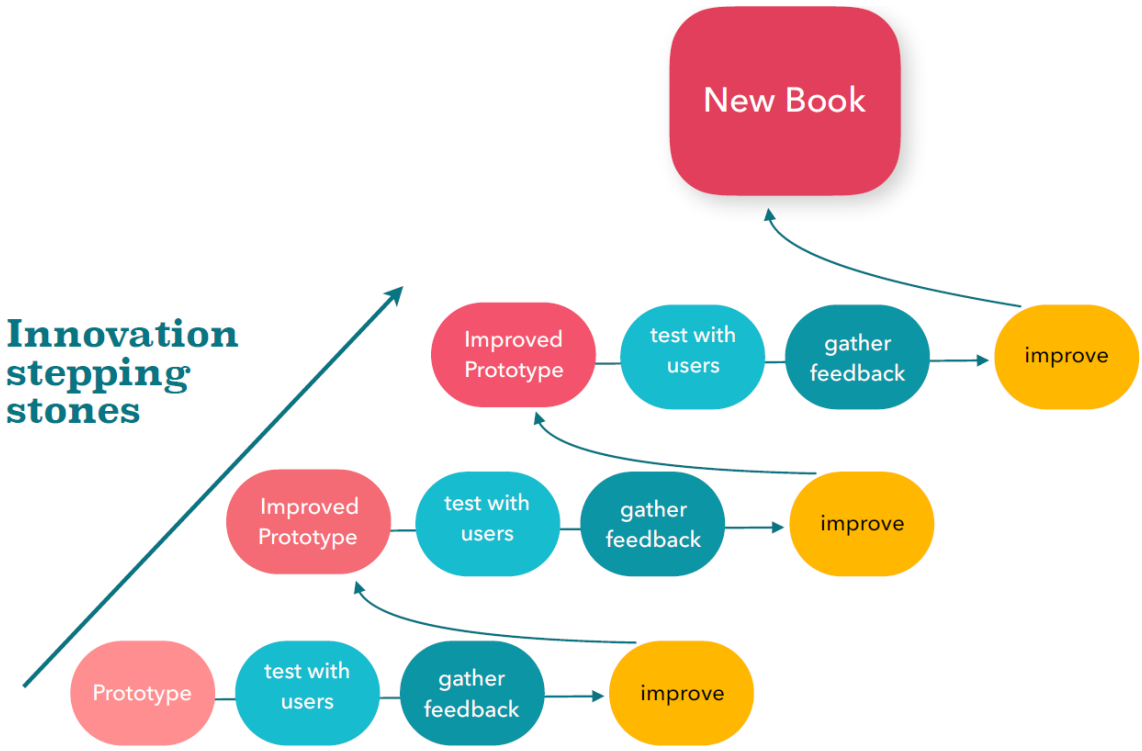
- written, illustrated and built from scratch, digital first
- made for 0-6 but the partner may prefer to focus on younger (2-3) or older (4-6) children
- based on themes or subjects that are attuned to the local culture
- formatted according to most recent insights concerning digital storytelling techniques

How will we innovate?

We'll use the Agile development paradigm which means we'll iterate through a process of building, testing and improving.

Feedback from users/ researchers will guide us in continuously improving our prototypes, resulting in new eBooks that will have real benefits for the end users.

Our end goal is to reinvent the picture storybook for a new generation of readers.



Contact

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Future research

We need to further explore eBooks as a tool for second language acquisition. A pilot study in which immigrant parents are asked to share eBooks in Dutch – the language of teaching - with their young children yielded enthusiastic responses from the parents. They felt that these books enabled them to share stories in the language of teaching thus promoting their children's second language learning.

Another, not yet explored possibility is to read the stories that children heard in a second language at school in the mother tongue at home.

Best practice work

Feedback from libraries and teachers is crucial for development of children's books. Teachers have positive views on e-books if they can see that they immerse children in stories and support their language and literacy development.

Story-writing and multimedia composition give children's imaginations purpose and audience and are a significant motivating factor in their learning that is transferrable across school subjects.

Adding a robot to a reading session may open up new prospects for book reading, including the importance of body, drama and role-taking in narratives.

Digital books offer significant potential in gathering user feedback directly via device through user analytics, which can be used for research and progress monitoring.

Digital books can be made accessible for all families and play part in a multicultural society.

Future developments:

Given this potential of children's digital books, we recommend to:

-include training in design for e-books/apps in courses for children's authors and illustrators; a workshop for authors

-support professional development training for schools and librarians in the use of children's digital books;

-strategic investment by national governments for commissioning and rewarding original e-book production in local languages;

-interdisciplinary and cross-sectoral research that supports the use and development of effective and meaningful digital books for children.

This work will be strategically fostered through collaborations at the University of Stavanger, where both Natalia Kucirkova and Adriana Bus work as professors.

Think Tank Members: Natalia Kucirkova (University College London, UK), Adriana Bus (Free University, The Netherlands), Tony Hall and Eílis Flanagan-Monahan (NUI Galway University, Ireland), Christiaan Coenraads (app developer, The Netherlands) Trude Hoel, Margrethe Jernes and Anne Mangen (University of Stavanger, Norway) , Katharina J. Rohlfing (Universität Paderborn, Germany), Liv Marit Weberg (Norwegian Children's Book Institute, Norway) Charlotte Skjold (Ebook.no, Norway), Nils Ohlsén and Jens Malmqvist (Ugglo, Sweden), Irene Picton (National Literacy Trust, UK).