In search of effective digital storytelling techniques

Rosalie Anstadt

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Lightning! by Christiaan Coenraads
„...mogen luisteren.
Een regendruppel?
Over acht jaar?
Ik wil bliksem maken.
NU!
Ik leen gewoon de weermachine van mijn vader.
Dat vindt hij vast wel goed.
Mijn vader vertrouwt me.
Ik ben namelijk héél handig.
Mmmm... wat is de knop voor bliksem?
Deze misschien?
A new prototype: the design of *Lightning*!

- **No** gimmicks and games
- Pan & Zoom
- Animations
- Interaction
Woohoo! Today I’ll learn how to make lightning! At the weather school!

Pan & Zoom
Virtual camera movements to concretize specific story elements.
Animation

Father wakes up by the help calling of his son. This animation (the movement of a relaxed, sleeping father to an upright sitting father with a startled expression on his face) supports the story comprehension: something urgent is happening!
Interaction

Control over speed
Experiment ($N = 77$)

- Control condition  
  (not exposed to the book)
- Static condition  
  (digital story with no extra functions)
- Animated condition  
  (pan & zoom; animations)
- Interactive condition  
  (pan & zoom; animations; buttons for controlling speed)
Experimental design

- Pretest
- Two times reading Lightning in three conditions:
  - Only static pictures
  - + animation
  - + animation and interaction
- Posttests
Results

• A strong effect of both animation and interaction
• $d's$ ranged around .75
• Effects on story comprehension and vocabulary
• Especially children lagging behind in language benefitted
Results story comprehension
Current follow-up research

- Age group 2.5-5 year old (low SES)
- 12 digital picture books
- Intervention: daily reading of 12 digital picture books during 6 weeks.
- Setting: at home with a parent
- Story comprehension and vocabulary?
Questions/discussion