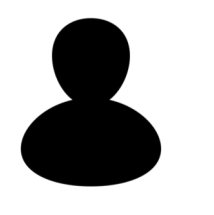




## Introduction

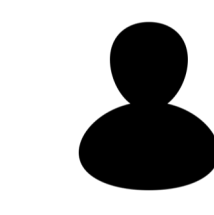
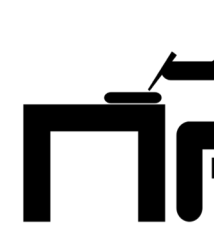
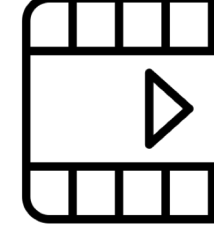
Spontaneous spatial text-learning strategies are associated with better learning outcomes (Fiorella & Mayer, 2017).

- Less is known about this strategy use in late **elementary education** ⇔ increasing academic demands for independent text study (Duchesne, Ratelle & Roy, 2011).
- **How can we capture** these strategies **in detail** at this age? ⇒ The present study compares **three different methodologies** to investigate these strategies in fifth and sixth grade.

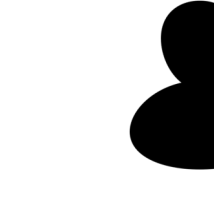


### STUDY 1: Offline trace data

-  644 students from 17 classes
-  Students studied a 500-word informative text. They were allowed to use scratch paper.
-  Scratch papers were analyzed with a detailed scoring rubric (e.g., scoring structure, color use, integrating key words, content etc.).

### STUDY 2: Online trace data

-  18 students from 12 classes
-  Students schematized a 300-word informative text with a Livescribe® digital writing pen.
-  Pencast analyses (e.g., writing periods, elaboration approaches, construction steps)

### STUDY 3: Eye tracking data

-  44 students from 4 classes
-  Students studied a digital mind map of an informative text. The SR EyeLink Portable duo® was used for eyetracking.
-  Area of interest (AOI) and scan path analyses (ongoing).



## ADVANTAGES

- Straightforward data gathering
- Permits assigning overall quality scores of (spatial) text-learning strategy use
- Uncovers (meta-)cognitive strategies such as planful approach and evaluating
- Applicable during regular classroom tasks
- Uncovers (meta-)cognitive strategies such as planful approach, rereading, monitoring
- Collecting ≠ processing measures (e.g., what they looked at, how long, sequences, etc..).

## CONCERNS



- Some (meta-)cognitive strategies are not revealed (e.g., planful approach, monitoring, reviewing)
- Interpretation of students' strategic actions during pre- and post writing
- Technical errors = data loss
- Expensive technology
- Students cannot interact with the material
- Brief materials studied for a short period

## CONCLUSION & IMPLICATIONS for research and practice

- 
  - Time and labor intensive though promising methodologies
  - Substantiate measures with concurrent think aloud or retrospective interviews
  - Possible correlations with self-report measures?
- 
  - Promising for (online) modeling explicit strategy instruction by means of pencasts or EMME (eye movement modeling examples).

## QUESTIONS

- Suggestions for the efficient analysis of eye tracking data?
- (How) can we attune tasks and measures to study multiple document literacy?

STUDY 1	STUDY 2	MORE INFORMATION
		<ul style="list-style-type: none"> <li>• Study 3: manuscript in preparation.</li> <li>• A more detailed reference list can be obtained from the author of this poster.</li> </ul>