

Reading in a digital age
Open seminar in honor of Professor Ivar Bråten
University of Oslo, Tuesday, June 27

On the occasion of Professor Ivar Bråten's formal retirement to become an emeritus professor we invite to a seminar at the University of Oslo, Tuesday, June 27. Professor Bråten is a fellow of the ST&D and he was awarded the 2023 Distinguished Scientific Contribution Award of the Society for Text and Discourse together with Professor Rolf Swaan. The topic of the seminar is "Reading in a digital age". Some of Ivar's international collaborators will present research on different aspects of that topic followed by discussions.

The seminar is open, but we need those interested to register in order to plan for a suitable location.

10:00-10:45	Ladislao Salmerón, Lidia Altamura, Pablo Delgado, Anastasia Karagiorgi, Cristina Vargas: Reading comprehension on handheld devices vs. on paper: A narrative review and meta-analysis of the medium effect and its moderators.
11:00-11:45	Lucia Mason & Sara Scrimin Emotion in Multiple-Text Comprehension: Outcomes of a Research Program
12:00-12:45	Jason L. G. Braasch, Catherine McGrath, Xinle Hong, Laura Allen, Erica D. Kessler, Danielle McNamara Establishing coherent memory representations about controversial information: Examining roles for reader characteristics and depth of engagement
12:45-13:30	Lunch
13:30-14:15	Matthew T. McCrudden & Rod Roscoe Diversity, Equity, and Inclusion in Digital Reading
14:30-15:45	Carita Kiili, Riikka Anttonen & Kristian Kiili Supporting Credibility Evaluation with Multimedia Learning: Non-Storified vs. Storified Materials
15:30-16:00	Ivar Bråten Comments and reflections

Organizers:

Øistein Anmarkrud, University of Oslo
Christian Brandmo, University of Oslo
Helge I. Strømsø, University of Oslo

Reading comprehension on handheld devices vs. on paper: A narrative review and meta-analysis of the medium effect and its moderators.

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Vargas¹

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Abstract

As tablets become a common device in schools, a critical and urgent question for the research community is to assess its potential impact on educational outcomes. Previous meta-analytic research has evidenced the ‘screen inferiority effect’: readers tend to understand texts slightly worse when reading on-screen than when reading the same text in print. Most primary studies from those meta-analyses used desktop or laptop computers as on-screen devices. Accordingly, the extent to which tablets, that provide a reading experience closer to books than computers, are affected by the ‘screen inferiority effect’, remains an open question. To address this issue, we reviewed relevant literature that has analyzed potential moderating factors for the screen inferiority effect in tablets, including context, textual, interaction, and individual factors. Such review guided the development of two meta-analyses aimed to analyze the differences on reading comprehension when reading on tablets or e-readers, as compared to print reading. Results from the two multilevel random-effects meta-analyses, that included primary studies that used either between-participants ($k = 38, n = 161,469, g = -.113$) or within-participants ($k = 21, n = 1,379, g = -.103$) designs, consistently showed a significant small size effect favoring print text comprehension. Moderator analyses help to partially clarify the results, indicating higher ‘screen inferiority effect’ for undergraduate students (as compared to Primary and Secondary school) and for participants that were assessed individually (as opposed to in group). We discuss the need to continue using printed materials at schools for now, until effective ways to incorporate tablets for reading purposes are identified.

Emotion in Multiple-Text Comprehension: Outcomes of a Research Program

Lucia Mason & Sara Scrimin

University of Padova, Italy

Abstract

This contribution presents the evidence from a research program of four studies that investigated the role of emotion in reading and comprehension of conflicting texts by relying on different methods. In three studies physiological measures were used involving 7th graders in pre-reading, webpage reading, and post-reading tasks. Webpages had some emotional content about two debated topics and were balanced for position and reliability. In Study 1 dispositional emotion reactivity was measured using electrodermal activity. In Study 2 emotional reactivity and regulation while reading multiple online sources were examined using heart rate and heart rate variability, respectively. In study 3 arousal while reading was measured by electrodermal activity and eye movements as first-pass and look-back fixation times were also considered as process data. A consistent result across the three studies is that arousal is a negative predictor of multiple-text comprehension in short essay tasks, or source evaluation in reliability judgments: the higher students' physiological arousal, the lower their cognitive performance. In contrast, physiological self-regulation is a positive predictor: the higher the readers' ability to self-regulate processes and focus on the task, the greater their performance related to multiple sources evaluation and comprehension. Finally, self-reports were used in Study 4 that involved 4th and 5th graders and focused on the neglected emotion of boredom related to reading. Findings showed the mediating role of this emotion in the relationship between control-value appraisals and multiple-text comprehension, as well as the moderating role of word-reading fluency in such relation. The relevance of methods for measuring emotions during complex reading tasks is discussed.

Establishing coherent memory representations about controversial information:

Examining roles for reader characteristics and depth of engagement

Jason L. G. Braasch¹, Catherine McGrath¹, Xinle Hong¹, Laura Allen², Erica D. Kessler³,

Danielle McNamara⁴

¹ *Georgia State University*

² *University of Minnesota*

³ *University of Memphis*

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Abstract

This study examined the contributions of several individual reader characteristics and reading engagement to constructing more complete, coherent understandings about a controversial socio-scientific topic: whether children should or should not receive vaccinations against common diseases. One-hundred and nineteen college undergraduates completed assessments of general vocabulary knowledge, and specific topic knowledge and beliefs. After reading two texts conveying misconceptions that vaccines are unnecessary, and two conveying that vaccines successfully guard children against infectious diseases, they wrote essays from memory. Regarding completeness in understandings of what was read, although there were no unique predictors for accurate ideas, extent of general vocabulary knowledge and depth of engagement predicted representation of the opposing inaccurate ideas. Vocabulary knowledge and depth of engagement predicted explicit evaluations of accuracy and inaccuracy for the different ideas. Finally, depth of engagement predicted acknowledgement that people hold opposing viewpoints, and memory for the source features associated with the conflicting ideas. Limitations of the current work and future directions for further theory development and empirical testing are discussed.

Diversity, Equity, and Inclusion in Digital Reading

Matthew T. McCrudden¹ & Rod Roscoe²

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Abstract

In his keynote presentation at the 31st Annual Meeting of the Society for Text & Discourse in 2021, Rod Roscoe identified three ways to promote equity in research: (1) Make inclusion and equity the focus of our work, such as conducting research that specifically studies inequities or tests interventions; (2) Embrace inclusion and equity principles as a lens for deepening research questions, (re)interpreting findings, and conceptualizing impact; and (3) adopt methodologies (e.g., sampling and analysis) and practices (e.g., collaboration, reviewing, and conferences) that are inclusive and equitable. As complement to cutting edge research on digital reading, the purpose of this participatory session on equity is two-fold. The first is to generate dialogue among members of the Society on diversity, equity, and inclusion in research on digital reading. The second is to encourage members of the Society to reflect on practical ways that we can incorporate diversity, equity, and inclusion in our own specific programs of research. The session will begin with an overview of key concepts and illustrative examples (10-15 minutes), followed by small-group discussions about how we use or could use a diversity, equity, and inclusion lens for our research (20 minutes), and idea-sharing as a large group (15 minutes). A document of ideas will be collated and made available to members of the Society.

Supporting Credibility Evaluation with Multimedia Learning: Non-Storified vs. Storified Materials

Carita Kiili, Riikka Anttonen & Kristian Kiili

Faculty of Education and Culture, Tampere University

Abstract

In this presentation, we describe a teacher-led intervention designed to support sixth graders' credibility evaluation of online texts. The multimedia learning materials used in the intervention consisted of instructional videos and related workbook assignments. We applied well-established instructional design principles (segmenting, signaling, positivity, personalization) and gamification (badges) in producing multimedia materials. We designed two versions of materials: non-storified and storified materials. The learning content of the materials was the same, and they differed only in terms of storification. In the storified version, students joined a detective school specialized in credibility evaluation of online texts. Two distinctive detectives taught students in the school by discussing the credibility evaluation of online texts and motivating students to complete the workbook assignments. The non-storified videos displayed an instructor lecturing about credibility evaluation of online texts. The main instruction was given through the videos, where instructors highlighted the essential content of the videos. The instructors displayed mainly positive emotions through voice, facial expressions, and gestures, and they used conversational language. Learning content was divided into segments that each focused on a specific credibility evaluation practice (evaluation of author's expertise, author's benevolence, and quality of evidence) and application of the learned practices (practicum). All assignments in the workbooks were tied to the videos. After each assignment, the teacher read aloud feedback from the instructors. Altogether six badges were available that reflected students' progress. After completing all assignments, students earned a diploma. Students' learning of credibility evaluation skills were measured with a web-based evaluation task (Kiili et al., 2023) before and after the intervention. The learning outcomes of non-storified and storified intervention groups were compared to a control group. In the presentation, we will share the preliminary results of the study.