Seminar Announcement

Dear colleagues,

We are happy to announce that on May 21 – May 25, 2018 Laboratory for Cognitive Studies of Language, International Centre for Research in Human Development and Laboratory of Linguistic Anthropology, Faculty of Philology, TSU are hosting a scientific seminar on **Eye-tracking methodology: Using EyeLink**

The workshop is organized as continuation of activities initiated in 2016 within the framework of the project "Networking and mobility of students (MA, PhD) and academic staff of partner institutions in Russia, Finland and Norway in the area of cognitive and experimental linguistics" http://nordic.tsu.ru/ .

This year the seminar is supported by Erasmus+ European Union Program. Due to this support a lecturer from the University of Turku (Finland),

Tuomo Häikiö, Ph.D., Research Fellow, Division of Psychology

will provide training on Eye-tracking methodology and application of the world's most precise and accurate video-based eye tracker – EyeLink.

Preliminary schedule of the seminar:

Monday 21.05.18
14: 45-16:20 Lecture 1: Tracking eye movements – General (Building 3, Room 26)
Tuesday 22.05.18
14: 45-16:20 Lecture 2: Tracking eye movements – Special case: Reading development (Building 3, Room 26)
Wednesday 23.05.18
10:35-12:10 Lecture 3: Eye movement measures (Building 3, Room 15)
12:25-14:00 Lecture 4: Designing an eye movement experiment (Building 3, Room 15)
Thursday 24.05.18
12:25-14:00 Exercise 1: Experiment Builder (Building 3, Room 15)
14:45-16:20 Lecture 5: Using EyeLink (Building 3, Room 15)
Friday 25.05.18
10:35-12:10 Exercise 2: Using EyeLink (Building 3, Room 15)
12: 25-14:00 Exercise 3: Data Viewer (Building 3, Room 15)

Provided below are the latest publications of Tuomo Häikiö et al.

The Effect of Syllable-Level Hyphenation on Reading Comprehension: Evidence From Eye Movements

Article, Mar 2018

Tuomo Häikiö
Timo T. Heikkilä
Johanna K Kaakinen

Syllabification by hyphens (e.g., hy-phen-a-tion) is a standard procedure in early Finnish reading instruction. However, recent findings indicate that hyphenation slows down children's reading already during the first grade (Häikiö, Hyönä, & Bertram, 2015, 2016). In the present study, it was examined whether this slowdown is indicative of deeper processing and/or more strategic reading. To this end, 2nd grade children (N = 36) read short expository and narrative stories while their eye movements were registered. The presence of syllable boundary cue (SBC) was manipulated; for half of the stories, each word was hyphenated at syllable boundaries whereas the other half included no hyphenation. After each story, story comprehension (SC) was measured by three types of oral questions, namely free recall, cued recall, and true/false questions. With regard to reading behavior, SBC interacted with independently measured reading comprehension scores for both forward and regressive fixation times during first pass sentence reading. Hyphenation slowed down reading of good comprehenders to a larger extent than weaker comprehenders in comparison to nonhyphenated condition, especially for regressive fixation times. With respect to SC, cued recall scores were lower in the hyphenated than in the nonhyphenated condition. There was no effect of SBC in free recall or true/false questions. Hyphenation seems to promote phonological encoding even when readers might want to access words via orthographic codes, which are obscured by hyphenation, especially at the whole-word level. This more piecemeal reading style then makes it harder to integrate the pieces into a bigger whole, affecting not only reading speed but also reading comprehension.

Reading monomorphemic and compound words in Chinese

Article, Jan 2017

Lei Cui
Tuomo Häikiö
Wenxin Zhang
Jukka Hyönä

Two lexical decision experiments were conducted to study the recognition of two-character Chinese monomorphemic and compound words by adult native Chinese readers. In Experiment 1, the words appeared non-spaced, whereas in Experiment 2 a space was inserted between the two characters. An interaction between word type and spacing reflects a trend for spacing to slow down the recognition of monomorphemic words and speed up that of compound words. The word frequency effect was steeper for monomorphemic than compound words. The number of strokes in the first and the second character influenced the recognition time for compound words, but not for monomorphemic words. The results are interpreted in the light of the parallel dual route model of morphological processing. The holistic route is more prevalent in recognizing Chinese monomorphemic, while the morphological decomposition route is more prevalent in processing Chinese compound words.

The hyphen as a syllabification cue in reading bisyllabic and multisyllabic words among Finnish 1st and 2nd graders

Article, Aug 2015

Tuomo Häikiö
Raymond Bertram
Jukka Hyönä

Finnish ABC books present words with hyphens inserted at syllable boundaries. Syllabification by hyphens is abandoned in the 2nd grade for bisyllabic words, but continues for words with three or more syllables. The current eye movement study investigated how and to what extent syllable hyphens in bisyllabic (kah-vi ‘cof-fee’) and multisyllabic words (haa-ruk-ka ‘fork’, ap-pel-sii-ni ‘orange’) affect eye movement behavior and reading speed of Finnish 1st and 2nd graders. Experiment 1 showed that 2nd graders had longer gaze durations, needed more fixations and had longer selective regression path durations for hyphenated than concatenated words. This implies that hyphenated words were difficult to process when first encountered, but also hard to integrate with prior sentence context. The effects were modified by number of syllables and reading skill. That is, the hyphenation effects were larger for multisyllabic than bisyllabic words and larger for more than less proficient readers. Experiment 2 showed the same hyphenation effect for 1st graders reading long multisyllabic words, even with a hyphen that was smaller in size and hence visually less salient. We argue that syllable hyphens prevent reasonably proficient readers from using the most efficient processing route for bi- and multisyllabic words and discuss the possible implications of the results for early Finnish reading instruction.