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used as eye-movement measures. The participants completed a LEAP-Q questionnaire on their L2 experience and proficiency (Marian et al., 2007) and a battery of tests assessing reading-related skills: spelling recognition test (Andrews, Hersch, 2010), vocabulary size test (Nation, Beglar, 2007), word naming and pseudoword reading subtests of TOWRE test (Torgesen et al., 2012), Author Recognition Test as a measure of print exposure (Stanovich, West, 1989).

Preliminary results show that comprehension accuracy is significantly influenced by vocabulary size (beta = .06, t = 3.19, p = .004). As for reading fluency, namely regression probability, it is affected by word reading efficiency, i.e. phonological decoding skills: both sight word reading assessed by word naming subtest of TOWRE (beta = -.02, t = -2.2, p = .03) and phonemic awareness assessed by pseudoword reading subtest of TOWRE (beta = -.04, t = -2.5, p = .01).

Vocabulary size is a key predictor of text comprehension in L2 reading, as well as in L1 (see Braze et al., 2007). Phonemic decoding is involved in lexical access, so it affects word recognition and silent reading fluency (see Ashby et al., 2005), especially when L1 Russian speakers read in L2 English, which has a deeper orthography than their native language.

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By trial and error: Reading aloud in first and second languages

Studying reading aloud, which combines the visual text processing and the production of spoken word, allows us to compare the interaction of different modalities when using L1 and L2. We focused on the description of eye movement patterns when errors occur in oral reading in Russian as L1 and Japanese as L2.

We chose two fragments similar in the readability from a Japanese novel and their Russian translations. The experiment consisted of two stages with an interval of 1.5–2 weeks. At each stage, the participants read aloud two texts: in Russian and in Japanese. We registered the eye movements using the EyeLink 1000+ and recorded reading aloud using Olympus voice recorder DM-720. The audio recording started when the participant began to read. The participants were 10 native Russian speakers with the level of the Japanese language proficiency not lower than N3 (JLPT).

We analyzed the eye movements on the word where the error occurred and on the next word, as the eyes are ahead of the voice during reading aloud (Laubrock, Kliegl, 2015). In Japanese, there were 102 self-repairs (SR), 85 noticed but uncorrected errors (NUE), and 26 unnoticed ones (UE). According to Kruskal–Wallis test, eye movements on the erroneous words differed in dwell time, the number of fixations, regression count ($p = .013$), but not in first-pass duration ($p = .51$). SR differed from NUE and UE in all measures ($p < .05$; $p < .005$ respectively; post hoc Dunn's test). NUE and UE differed in all measures ($p < .05$) except for regressions. We also found the difference between SR and UE in the number of regressions from the following words ($p = .011$). For Russian, we compared eye movements for 29 SR and 14 UE, as there were only 4 NUE in the data. Using Mann–Whitney U test, we found that SR are processed longer than UE: dwell time ($p = .018$); the number of fixations ($p = .006$). There were also more regressions to the erroneous word for SR ($p = .021$). The first-pass duration did not differ significantly ($p = .434$). There were more regressions from the words following SR ($p = .011$). Thus, the processing of erroneous words is similar while reading aloud in Russian as L1 and Japanese as L2. No differences in the first-pass duration (early processing) may indicate that the error in L1 and L2 is noticed during reading the next word, resulting in a regression, not longer processing of the next word.

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