



## Does early reading instruction promote the rate of acquisition? A comparison of two transparent orthographies



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### ABSTRACT

This study examines the development of children's reading skills in two transparent orthographies, Estonian and Finnish. Formal reading instruction begins one year earlier in Estonia than in Finland; thus, it was expected that Estonian children would outperform their Finnish peers in reading achievement during grade 1. In this study, 433 Estonian and 353 Finnish first graders were assessed for letter knowledge, phoneme awareness, and reading accuracy and fluency at the beginning of first grade while reading fluency and reading comprehension were assessed in the final semester of first grade. The results showed that, despite Estonian children's better reading skills at the beginning of the school, fluency and reading comprehension skills were at the same level across both groups by the end of first grade. This finding indicates that early reading instruction in transparent orthographies does not necessarily give any long-term advantage for further success in reading development at school.

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## 1. Introduction

The development of reading skills is influenced by children's pre-reading skills and several underlying cognitive antecedents (e.g., de Jong & van der Leij, 2002; Parrila, Kirby, & McQuarrie, 2004) as well as teaching practices (e.g., Carlisle, Kelcey, Berebitsky, & Phelps, 2011; Connor, Morrison, & Katch, 2004). Early training of pre-reading skills has beneficial effects on at-risk children's reading development, particularly when training emphasizes the correspondence between letters and phonemes (Hatcher, Hulme, & Ellis, 1994). However, the timing of starting proper literacy instruction can also have different short- and long-term effects. Indeed, although the importance of early reading instruction (i.e., before children are six years old) has been emphasized (Ehri, 2012), recent studies have raised doubts concerning its

benefits for children's later reading development (Suggate, 2012). Moreover, as language differences play a role in the foundation of literacy acquisition (e.g., Aro & Wimmer, 2003), it is possible that the optimal age for reading instruction also depends on the language, particularly its orthographic transparency, which makes rapid reading acquisition possible (Seymour, Aro, & Erskine, 2003).

The present study compared the development of children's reading skills during the first school year in two languages with highly transparent and linguistically related orthographies: Estonian and Finnish. This comparison is informative on two accounts. Although Estonian and Finnish children start school quite late (i.e., at the age of seven), formal reading instruction begins at different ages. Estonian children are expected to have basic decoding skills before their entrance into primary school whereas in Finland formal literacy instruction begins in the first grade. Moreover, both languages are related in terms of grapheme-to-phoneme conversion rules. Therefore, the comparison of the development of reading skills among Estonian and Finnish children provides an opportunity to examine how the timing of reading instruction in transparent orthographies is related to the subsequent development of reading skills.

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### 1.1. Learning to read in different languages

Regularity and transparency of correspondence between phonology and orthography significantly affect reading in the early phase of literacy acquisition. Some orthographies are shallow (e.g., Finnish, Greek, and Italian), with consistent grapheme–phoneme correspondences; others (e.g., French, Danish, and English) are deeper in the sense of containing more inconsistent correspondences as well as morphological influences on spelling (Seymour et al., 2003; Ziegler et al., 2010). Several cross-linguistic studies, largely comparing English with more shallow orthographies, have shown that reading acquisition develops less effectively and more slowly in languages with deep orthography than in languages with shallow orthography. For example, research has shown consistently poorer early reading skills among English language speakers than in those using more transparent orthographies, such as German (Frith, Wimmer, & Landerl, 1998), Welsh (Spencer & Hanley, 2003), Greek (Georgiou, Parrila, & Papadopoulos, 2008), and Croatian (Zaretsky, Kraljevic, Core, & Lencek, 2009).

When Seymour et al. (2003) examined word and non-word reading of 5- to 7-year-old children representing 13 European languages, the results confirmed the assumption that beginning readers using deep orthographies face greater difficulties in decoding and a slower rate of development than those using more shallow orthographies (see also Aro & Wimmer, 2003; Hoxhallari, van Daal, & Ellis, 2004). Differences in word reading can be profound. For example, by the end of first grade, Finnish students clearly outperformed their Danish and Scottish second-grade peers in non-word reading. Age differences do not explain the effect because, in this study, Danish children were one year older and Scottish children one year younger than their Finnish peers (Seymour et al., 2003).

Other studies carried out in shallow orthographies such as Italian, German, and Finnish, have demonstrated that word reading accuracy is close to reaching the ceiling after one year of reading instruction (Landerl & Wimmer, 2008; Lerkkanen, Rasku-Puttonen, Aunola, & Nurmi, 2004; Orsolini, Fanari, Tosi, De Nigris, & Carrieri, 2006). Hence, the problems children from shallow orthographies typically face concern reading speed rather than accuracy (de Jong & van der Leij, 2003; Landerl & Wimmer, 2008).

### 1.2. The Estonian and Finnish languages

Estonian and Finnish belong to the Finnic branch of the Finno-Ugric family of languages. Due to the common origin of the languages, they share much in common with each other in terms of phonology, syntax, morphology, and lexicon (see Dasinger, 1997). Estonian and Finnish phonologies are similar, and the orthographies are generally guided by phonemic principles, with each grapheme corresponding to one phoneme (see Viise, Richards, & Pandis, 2011, for Estonian; Aro & Wimmer, 2003, for Finnish). Both are quantity languages, meaning that the phonemes are differentiated by their phonetic speech-sound duration. In Estonian, three degrees of phonemic quantity exist: short, long, and overlong (Asu & Teras, 2009). In general, short sounds are represented by single letters, whereas long and overlong vowels and consonants (except plosive consonants) are represented by double letters. The orthography of plosive consonants is more transparent: Short consonants are marked with the letters *g*, *b*, and *d*, long consonants with the letters *k*, *p*, and *t*, and overlong consonants with the double letters *kk*, *pp*, and *tt*. In Finnish, two contrastive phoneme quantities exist. Nearly all Finnish phonemes can be long and short, marked with one or two letters, respectively (Pennala et al., 2010). Thus, the transparency of Estonian and Finnish orthographies makes reading acquisition relatively easy for children

(see Viise et al., 2011, for Estonian; Seymour et al., 2003, for Finnish).

### 1.3. Reading instruction and learning to read in Estonia and Finland

The Estonian and Finnish educational systems share several similarities. Compulsory education consists of nine years of comprehensive school starting at the age of seven. Both countries offer one year of voluntary kindergarten education for six-year-old children before formal schooling, and most children attend it. National kindergarten core curricula are used to prepare children for formal schooling. However, the formal teaching of reading begins one year earlier in Estonia. According to the national kindergarten curriculum (Eesti Vabariigi Valitsus, 2008), Estonian children are expected to know all Estonian letters and, more importantly, be able to read and spell one- and two-syllable words before they begin school. A survey conducted among Estonian kindergarten teachers (Jürimäe, 2004) showed that the large majority (84%) of kindergarten-age children were evaluated by their teachers as being able to decode simple words.

In contrast, although the Finnish kindergarten curriculum (National Board of Education, 2000) also underscores that kindergarten education should create a foundation for literacy skills, children's reading skills are not explicitly taught; rather, they are supported by an environment that promotes their language development (e.g., by listening, speaking, discussing, and shared reading activities) and generates children's interest in letters and phonemes through play activities. In such an environment, children are expected to develop their vocabulary and pre-literacy skills, including phonological awareness. Although Finnish children are not given systematic reading instruction in kindergarten, about 30% of students are decoders at the beginning of school in Finland (Leppänen, Niemi, Aunola, & Nurmi, 2004; Lerkkanen et al., 2004). Moreover, the vast majority of Finnish children learn to decode during the first semester of first grade (Lerkkanen et al., 2004). Reading development during the first grade has been shown to be especially rapid among children who enter the grade as non-readers (Leppänen et al., 2004), suggesting that learning to read at the beginning of primary school does not show a cumulative trajectory, but rather a compensatory one (Aunola, Leskinen, Onatsu-Arviolommi, & Nurmi, 2002). Detailed knowledge about the reading development of Estonian children of the same age is lacking.

Because of the transparency of Estonian and Finnish orthographies, reading instruction is based on grapheme–phoneme correspondence (phonics) in both countries. At the beginning of systematic reading instruction (starting in kindergarten in Estonia and in first grade in Finland), students focus on learning to decode syllables and words. The ultimate aim is to become able to spell words and decode also non-words. Although children in Estonia are expected to decode at the word level before school, the first grade curriculum still emphasizes practicing basic reading skills (i.e., decoding syllables and more complex words) during the first school weeks. Because most students have already acquired these basic skills, children can go further in practicing reading fluency and comprehension rather quickly. In Finland, children start to practice more systematically letter names, letter–phoneme correspondence, decoding syllables and simple words at the first grade. As decoding skills gradually become more automatic during the fall, reading instruction focuses more on practicing reading fluency and comprehension toward the end of first grade. Thus, it can be concluded that the Estonian and Finnish first grade curricula do not differ appreciably. The hours spent in first grade to promote literacy skills are also similar in Estonia and Finland: Both countries include 6–7 h of literacy instruction per week.

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