



ELSEVIER

Contents lists available at ScienceDirect

Journal of Experimental Child Psychology

journal homepage: www.elsevier.com/locate/jecp



CrossMark

Reading scripts that differ in orthographic transparency: A within-participant-and-language investigation of underlying skills

Irit Bar-Kochva*, Zvia Breznitz

Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa, Mount Carmel, Haifa 31905, Israel

ARTICLE INFO

Article history:

Received 21 January 2013

Revised 23 July 2013

Available online 20 January 2014

Keywords:

Reading

Orthography

Orthographic transparency

Orthographic depth

Phonological awareness

Rapid automatized naming

Morphological awareness

Reading development

ABSTRACT

Spelling–sound transparency varies across orthographies. This aspect was found to have implications for the strategy of reading, but whether reading of different orthographies also relies differently on cognitive skills is yet unclear. This question was examined mainly by cross-participant-and-language investigations in which orthographic variation is hard to isolate. This work examined this topic using a within-participant-and-language study design. Hebrew readers in Grades 3 and 4 were longitudinally tested because in these grades they are engaged in reading three forms of script, transcribing the same language and varying in spelling–sound relations, as they gradually progress from reading a transparent orthography to reading an opaque one. Phonological awareness explained a considerable amount of variance in accuracy in reading all forms of script across these two years. The relations of morphological awareness with accuracy in reading the three forms of script were similar; however, the results suggested that these may be associated with the course of transition. Phonological awareness and rapid naming were similarly related to fluency in reading all forms of script when equivalent proficiencies in reading of these scripts were achieved. At this stage, the relations of vocabulary with fluency in reading and comprehension of the transparent and opaque forms of script were also much alike. Phonological memory explained a modest, but significant, amount of variance in comprehension of the unpointed script alone. These results suggest that, apart from phonological memory, the cognitive skills tested in this study serve as a common cognitive

* Corresponding author. Fax: +972 4 8288435.

E-mail addresses: ibarkoch@campus.haifa.ac.il, iritbarkochva@gmail.com (I. Bar-Kochva).

infrastructure in reading orthographies varying in spelling–sound transparency.

© 2013 Elsevier Inc. All rights reserved.

Introduction

Alphabetic orthographies vary from shallow orthographies with transparent grapheme–phoneme correspondence to deep orthographies imposing ambiguity on the mapping between spelling and sound. According to the orthographic depth hypothesis (Katz & Frost, 1992), while grapheme–phoneme conversion is efficient in reading scripts with transparent spelling–sound relations, the application of this strategy alone may be insufficient when these relations are ambiguous. Consequently, this strategy may be more involved in reading of shallow orthographies than in reading of deep ones, whereas the direct identification of larger orthographic units may be more involved in reading of the latter. According to the psycholinguistic grain size theory (Ziegler & Goswami, 2005, 2006), however, the mapping of orthography onto phonology is involved in reading of both types of scripts. At the same time, the nature of spelling–sound relations in different orthographies results in developmental differences in the grain size of lexical representations and strategies of reading. Whereas children learning to read consistent orthographies can rely on the “small” psycholinguistic grain size of the phoneme, children learning to read less consistent orthographies need to rely on representations and decoding strategies at more than one grain size.

Substantial support was found for the application of different strategies in reading of orthographies of varying depths (see reviews by Katz & Frost, 1992; Ziegler & Goswami, 2005). However, whether more basic cognitive skills are also differently involved in reading of different orthographies is yet unclear. Based on Katz and Frost (1992) and Ziegler and Goswami (2006), skills underlying grapheme–phoneme conversion may be more involved in reading of shallow orthographies than in reading of deeper ones, whereas skills underlying the direct identification or decoding of larger orthographic units may be more related to reading of deep orthographies. However, the results so far are mixed.

Phonological awareness was suggested to underlie grapheme–phoneme conversion (Share, 1995). A considerable number of studies have pointed to a diminishing role of phonological awareness in reading of shallow orthographies as reading is established (Share, 2008). For example, in a longitudinal study of readers of Latvian, Sprugevica and Høien (2003) found that early phonemic awareness explained 27% ($p < .01$) of the variance in accuracy in reading of words early in Grade 1, 9.3% ($p < .05$) of the variance at the end of Grade 1, and no significant variance in Grade 2. This tendency was also found when phonological awareness was tested later on in elementary school. Müller and Brady (2001), for instance, found a diminishing contribution of phonological awareness to different measures of reading (decoding accuracy and speed and comprehension) in a cross-sectional study comparing readers of Finnish in Grades 1 and 4. Similar results can be found in longitudinal studies on reading of shallow orthographies such as Norwegian and Swedish (Furnes & Samuelsson, 2010), Dutch (de Jong & van der Leij, 1999), German (Landerl & Wimmer, 2008), and Greek (Nikolopoulos, Gouladris, Hulme, & Snowling, 2006).

In contrast, longitudinal studies of reading the deep English orthography suggest that the relations between phonological awareness and different measures of reading (decoding, accuracy, and speed in word recognition and comprehension) are more persistent, at least until Grade 5 (Deacon & Kirby, 2004; Torgesen, Wagner, Rashotte, Burgess, & Hecht, 1997; Wagner et al., 1997). Yet, some studies have reported a diminishing role of early phonological awareness as a predictor of later English reading skills (word reading, decoding, and comprehension; see Badian, 1995; Kirby, Parrila, & Pfeiffer, 2003). Furnes and Samuelsson (2011) recently demonstrated no contribution of a latent construct of Grade 1 phonological awareness to English word reading in Grade 2 when an autoregressor effect of prior literacy skills was included in the analysis.

However, other studies suggest a strong and universal role of phonological awareness in reading beyond an early stage of reading acquisition. This was found with regard to word reading across European orthographies over Grade 1 (Caravolas et al., 2012) and Grades 2 and 3 (Spencer & Hanley, 2003).

Download English Version:

<https://daneshyari.com/en/article/918074>

Download Persian Version:

<https://daneshyari.com/article/918074>

[Daneshyari.com](https://daneshyari.com)