

Reading Accuracy in EFL Students with a Transparent L1 Background – a Case Study from Poland

Monika Łodej

Jan Kochanowski University

Correspondence concerning this article should be addressed to Monika Łodej, Jan Kochanowski University, Żeromskiego st. 5, Kielce, Poland, 25-369. E-mail: mlodej@ujk.edu.pl

Research indicates that L2 reading competence is influenced by L1 reading ability, L2 proficiency, and L2 decoding competence. The present study investigates the significance of two variables, regularity and frequency, in relation to English as a Foreign Language (EFL) reading accuracy in students with a transparent L1. Fifteen 6th grade students in their sixth year of regular instruction in English took part in this study. Their mother tongue is Polish whereas English is their foreign language; thus, their language competence in L1 and L2 differs substantially. The research design followed Glusko (1979), Plaut (1996), and Wang and Koda (2007). There are four sets of real words. Two features of real words are manipulated for regularity and frequency. The study reveals that both conditions of script, regularity and transparency, affect reading accuracy in EFL students. However, the dimension of regularity is a stronger predictor of accuracy than the frequency with which the students encounter a word. From the pedagogical perspective, the collected data supports the use of structured reading instructions in the EFL classroom in order to restrain negative transfer of L1 to L2 reading strategies.

Keywords: EFL, reading, accuracy, regularity, transparency

The EU strategic plan for education (2010) recognizes the need for EU citizens to speak a foreign language. This document does not only aim to protect the Member States' local languages, but also points to the thriving role of English as a lingua franca. The European Unions' statistical unit, EUROSTAT, reported in 2013 that eighty-three percent of primary or lower secondary students and ninety-four percent of upper secondary students learn English as a foreign language. Seidlhofer et al. (2006) observe that "at the beginning of the 21st century, the significance of a certain command of English is closely comparable to that of reading and writing at the time of industrialization in Europe" (p. 3).

In the light of the above figures and trends, different modes and models in language teaching and learning are tested. In the field of education, a growing popularity of Early Language Learning (ELL) and Content and Language Integrated Learning (CLIL) can be observed in almost all member states. ELL has been defined as "systematic awareness-raising or exposure to more than one language taking place in an early childhood education and care setting in a pre-primary school context" (European Commission,

2011, p. 6). This translates into instructional exposure in a foreign language at the pre-primary level of education. The benefits of ELL are seen in the development of early awareness of multilingualism and cultural identity. Following the implementation of ELL, CLIL (European Commission, 2012) becomes the model for further language education. CLIL aims to develop the language of instruction (L2) and subject knowledge simultaneously. This in turn, complements the EU policy to build on intercultural knowledge and communication, while at the same time developing multilingual attitudes and interests. To sum up, English as a foreign or second language has developed to set educational goals within the EU language policy.

Learning to Read

From the standpoint of language education, reading is the core of all learning. Olson et al. (2009) note that "reading is a unique human activity that is strongly dependent on the environment, typically through universal and formal reading instructions in modern societies" (p. 215). Environmental factors are liable to changes resulting from educational policy, favoured

teaching methods, and current approaches to reading, both in the learner's first and foreign language. However, the biological factors involved in reading (e.g. universal and language specific) stem from the brain anatomy and are not influenced by societal changes. This "biological machinery of reading" (Grigorenko & Naples, 2009, p. 135) is robust and rarely dysfunctional. There can be individual differences observed in speed, accuracy and comprehension, but the ultimate goal of being literate is eventually achieved. Delayed development of reading skills might result from individual cognitive restraints, for example: dyslexia, dyspraxia or Attention Deficit Hyperactivity Disorder (ADHD). However, when these are diagnosed early and accommodated for, it is possible for the individual to be fully included in a literate society.

The architecture of reading increases in density when one reads in a foreign script. Alderson (1986) pointed that "a reading ability is often all that is *needed* by learners of English as a Foreign Language" (p. 1). EFL learners when instructed in a formal setting make use of word based books, are evaluated and tested in writing/print, and are enrolled into CLIL classes where skilled reading makes the curriculum fully accessible. Reading is thus a springboard to school education, community relations, and the job market, as well as one's cultural heritage.

L1 Reading

Reading competence is a unitary skill. Definitions of the core construct of reading competence emphasize the importance of decoding, text-meaning construction (comprehension), assimilation of what is read with prior knowledge, and having a purpose for reading. The ability of decoding, that is quick symbol-sound mapping, lies at the bottom of the construct. The relative ease of reading acquisition in one's first language over a second language is due to the fact that L1 reading can be built on the well-established language system the reader has acquired prior to literacy instruction (Perfetti & Dunlap, 2008). Forming symbol-sound correspondences in L1 reading is based solely on prior practice with the sounds of the language. By the time the child is confronted with print, they already have a well-developed phonological awareness of sound-meaning relations. Sound-meaning pairing of words plays a critical role in reading development, despite the fact that these relations appear to be arbitrary (Fromkin et al., 2014, p. 34): the same sounds can stand for different meanings, as in the case of homonyms (e.g. *bear* and *bare*). Therefore, with development of reading ability, the sound-meaning unit is supplemented by orthography and stored in the mental lexicon for further retrieval.

Reading Phases

Research suggests that children progress through several developmental stages in acquiring word recognition ability (Ehri, 1995; Frith, 1985; Frith et al., 2000). Frith's (1985) three-phase theory of reading acquisition assumes that the development of reading is characterized by three consecutive stages: logographic, alphabetic, and orthographic. In the logographic stage a reader recognizes familiar words by analysing salient graphic features of the words that serve as clues (e.g. while reading the STOP road sign). On the other hand, in the alphabetic phase the reader adapts the knowledge of sound-symbol mappings to read words. Here, readers employ an acquired analytic skill to decode a given word grapheme by grapheme. At this level of word recognition, both letter order and phonological factors play an important role. This differs from the orthographic stage, in which the reader operates on words, analysing them without employing phonological conversion. The operations are based on the reader's awareness of a word's division into syllables and larger meaningful chunks. Spencer (2010) points to the second phase as "the only one that requires a connection to phonological processes, and [where] deficits at this point are seen as being very detrimental to the successful acquisition of decoding strategies" (p. 520).

Ehri (1995) extended Frith's taxonomy to a four-phase model: pre-alphabetic, partial alphabetic, full alphabetic and consolidated alphabetic. In the pre-alphabetic phase a student reads out words, retrieving their sound from auditory-visual memory or guessing words from context. The partial-alphabetic phase (called sight word reading) is built on a student's ability to recognize boundary letters together with context to access a word's phonology. The full-alphabetic phase is characterized by forming skilled sound-symbol connections to decode both known and unknown words. In the consolidated-alphabetic phase a reader consolidates his/her knowledge of bigger phoneme-grapheme blends (word chunks) that reoccur in different words to speed up the process of reading. Ehri (1995) suggests that words may be read in several different ways depending on the reader's knowledge of the writing system. Proficient word recognition involves using the letter sequence and spelling patterns to recognize words visually without applying phonological codes (consolidated-alphabetic phase). Fluent and accurate word recognition is achieved by utilizing reading strategies that belong to different phases depending on the purpose and context of reading.

Although the interpretations of the phases vary, the models are developmentally congruent (see

Table 1). It is to be noted that Ehri’s model recognizes the role of sight word reading which emerges in the partial-alphabetic phase. Readers learn how to form partial connections between selected letters in a written word and the sounds they represent.

L2 Reading

Reading competence is referred to as a general power (West, 1926) which is not confined to one language and therefore transferable. However, studies on L2 (Koda, 2004) reveal that “when reading in an unfamiliar language, even accomplished readers commonly function like novices, exhibiting many of the same problems as unskilled readers” (p. 20). From the developmental perspective, there are three main variables in L2 language competence: L1 reading ability, L2 proficiency (Alderson, 1984), and L2 decoding competence (Gough & Tunmer, 1986).

Decoding competence is measured by the ability to obtain words’ sounds and meanings and to extract phonological information. Research (Wade-Woolley & Siegel, 1997) revealed that L2 readers decode phonological information in a second language by applying the rules and structures of their first language. The reading strategy they select therefore plays a vital role in L2 reading. This transfer of reading strategy is found to be successful when L1 and L2 share the same orthographic properties (e.g. both are transparent and fine-grain sized). When the languages differ significantly with respect to their transparency and granularity, the transfer of reading skills is no longer positive. Applying grapheme-to-phoneme strategy used in a transparent L1 (Italian, Spanish, Polish) to reading in an opaque L2 (English) results in phonetic reading and is an example of a negative transfer of language skills.

From the perspective of EFL/ESL instruction, reading is as a ‘psycholinguistic-guessing-game’ (Goodman, 1973), and this is currently the most widely applied reading technique in the classroom. Birch (2007, p. 8) points out that

many learners learn to read English without much direct instructions in decoding or rerecording letters. They learn unconsciously by themselves the relationship between letters and sounds and can successfully generalize this information to apply it to new words they are confronted with.

It can be inferred that since EFL reading draws from a student’s L1 linguistic intuition and does not follow developmental reading trajectories, reading phases (Ehri’s model) are not consecutively followed. Readers apply the strategy which they identify as either accessible or/and functional. Thus, EFL readers possess different levels of reading comprehension, accuracy and speed.

Table 1
Two models of reading development (after Bielby, 1999, p. 14)

Age	Frith (1985)	Ehri (1995)
3–5 (?) years	logographic phase	pre-alphabetic phase
partial-alphabetic phase		
5–7 (?) years	alphabetic phase	full alphabetic phase
7–9 (?) years	orthographic phase	consolidated alphabetic phase

The basic prerequisite for accurate and fluent reading is the development of firm sound-meaning associations. These relations are formed during the pre-reading phase and build on the mental lexicon. The mental lexicon, which stores words’ representations at their auditory, semantic and orthographic level, mediates in reading. In L1 language acquisition, it takes four to five years of forming connections between words and their meanings to build the lexicon. In contrast, in L2 language learning, this phase is either omitted or develops alongside sound-symbol recognition. It should be noted that word-based books are used with students at the early level of schooling. EFL teachers, if not native speakers, instruct students in both L1 and L2 which also limits access to the L2 as a spoken language. Furthermore, students are tested in a pen and paper format, as it allows for easy and reliable scoring of the test results.

Research on L2 learning provides evidence for the significant role of word frequency, regularity and length in reading in non-transparent scripts (Glusko, 1979; Plaut et al., 1996; Wang & Koda, 2007; Spencer, 2010). The studies show that students read high-frequency words faster and more accurately than low-frequency words and regular words more accurately than exception words. In addition, the difference in accuracy of regular and exception words is more evident in low-frequency words than in high-frequency words. Spencer (2010) posits that “as transparency increases across languages, so the influence of word frequency may be expected to decline” (p. 538).

Materials and Methods

The intent of this study is to identify reading accuracy in a selected group of Polish EFL learners. The proposed research hypotheses address the relations between reading accuracy in English and a word’s frequencies and regularities. Three research hypotheses were proposed

to investigate the significance of the influence of a word's regularity and frequency on reading accuracy in EFL among students with a transparent L1. **Hypothesis one:** EFL students with a transparent L1 will read regular (R) words more accurately than exception (E) words. **Hypothesis two:** EFL students with a transparent L1 will read high-frequency (HF) words more accurately than low-frequency (LF) words. **Hypothesis three:** The difference in performance between regular and exception words will be greater than the difference in performance between high frequency and low frequency words.

Participants

There were 15 subjects in the study. They were 6th grade primary school students, in their sixth year of regular instruction in English. Their mother tongue was Polish, whereas English was their foreign language; thus, their language competence in L1 and L2 differed substantially. The participants were 13 years old when the data was collected. Their estimated level of English was between A1 and A2 according to the Common European Framework of Reference for Languages (2001). The informants were chosen randomly from the 6th graders recruited from three different primary schools. Oral consent was obtained from the students and an explanation of the aim of study was provided.

Materials and Procedure

The design follows Glusko (1979), Plaut (1996), and Wang and Koda (2007). There are four sets of real words. Two features of the real words are manipulated for regularity and frequency. As a result, there are four experimental conditions: high-frequency regular words HFR (e.g. *get, dark*), high-frequency exception words HFE (e.g. *are, break*), low-frequency regular LFR (e.g. *choose, soon*), and low-frequency exception words LFE (e.g. *said, broad*). There are 20 items in each of the four sets. The words selected for each category were adapted from the list used in the research by Glusko (1979), Plaut (1996), and Wang and Koda (2007). The phonetic pronunciation of words suggested by Wells (2008) served as a model for classification of the words as correct or incorrect. Familiarity ratings of the words from frequency category were obtained from three experienced EFL teachers who taught the classes from which the participants in this study were recruited. The teachers were asked to mark each word with a value from 1 to 5. A 5-point scale was employed by the researcher to rate the familiarity of the words. Words in the frequency range between 4.0-5.0 formed the high frequency group, while words between 1.9-3.9 constituted the low frequency group. Students were tested during individual sessions. The list of words for the accuracy measure was presented to the participants on printed test sheets. They were asked to read the words out clearly and

distinctly. Their responses were voice recorded for further analysis.

Results

The total population (N=15) was analysed with the use of descriptive statistics, where mean, standard deviation and range of scores on each measure were given. This gave a general profile of the group. In addition, the t-test was used to determine whether the difference between two independent means was statistically significant. Table 2 provides descriptive statistics for the group of EFL learners with means, standard deviations and range of scores.

Hypothesis one. The distribution of mean and standard deviation, in reference to the dimension of regularity shows that the researched group reads (R) regular words (MA=23.27, SD=5.36) more accurately than (E) exception words (MA=10.93, SD=4.35). The data also reveals that reading accuracy for high frequency regular words (MA=12.73, SD=2.84) is greater than for high frequency exception words (MA=8.00, SD=2.67). Consequently, reading accuracy for low frequency regular words (MA=10.53, SD=3.25) is greater than for low frequency exception words (MA=2.93, SD=2.13). The difference between the accuracy of reading regular words (MA=23.27, SD=5.36) and exception words (MA=10.93, SD=4.35) was statistically significant (dif=12.34, t=6.453, df=13, p=0.000). Therefore, there is insufficient evidence to reject the null hypothesis which states that EFL students with a transparent L1 will read regular (R) words more accurately than exception (E) words.

Hypothesis two. When the dimension of frequency is analysed, the data reveals that students read high frequency words (MA=20.73, SD=5.09) more accurately than low frequency words (MA=13.47, SD=5.03). Reading accuracy for high frequency regular words (MA=12.73, SD=2.84) is greater than for low frequency regular words (MA=10.53, SD=3.25). Similarly, high frequency exception words (MA=8.00, SD=2.67) are read more accurately than low frequency exception words (MA=2.93, SD=2.12). The difference between accuracy of reading high frequency words (MA=20.73, SD=5.09) and low frequency words (MA=13.47, SD=5.03) was statistically significant (dif=7.27, t=3.800, df=13, p=0.002). Therefore, there is insufficient evidence to reject the null hypothesis which states that EFL students with a transparent L1 will read high-frequency (HF) words more accurately than low-frequency (LF) words.

Hypothesis three. The difference in performance between reading accuracy for high and low frequency words (MA=7.27, SD=3.79) is greater than between

Table 2
Means, standard deviations and range on reading accuracy measure in English

	R	E	LF	HF	HF-LF	R-E	HFR	HFE	LFR	LFE
MA	23,27	10,93	13,47	20,73	7,27	12,33	12.73	8.00	10.53	2.93
SD	5,36	4,35	5,03	5,09	3,79	2,73	2.84	2.67	3.25	2.12
MIN	11	4	4	11	1	7	7	4	4	0
MAX	32	21	24	29	15	16	16	13	16	8

* R (regular words), E (exception words), LF (low frequency words), HF (high frequency words), HFR (high frequency regular words), HFE (high frequency exception words), LFR (low frequency regular words), LFE (low frequency exception words)

regular and exception words (MA=12.33, SD=2.73). Since the difference is statistically significant (dif=6.06, $t=2.646$, $df=13$, $p=0.020$) and is greater for H-L frequency words than for R-E words, there is sufficient evidence to reject the null hypothesis. Interestingly, low frequency regular words (MA=10.53, SD=3.25) are read more accurately than high frequency exception words (MA=8.00, SD=2.67).

Discussion and Conclusion

The study revealed that students with a transparent L1 read regular words more accurately than exception words, which is in agreement with other reported studies. This significant difference might be indicative of the role of L1 reading strategy in reading EFL. Students with a transparent L1, in this case Polish, transfer a grapheme-phoneme reading strategy to English. This technique is successful when applied to reading regular words, but unsuccessful when used with exception words. Considering the fact that the dominant EFL reading instruction technique in Polish schools resembles ‘a psycholinguistic guessing game’, this is the student’s natural choice.

In addition, the study points to the significant value of word frequency in reading accuracy. The students tested were more accurate when reading high frequency words than low frequency words. This depicts the value of quantitative exposure to a lexical item. If a word is encountered numerous times, it allows for a greater chance of the learner acquiring its correct pronunciation. With increased exposure, the word is more likely to enter the ‘sight word category’ and to undergo restructuring if the initial pattern is incorrect. Although both conditions, regularity and frequency, were significant in reference to the accuracy of EFL reading, regularity influenced the reading outcome to a greater extent than frequency.

The role of regularity as a decisive factor in EFL reading accuracy is supported by the data obtained from computing the difference between H-L and R-E words. In sum, students read words from regular-exception groups more accurately than from high-low frequency

groups. Interestingly, the S.D. in regular-exception groups was lower than in the high-low frequency group. This reflects the more unitary influence of regularity over frequency in reading accuracy. In the same vein, the students committed fewer errors in reading low frequency regular words than in reading high frequency exception words.

From the pedagogical perspective, the data collected support the need for the implementation of structured reading directions in the EFL classroom, instead of relying on a student’s ‘linguistic intuition’. Reading instructions should incorporate and stress a whole word reading strategy for use alongside grapheme-phoneme matching. Due to the fact that EFL students enter the EFL linguistic environment with no or limited knowledge of the phonological structure of the language, teaching programs should postulate overlearning. Overlearning means practicing a word beyond the initial point of mastery in order to automatize word retrieval. To prevent students from committing pronunciation errors, newly introduced words should be presented to students orally first so that they are able to form sound-meaning associations. When a firm sound-meaning relation is established, the graphical form of a word can be introduced. This sequence of the presentation of words might yield progress in reading accuracy (Rathvon, 2008, p. 197; Levy et al., 2013, p. 284).

References

- Alderson, J. C. (1986). Reading in a foreign language: A reading problem or a language problem? In J. C. Alderson & A. H. Urquhart (Eds.), *Reading in a foreign language* (pp. 1–24). London, UK: Longman.
- Bielby, N. (1999). *Teaching reading: At key stage 2*. Cheltenham, UK: Stanley Thornes.
- Birch, B. M. (2002). *English L2 reading: Getting to the bottom*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching,*

- assessment. Cambridge, UK: Cambridge University Press.
- Ehri, L. C. (1995). Phases of development in learning to read by sight. *Journal of Research in Reading*, 18, 116-125.
- Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning reading* (pp. 3-40). Hillsdale, NJ: Lawrence Erlbaum Assoc.
- European Commission. (2010). *EUROPE 2020: A strategy for smart, sustainable and inclusive growth*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF>
- European Commission. (2011). *Language learning at pre-primary school level: Making it efficient and sustainable. A policy handbook*. Brussels, Belgium: European Commission. Retrieved from http://ec.europa.eu/languages/policy/language-policy/documents/early-language-learning-handbook_en.pdf
- European Commission. (2012). *Rethinking education: Investing in skills for better socio-economic outcomes*. Strasbourg, France: European Commission. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0669&from=EN>
- EUROSTAT Press Office. (2013). Two-thirds of working age adults in the EU28 in 2011 state they know a foreign language. *Eurostat Newsrelease*, 138. Retrieved from <http://ec.europa.eu/eurostat/documents/2995521/5162658/3-26092013-AP-EN.PDF/139b205d-01bd-4bda-8bb9-c562e8d0dfac>
- Frith, U. (1985). Beneath the surface of developmental dyslexia. In K. E. Patterson, J. C. Marshall & M. Coltheart (Eds.), *Surface dyslexia: Neuropsychological and cognitive analyses of phonological reading* (pp. 301-330). London, UK: Lawrence Erlbaum.
- Frith, U., Wimmer, H., & Landerl, K. (1998). Differences in phonological recoding in German- and English-speaking children. *Scientific Studies of Reading*, 2, 31-54.
- Fromkin, V., Rodman, R., & Hyams, N. (2013). *An introduction to language* (10th ed.). Boston, MA: Cengage.
- Glushko, R. J. (1979). The organization and activation of orthographic knowledge in reading aloud. *Journal of Experimental Psychology: Human Perception and Performance*, 5(4), 674-691.
- Goodman, K. S. (1973). Psycholinguistic universals of the reading process. In F. Smith (Ed.), *Psycholinguistics and reading* (pp. 21-29). New York, NY: Holt, Rinehart and Winston.
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7, 6-10.
- Grigorenko, E. L., & Naples, A. J. (2009). The devil is in the details: Decoding the genetics of reading. In K. Pugh & P. McCardle (Eds.), *How children learn to read: Current issues and new directions in the integration of cognition, neurobiology and genetics of reading and dyslexia research and practice* (pp. 133-148). New York, NY: Taylor-Francis.
- Levy, B. A., Barnes, L., & Martin, L. (1993). Transfer of fluency across repetitions and across texts. *Canadian Journal of Experimental Psychology*, 47, 401-427.
- Olson, R. K., Byrne, B., & Samuelsson, S. (2009). Reconciling strong genetic and strong environmental influences on individual differences and deficits in reading ability. In K. Pugh & P. McCardle (Eds.), *How children learn to read: Current issues and new directions in the integration of cognition, neurobiology and genetics of reading and dyslexia research and practice* (pp. 215-233). New York, NY: Taylor-Francis.
- Perfetti, Ch. A., & Dunlap, S. (2008). Learning to read. General principles and writing system variations. In K. Koda & A. M. Zehler (Eds.), *Learning to read across languages: Cross-linguistic relationships in first- and second-language literacy development* (pp. 13 - 38). New York, NY: Routledge.
- Plaut, D. C., McClelland, J. L., Seidenberg, M. S., & Patterson, K. (1996). Understanding normal and impaired word reading: Computational principles in quasi-regular domains. *Psychological Review*, 103(1), 56-115.
- Rathvon, N. (2008). *Effective school interventions: Evidence-based strategies for improving student outcomes*. New York, NY: Guilford Press.
- Seidlhofer, B., Breiteneder, A., & Pitzl, M.-L. (2006). English as a lingua franca in Europe: Challenges for applied linguistics. *Annual Review of Applied Linguistics*, 26, 1, 3-34.
- Spencer, K. (2010). Predicting children's word-reading accuracy for common English words: The effect of word transparency and complexity. *British Journal of Psychology*, 101, 519-543.
- Wade-Woolley, L., & Siegel, L. S. (1997). The spelling performance of ESL and native speakers of English as a function of reading skill. *Reading and Writing: An Interdisciplinary Journal*, 9, 387-406.
- Wang, M., & Koda, K. (2007). Commonalities and differences in word identification skills among learners of English as a second language. *Language Learning*, 57(1), 201-222.
- West, M. (1926). *Learning to read a foreign language: An experimental study*. London, UK: Longmans, Green and Co.