The effectiveness and efficiency of extensive reading at developing reading rates

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A R T I C L E   I N F O

A B S T R A C T

Few studies have examined the development of foreign language learners' reading rates through extensive reading. The previous studies conducted have methodological limitations with regards to their research design or interpretation of results. To address these limitations, this study investigated the impact of extensive reading and grammar-translation on reading rate development using an experimental research design with evidence that time spent conducting the respective treatments was similar. First-year Japanese university students ($N = 50$) were randomly assigned to one of two treatment groups. To measure reading rate improvements over an academic year, pre- and post-treatment reading rate measurements were used where comprehension was maintained above 70%. The between-groups analysis revealed that the extensive reading group participants ($n = 23$) increased their reading rate significantly relative to the grammar-translation group participants ($n = 27$). This study provides evidence of both the effectiveness and efficiency of developing reading rates through extensive reading relative to traditional reading instruction with grammar-translation exercises. Pedagogical implications include allocating more time for extensive reading and questioning the value of the grammar-translation approach. In addressing the call for stronger evidence than quasi-experimental studies, this research demonstrates that classroom-based experimental reading studies which control for time-on-task are feasible.

1. Introduction

In foreign language contexts, reading has been commonly conceptualized under two types: intensive and extensive reading. Palmer (1917) provided an initial, enduring definition:

> Reading may be intensive and extensive. In the former case each sentence is subjected to a careful scrutiny, and the more interesting may be paraphrased, translated, or learnt by heart. In the latter case book after book will be read through without giving more than a superficial and passing attention to the lexicological units of which it is composed. (p. 205)

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Extensive reading (ER) is an increasingly popular approach to developing reading skills. However, in EFL contexts, the grammar-translation approach is still commonly used together with intensive reading instruction (e.g., Liu & Littlewood, 1997; Pazaver & Wang, 2009; Rao, 2001; Vardanjani, 2013). In Japan, although the use of ER has grown (Nakanishi & Ueda, 2011), grammar-translation is still the common instructional approach (Hino, 1988; Kikuchi & Browne, 2009; Tsukamoto & Tsujioka, 2013). While the number of studies investigating ER has increased greatly over the past 20 years, only 34 studies (up to 2012) met Nakanishi's (2015) criteria for inclusion in his meta-analysis of empirical studies in which the overall effectiveness of extensive reading was investigated. Furthermore, only a limited number of published studies (Appendix) have investigated the influence of ER on reading rate. However, because of research design limitations, these studies can make only limited causal inferences between ER and reading rate improvement. By deploying an experimental research design and providing evidence that time-on-task was similar for the treatment groups, reading researchers can make a stronger case that ER is not only more effective but also more efficient than grammar-translation at developing learners' reading rates.

2. Literature review

To understand the need for ER and the drive for more principled studies to support its incorporation into foreign language classrooms and curricula, it is important to examine the processes involved in reading development.

2.1. Reading development

Fluent reading with appropriate levels of comprehension requires the efficient use of numerous cognitive processes. Because cognitive resources are finite, some if not all of these processes must become automatized (Grabe & Stoller, 2011). Readers must develop accurate and automatic sublexical and lexical processes; integrate the perceptual, phonological, orthographic, and morphological processes necessary during the reading of single words; and extract semantic meaning rapidly from orthographic forms. Readers also have to parse syntax and analyze text into phrasal and intersentential formations and interpret messages within the text through schematic activation (Wolf & Katzir-Cohen, 2001).

First-language (L1) researchers have found a positive relationship between reading fluency and comprehension (e.g., De Soto & De Soto, 1983; Fuchs, Fuchs, & Maxwell, 1988; Nathan & Stanovich, 1991). Carver (1982) demonstrated this positive relationship by showing how restricting the L1 reading rate reduced readers' text comprehension when compared with comprehension levels while reading at an unrestricted rate. McMillion and Shaw (2016) found that even advanced L2 readers typically read slower in their second language. Effective decoding and the development of automatic word recognition skills are the principal rationalizations for a positive relationship between comprehension and fluency (Grabe & Stoller, 2011). This stance is based on the information processing model of reading (LaBerge & Samuels, 1974). The automatization of lower-level reading processes reduces the cognitive effort required for word recognition. Automatization facilitates the application of cognitive resources to other lower-level processes metaphorically called bottom-up skills (e.g., syntactic parsing and semantic proposition coding) and also to top-down skills or higher-order processing in working memory.

Empirical research into reading development posits that lower-level processes are of critical importance. Stanovich and Stanovich (1999) stated that "instructional programmes that emphasize spelling-sound decoding skills result in better reading outcomes because alphabetical coding is the critical subprocess that supports fluent reading" (p. 29). The label *lower-level processes* does not mean that they are easy or simple, but rather that they are elements more suited to become automatized. This automatization of lower-order skills is a requirement for fluent reading (Alderson, 2000; Koda, 2005). Many L2 learners, and especially those learning a language with a different writing system, face barriers to reading, even prior to developing any degree of reading fluency, as a result of limited lower-level processing abilities (Beglar, Hunt, & Kite, 2012; Grabe & Stoller, 2011). With languages that are orthographically different, little transfer of character recognition occurs. While related writing systems offer positive transfer, they can also lead to interference and slow L2 processing (Grabe & Stoller, 2002; McMillion & Shaw, 2016). Using spaced-reading tasks where participants pressed a key to move on to the next reading segment, Hoover and Dwivedi (1998) showed that faster L2 readers demonstrated faster word-recognition and parsing. The disparity between proficient and poor readers is unambiguous in the amounts of cognitive effort necessary for the two types of readers to engage in these skills. While proficient L2 readers identify words automatically, poor readers require greater cognitive resources and time to identify letters, common letter groupings, word morphology, and whole words (Grabe, 2009b; Koda, 2005).

In addition to word recognition, accurate syntactic parsing is necessary to extract grammatical information to understand clause-level meanings. For L1 in general, Klauda and Guthrie (2008) found syntactic processing to be most strongly correlated with reading comprehension ($r = 0.75$). More specifically they found that the meanings of polysemous words are more effectively and rapidly determined when syntactic aspects such as word order and phrasal groups within the text are interpreted in the way intended by the writer. Correspondingly, Alderson (1993) observed a high correlation ($r = 0.80$) between syntactic knowledge and reading comprehension in an L2 setting, meaning that poorer readers face difficulty parsing the syntactic elements within written texts. However, in L2 contexts, "extended exposure to meaningful print" (Grabe & Stoller, 2011, p. 24) in ability-appropriate level texts can lead to more efficient processing as language learners develop the skill to parse text more fluently.