# Reading comprehension and Specific Reading Disability in English

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https://doi.org/10.36505/ExLing-2023/14/0001/000595

## Abstract

Reading comprehension is a fundamental skill the acquisition of which depends on the graphophonemic system of the target language and the learner's learning profile. English, an orthographically non-transparent language, causes difficulties to speakers of transparent languages such as Greek, especially in acquiring reading skills. In the case of students with specific reading disability (SRD), learning English becomes even more challenging. Several accommodations have been suggested for SRD students regarding assessment of reading comprehension in the L2, one of which being lexical aid. The present study investigates the effect of lexical aid and of fatigue on the performance of SRD students in English. The results confirm the importance of lexical accommodation, but not the effect of fatigue on SRD learners' performance.

Keywords: reading comprehension, Specific Reading Disability, assessment, accommodation

## Introduction

Reading comprehension is a highly demanding skill, especially in orthographically non-transparent languages such as English. Inherent deficits in reading skills, such as slow reading rate and limited vocabulary along with lack of correspondence between graphemes and phonemes contribute to the difficulties SRD students face while reading in English as a foreign language.

Research has confirmed the underperformance of SRD students in typical reading comprehension criteria, consequently emphasis has shifted to the administration of accommodations during assessment (Andreou, Athanasiadou & Gana, 2019). SRD learners present restricted vocabulary in L2, due to less exposure to it and deficient working memory, therefore lexical aid as an accommodation is highly important (Rose & Rouhani, 2012). However, ambiguous results were documented, with lexical aid being ineffective for SRD learners in L1, while beneficial for typical learners in the L2 (Randall & Engelhard, 2010· Abedi. Courtney, Mirocha, Leon & Goldberg, 2005).

Fatigue is another parameter that needs further investigation, since it seems to affect SRD students' performance as Mazur & Chenu (2023) have supported. Extensive cognitive tasks seem to lead SRD to frequent stops and worse performance than short tasks.

Two theories have been developed on the validity of accommodations, namely Interaction Theory and Differential Boost Hypothesis (D.B.H). Interaction Theory rejects all accommodations leading to improvement of typical students' performance while D.B.H claims that typical students may show improvement that is less than that of SRD students (Sireci, 2008).

Based on the above, the hypotheses of this study are the following: a) SRD learners are expected to present improved performance under the accommodated administration b) SRD learners are expected to present improved performance in the form administered first and c) typical students are expected to show no statistically significant improvement under the accommodated administration.

## Methodology

### Participants

In the present study, 96 students (age 13-15), 48 typical and 48 with a formal diagnosis of SRD from KEDASY participated. A-Test, Wisc-III and Oxford placement test were also administered with the aim of grouping students. The criteria for inclusion in the SRD group included: diagnosis of SRD, decoding and fluency below 10th percentile, typical Intelligent Quotient and B2 level of English. The whole of 94 students (2 were excluded based on anomaly filter) were divided into four groups (each group had 24 participants except for the last two which had 23) including both typical and SRD students.

Table 1: Participants' information and scores on tests.

| | SRD group (N=47) | Typical group (N=47) |
|---|---|---|
| Gender | 21 females-26 males | 22 females-25 males |
| Chronological age | M: 15,40 | M: 13,80 |
| WISC-score | 90<score<109 | 90<score<109 |
| ΤΕΣΤ-A | score<$10^0$ | |
| Oxford placement test | B2 level: 61-66 | B2 level:65-74 |

### Procedure

Two forms (form G and H) of a reading comprehension test with 21 multiple choice questions each were administered to the four groups. The two forms included reading texts of similar difficulty and length. The two conditions were compared in a design which also controlled the effect of order. The time of completion was sixty minutes. Reliability was measured with Cronbach's alpha, being 0.71 and 0.72 for the standard and the accommodated format respectively. ANOVA analysis was used to measure the effect of accommodation on SRD and typical students' performance and t-test was used to measure the effect of fatigue.

The accommodation was implemented through the site "Rewordify.com", which provides synonyms for the challenging words in a text based on corpora, according to the selected by the teacher level.

## Results

Students with SRD presented a statistically significant difference in the accommodated administration compared to the standard one in both forms. More specifically, in form G the following results were obtained: accommodated form: ME=15,53, SD=0,465, standard form: ME=11,62, SD=0,476, F=34,69, p<0,001. In form H, the following results were obtained: accommodated form: ME=15,62, SD=0,504, standard form: ME=11,70, SD=0,493, F=30,87, p<0,001. As for the typical students, in form G the results obtained were the following: accommodated form: ME=18,33, SD=0,417, standard form: ME=18,08, SD=0,408, F=0,189, p=0,666. In form H, they presented the following: accommodated form ME= 18, 04, SD=0,553, standard form: ME= 18,82, SD=0,566, F=0,973, p=0,329.

Based on the t-test, no statistically significant results were obtained in either form (G and H): p=0,143 and p=0,798 respectively regarding the order of administration.

Regarding typical students, in form H they did not present any improvement in the accommodated administration. In form G, the effect sizes were $\eta^2$=0,447 and $\eta^2$=0,004 for SRD and typical students respectively.

## Discussion

Regarding the first hypothesis, our findings showed that the accommodation of lexical aid leads to a statistically significant difference in the performance of SRD students. Those results confirm previous research (Abedi et al. 2005) with typical learners, which showed that lexical aid seems to cater for the inherent difficulties learners face in L2. It seems that better understanding is achieved when equivalents are provided, especially to adolescents and our results further enhance the effectiveness of lexical aid to students with SRD. However, our results do not confirm those of Randall and Engelhard's (2010), who documented that SRD learners presented worse performance when lexical aid was administered. This could be attributed to the fact that the age of the participants in the two studies is different; adolescents participated in the present study as opposed to 9–12-year-old children who were the participants in Randall and Engelhard's study. Younger students face more difficulties in decoding, therefore lexical aid increases the number of words to be decoded, while adolescents present more difficulties in vocabulary, thus lexical aid makes challenging words accessible.

Statistically significant results were not found regarding the form order, showing that fatigue is not a factor that significantly affects the performance of

SRD students. A slightly improved performance was seen in the form that was administered first, but the second hypothesis was not confirmed.

Regarding the third hypothesis, it was revealed that SRD students presented a Differential Boost (Sireci, 2008) regarding their performance as opposed to typical students. More specifically, only in form G did typical students present improvement in the accommodated administration, with less effect size than SRD learners. The results were consistent with the Differential Boost Hypothesis verifying the validity of the accommodation.

## References

Abedi, J., Courtney, M., Mirocha, J., Leon, S., Goldberg, J. 2005. Language accommodations for English language learners in large-scale assessments: Bilingual Dictionaries and Linguistic Modification. CSE Report 666. National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Andreou, G. Athanasiadou, P., Gana, E. 2019. ICT and specific learning disabilities: A proposition for the use of the software Rewordify in the foreign language learning by students with reading comprehension difficulties. International Conference in Open and Distance Learning, 10, 85-93.

Mazur, A., Chenu, F. 2023. The revision process during handwritten text production: The case of French higher education students with dyslexia. Dyslexia, 29, 116-135.

Randall, J., Engelhard Jr, G. 2010. Performance of students with and without disabilities under modified conditions: Using resource guides and read-aloud test modifications on a high-stakes reading test. The Journal of Special Education, 44(2), 79-93.

Rose, L. T., Rouhani, P. 2012. Influence of verbal working memory depends on vocabulary: Oral reading fluency in adolescents with dyslexia. Mind, Brain, and Education, 6(1), 1-9.

Sireci, S. G. 2008. Validity issues in accommodating reading tests. Journal of Educators & Education/Jurnal Pendidik dan Pendidikan, 23, 81-110.