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The importance of reading fluency and its assessment through silent reading

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ABSTRACT: *The goal of this study was to explore the relationship between oral and silent reading fluency, especially when silent fluency is measured both through printed or digital format. Further, we aimed at investigating whether the relationship between reading fluency and reading comprehension varies depending on the way fluency is measured. 28 students attending 3rd grade of High School participated in the study. All participants were typical readers. Based on the data analysis, it was revealed that no significant differences were observed in silent reading fluency regardless the way the assessment was conducted, through printed or digital format. Moreover, it was found that there is a positive correlation between silent reading fluency and reading comprehension but not between oral reading fluency and reading comprehension. It is underlined that the strongest correlation between silent fluency and reading comprehension involved the digital measurement of reading fluency. Based on our primary findings, is it suggested that reading fluency assessment can be integrated in everyday school practices through modern, digital, time-efficient ways.*

KEYWORDS:*oral reading fluency, silent reading fluency, comprehension, TOSCRF, digital assessment.*

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I. INTRODUCTION

Reading fluency is often mentioned in international articles as an important indicator for the detection and diagnosis of reading difficulties (Fletcher et al., 2007) while at the same time it is recognized as the connection of basic reading skills with comprehension, which is the purpose of reading (NRP, 2000). This established relationship between fluency and comprehension is not fixed, as it seems to differ depending on the level of development of fluency and the student's grade of study (Rasinskietal., 2017) and the way it is evaluated (Kuhnet. al, 2010; Miller&Smith, 1990).

Fluency is mainly associated with oral reading, since it is characterized by accuracy, speed and prosody (Protopapas&Skaloubakas, 2008). The way of assessing oral fluency that has prevailed so far for all school grades is the oral reading of a text or a list of words and/or pseudowords for one minute, counting the correctly read words in relation to the specific time unit (Deeney, 2010). Substitutions, reversals, omissions of letters, as well as words uttered by the examiner, after waiting 2-3 seconds, during which there was no attempt or response from the examinee, are perceived as errors (Rasinski, 2004). The choice of assessing oral reading fluency prevails since it had been shown to be a stronger indicator of comprehension (Protopapas&Skaloubakas, 2008).

The assessment of reading fluency is carried out mainly in the first grades of primary school, with the aim of detecting and diagnosing Special Learning Difficulties (SLD) and consequently direct, individualizedintervention. Fluency, however, does not stop developing and is consolidated exclusively in the first grades of primary school, as difficulties continue in the next school grades up to and including higher education (Rasinski et al., 2017). In addition, the assessment of oral reading requires a lot of time and is carried out individually (Denton et al., 2011), and it is not possible to concurrently evaluate many children, especially in the school context. In recent years, the above concerns have turned the research interest towards the investigation of the relationship between oral and silent reading fluency and the correlation of silent with reading comprehension.

Research data on silent reading often reveal the possibility of detecting reading difficulties through it (Denton et al., 2011; Seok & DaCosta, 2014; Gagliano et al., 2015; van den Boer et al.,2022), its relation to reading comprehension (Ciuffo et al., 2017; Denton et al., 2011; Kim et al., 2011) and in particular its correlation with oral reading fluency (Ciuffo et al., 2017; Denton et al., 2011; Kim et al., 2011; Seok & DaCosta, 2014; van den Boer et al.,2022).

With regard to the detection of SLD, it has been shown that the performance of these students in the silent reading assessment remains lower than the one of average readers (Denton et al., 2011; Gagliano et al., 2015; Seok & DaCosta, 2014). In regard to the relationship between silent reading fluency and comprehension,

it has been suggested that for students in the first school grades, the correlation between oral reading and comprehension is stronger (Kim et al., 2011) than for students in older classes (Denton et al., 2011). However, in the last grades of primary school, students' reading comprehension performance is not affected by oral reading fluency (Robinson et al., 2022). From a survey of higher education readers, it was also noted that while oral fluency remained constant, silent fluency continued to improve (Ciuffo et al., 2017), possibly based on interaction with reading comprehension. Finally, from research that specifically focuses on the relationship between oral and silent reading fluency, the positive correlations between oral and silent reading fluency are widely confirmed (Ciuffo et al., 2017; Denton et al., 2011; Gagliano et al., 2015; Kim et al., 2011; Seok & DaCosta, 2014; van den Boer et al.,2022).

All the available empirical data are derived from the English literature and articles and mainly concern the English language. In Greek literature, no corresponding research has been identified at any school grade and there is no corresponding discussion on the ways of assessing reading fluency.

When assessing silent reading fluency, the process and scoring are differentiated and easier to use in conducting, scoring and interpreting the results (Hammill et al., 2006). Two different approaches have been used to evaluate silent reading (Denton et al., 2011). During the first approach, students are evaluated, mainly based on comprehension, either by judging the correctness of a sentence or by choosing the right words (maze task) through silent reading. The most well-known test are the Test of Silent Reading Efficiency and Comprehension (TOSREC) (Johnson et al., 2011) and the AIMSweb Maze CBM (Shinn & Shinn, 2002). During the TOSREC, examinees are asked to read silently in three (3) minutes as many sentences as they can, by correct "Right-Wrong" or "Yes-No", judging whether the sentences they read make sense. During the AIMSweb Maze CBM, examinees are asked to complete incomplete sentences, choosing the correct one among three (3) options given to them and the total duration ranges from 5 to 10 minutes.

In the second approach, words or sentences are given,written in capital letters, joined, without spaces and punctuation between them. The examinees must separate the words by drawing vertical lines between them, within a certain period of time, which usually amounts to three (3) minutes. In the case of sentences, there is semantic coherence between the terms of the sentence, thus controlling not only the decoding and the rate of recognition but also the breadth of vocabulary and fluency at the sentence level. The best-known standardized tests are the Text of Silent Contextual Reading Fluency (TOSCRF) (Hammill et al., 2006) and the Test of Silent Word Reading Fluency (TOSWRF) (Williams & Bell, 2005).

In both approaches, the individual is asked to read and interact with printed material, in the way that reading is traditionally done in a school context. However, as often reported, in the last decade there has been a very large expansion of reading for educational purposes in digital form (Mangen et al., 2013). The rapid transition of reading from print to digital, especially among young people, has brought positive results, such as flexibility, accessibility and adaptation of texts to student profiles, enhancing students' focus with appropriate multimedia and developing basic reading skills (Ben-Yehudah et al., 2018). However, digital reading has been challenged in particular because of the negative effects it may have on students' reading fluency and comprehension (Mangen et al., 2013).

In order to ensure the validity and ease of collecting assessment data and based on the expanding reading of educational texts by students in digital form, the need and the possibility of assessment silent reading fluency digitally arise to. One of the two main criteria for selecting an assessment tool is its effectiveness in administering, scoring and interpreting it (Rasinski, 2004). Therefore, if the assessment of reading fluency silently and through digital material proves to be valid and reliable, it will lead to easy conduct and objective scoring. In such a case, the assessment of reading fluency and, by extension, reading comprehension, can be integrated into educational school practice and may contribute significantly to the early detection of possible reading difficulties.

The goal of the research was to investigate the relationship between verbal and silent fluency, especially when using both printed and digital measurement of silent fluency, as well as to highlight the relationship between fluency and comprehension. In particular, the study focused on the following research questions:

1. Does students' performance differ in silent fluency depending on how it is assessed?
2. What is the relationship between reading comprehension and oral and printed or digital silent reading fluency?
3. Are there specific language features of the text that affect students' reading fluency?

II. METHODOLOGY

A total of 28 people participated in the survey, of whom 12 were boys and 16 girls. All participants attended the third grade of gymnasium (14-15 years old).18 lived in semi-urban areas of Thessaloniki, while 10 lived in urban areas. The criteria for the selection of the students were to have Greek as native language and not

to have any disability, nor a diagnosis of SLD. Therefore, all children followed the typical academic program and none faced SLD.

Two assessment tools were used to conduct the research, one to assess oral reading fluency and comprehension and one to assess students' silent reading ability. The students' oral fluency and comprehension was assessed with Evaluation of Reading Skills (DADA) (Padeliadu et al., 2019), while for the assessment of silent reading fluency, a test was created (Antoniou &Padeliadu, under standardization), based on the structure of TOSCRF (Hammill et al., 2006). The adaptation of the tool was based on lexical, grammatical and syntactic criteria, such as the number of words, the difficulty of the vocabulary, the frequency of words, the proportional representation of parts of speech and their grammatical differences, their syntactic role and their position in the sentence.

The students started with small sentences and then proceeded, which were written in uppercase, joined letters, without gaps and punctuation between them. The choice of sentences rather than individual words aimed at the semantic consistency between the terms of the sentences and consequently at utilizing the students' comprehension. The examinees had three (3) minutes to draw lines between as many words as they can read to separate them.

For the needs of this study, two different forms were created (Form A and Form B) equalized in terms of all lexical, grammatical and syntactic rules. One form was presented to the students in printand the second in digital format. Fifteen (15) sentences-periods were selected for each form. The selected sentences and texts were taken from the textbooks used in the curriculum in all schools in Greece (published by the Ministry of Education, Research and Religious Affairs). The selected sentences and texts included both narrative and information excerpts in graded difficulty.

In particular, during the creation of the two forms, the criterion of gradually increasing the number of words was initially implemented. The next criteria set were word frequency control, correct ratio of parts of speech and grammatical differences. Where necessary, excerpts from school textbooks were modified. Subsequently, many of the period sentences were converted to have a larger nominal part, to be as free of articles and conjunctions as possible, and to avoid repetition. However, repetitions of some articles and conjunctions have been retained to ensure conceptual coherence. Finally, the syntactic features of the sentences were taken into account.

The National Thesaurus of the Greek Language (NTHEG) from the Institute of Language Processing (IEL) (http://hnc. ilsp. gr/) was used to check the frequency of a word in textbooks. NTHEG gives the option of presenting a word either as specific word type or as a whole entry, evaluating the linguistic level, its frequency and the words with the most occurrences preceding and following it. This tool allows us to avoid common words and supports the creation of two forms with the same level of difficulty.

An application was created by MariosAgiomavritis (2021) for the digital version of the test and posted on a specific URL (link). At the start of the application, each sentence is given to the student individually together with his/her ID number. After the verticals are correctly placed using the computer cursor, the student clicks "Submit" and continues to the next sentence. The application is automatically paused at 3 minutes and the timer starts from the student's first click.

The results for each student are recorded in a spreadsheet (. xlsx) file format. The information given is:

- the number of each student's ID,
- the date and time of the test,
- the correct answers marked with the number one (1). Any words not recognised by the students are marked with the number zero (0),
- the time for separating or marking each word and the total time for the whole test. Times are given in milliseconds (ms). The information shown after each word refers the time at which the word to the left of it was correctly split, while the last word on a page is always followed by the time of the last split. So this number shows the total time to complete the page-sentence. In case of an error, the time to the left of the word is not recorded.

Table 1 shows the results from four (4) different students in reading a sentence.

Table 1
Recording results of the implementation of silent reading fluency assessment

ID	Started	THE		RIVER		FLOWS	
1812	2021-06-07 07:28:01	1	21350	1	24102	1	24102
1808	2021–06-06 14:55:35	1	19676	1	21228	1	21228
2108	2021–06-09 15:11:39	0	-	1	10342	1	10342

III. RESULTS

Participants were divided into two groups according to the order of completion of the silent reading fluency assessment test. Students who completed Form A on paper and Form B digitally were placed in the first

group, while those who completed the forms in reverse order were placed in the second group. This particular organization of the assessment was released to ensure that no different results are obtained due to sequence the order of completion.

During the digital assessment, the mean performance of students from Group B on Form A was 52. 20, while the mean performance of students of Group A on Form B was 51. 85. After comparing those scores through Independent ttest, no statistical difference was observed between the two means (p=0. 913). Respectively, for the in print assessment the mean performance of students in Form Awas 57. 31, while it was 48. 53 in Form B. Again there was no statistical difference between the two means (p= 0. 09.) Since it was ensured that there was no significant statistical difference between the two forms in the digital and paper format, the results for the participantsare presented as a whole. Table 2 includes the silent reading fluency test data(means) and the test of difference for the two means. It was observed that the mean score of the students' performance in the digital version of the test was 52. 04, while in the paper version it was 51. 4, and the difference between them was found to be statistically significant. Therefore, it appears that when assessing silent fluency with digital text, students' performance is higher than when presented in printed format.

Table 2
T-test for the difference between print and digital format

	Mean	Sig(2-tailed)
printed form	51,54	,00
digital form	52,04	

Regarding the second research question and the relationship of the different ways of assessing fluency with reading comprehension, correlations are calculated. As it turned out, the correlation of oral reading fluency with comprehension proved to be non-statistically significant. On the contrary, a statistically significant positive correlation was recorded between both printed silent reading fluency (r=0.390) and digital silent reading fluency with reading comprehension (Table 3), with a higher correlation between silent digital fluency and comprehension (r=0.475).

Table 3
Comprehension correlations with silent and oral reading fluency

		Silent paper form	Silent digital form	Oral
Comprehension	PearsonCorrelation	,390*	,475*	,306
	Sig. (2-tailed)	,040	,011	,113

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

By performing the evaluation of silent reading fluency with the digital format, it was possible to access and interpret more data and unobservable behaviors during silent reading, associated with linguistic dimensions of the text.

At the word level, the range of recognition time for each word separately was checked and then the means of these values were compared. From the analysis of these data, it emerged that main delays and errors, were observed on complex words or verbs that have as their part first a preposition. In particular, the mean recognition time of multisyllabic words was about 4 seconds (Mean = 3.8), while in compound multisyllabic words the time range almost doubled (7 seconds). However, in the compound, multi-syllabic words that were high frequency once and had the same preposition as the first compound, the mean of the recognition time was the same with the time of the simple words (Mean= 4. 1).

At the sentence level, the total time taken to complete each sentence was checked and then the means for each one were compared. The main delays were observed in sentences consisting of a large nominal part and in periods with subordinate sentences. Specifically, the completion time of sentences following theSubject-Verb-Object syntax ranged from 19-24 seconds, depending on the number of words, having mean of 21 seconds. In contrast, in sentences with a longer nominal or with subordinate sentences, the mean of the recognition time was 30 seconds, increasing by 50%.

In summary, it was observed that there is no difference in the printed or digital assessment of the silent fluency of the students, as their performance is not affected by the way their assessment is carried out. The relationship of silent reading fluency to comprehension is positive, as opposed to the relationship of oral reading fluency with comprehension. Finally, during the analysis of linguistic factors at the word level, there were delays in compound, multi-syllabic words, while at the level of sentences, the syntax of sentences and the size of the nominal parts were an important factor.

IV. DISCUSSION

The purpose of the research was to investigate the relationship between oral and silent fluency, especially when utilizing both printed and digital measurement of silent fluency, as well as to highlight the relationship between fluency and comprehension. Particular emphasis was placed on silent fluency but also on the investigation of specific linguistic features of words and sentences, which present difficulties for students of the third grade of high school.

According to our findings, it was found that there is no statistical difference in silent reading fluence when this is conducted in print or digital. This is an interesting research finding, since almost all previous research has utilized assessment exclusively in print (Ciuffo et. al, 2017; Denton et al., 2011; Gagliano et al., 2015; Fuchs et al., 2001; Kim et al., 2011; Robinson et al., 2022; Seok & DaCosta, 2014; van den Boeret al., 2022). Based on our own findings, we suggest the possibility of a reliable and valid assessment, in modern, group, digital format even from a distance. In addition, there is a possibility of easy and low cost grading, as well as the possibility of focusing on linguistic textual factors.

As for the relationship between oral fluency and comprehension, this was not found to be important for the students attending third grade of high school. This result is contrary to the results of Denton et al. (2011), who observed a positive and statistically significant correlation between oral fluency and comprehension and a moderately positive correlation for silentfluency. This difference probably lies in the fact that the research of Denton et al. (2011) also involved younger ages, where in oral fluency seems to be more correlated with comprehension, as Kim et al., (2011), observed. According to the latter, the relationship of oral reading fluency in the first grade seems to be stronger than the relationship of comprehension with silent reading fluency, which increases during the students' age. It is possible that oral fluency reaches a ceiling as students become better readers while, on the contrary, silent fluency maintains greater differentiation, which continues until higher education (Ciuffo et. al., 2017; van den Boer et al., 2022).

On the contrary, the relationship between silent reading fluency and comprehension was important and high especially for the digital version of the assessment. Regardless of the well-founded concerns that have been expressed in international articles about the negative effects of reading from an electronic device on students' comprehension (Mangen et al., 2013), the assessment of fluency through digital media seems to be significantly linked to reading comprehension performance. It is possible that the familiarity with digital reading as a practice may give greater comfort to students when their fluency is assessed in a way that is very familiar to them.

Further information at the word and sentence level was derived from the digital assessment of silent reading fluency. Regarding the level of words, most errors and delays occurred with regard to compound, multi-syllabic words with a first prefix. Remarkably, frequently compound multi-syllabic words were decoded more accurately and quickly (Kuhn et al., 2010), indicating that an important factor for comprehension and reading fluency is the range of vocabulary (Denton et al. , 2011) and possibly the overall reading experience.

At the sentence level, the role of verbs and theSubject - Verb - Object syntax seemed to facilitate the students' fluency and thus their comprehension. Verbs are most commonly found in the middle of the sentence and are likely to function as central elements within the sentence, either syntactically or conceptually, thus facilitating students' reading and comprehension. It can be assumed that syntactic knowledge as a meta-linguistic skill influences fluency and comprehension by mediating the application of syntactic rules in written language as well (Manolitsis, 2004).

Based on the findings in this study, the assessment of silent reading fluency arises as a quick, asynchronous,cost-effective and reliable way of assessment, which can be conducted individually and/or in groups, in paper and/or digital format, providing important information about students' reading.

REFERENCES

[1]. Agiomavritis, M. (2021). Digital online application of measurement Silent Reading Fluency.

[2]. Antoniou, F. &Padeliadu, S. (under standardization). Silent Reading Fluency Test (SRFT).

[3]. Ben-Yehudah, G., Hautala, J., Padeliadu, S., Antoniou, F., Petrova, Z., Leppanen, P. & Barzillai, M. (2018). Chapter 5. Affordances and challenges of digital reading for individuals with different learning profiles. In M. Barzillai, J. Thomson, S. Schroeder & P. van den Broek (Eds.), Learning to Read in a Digital World (pp. 121-140). John Benjamins Publishing Company. https://doi.org/10.1075/swll.17.05ben

[4]. Ciuffo, M., Myers, J., Ingrassia, M., Milanese, A., Venuti, M., Alquino, A., Baradello, A., Stella, G., & Gagliano, A. (2017). How fast can we read in the mind? Developmental trajectories of silent reading fluency. Reading and Writing, 30, 1667–1686. https://doi.org/10.1007/s11145-017-9744-2

[5]. Deeney, T. A. (2010). One-Minute Fluency Measures Mixed Messages in Assessment and Instruction. The Reading Teacher, 63, 440-450. https://doi.org/10.1598/RT.63.6.1

[6]. Denton, C., Barth, A.E., Fletcher, J., Wexler, J., Vaughn, S., Cirino, P., Romain, M.A., & Francis, D. (2011). The Relations Among Oral and Silent Reading Fluency and Comprehension in Middle School: Implications for Identification and Instruction of Students With Reading Difficulties. Scientific Studies of Reading, 15, 109 - 135. https://doi.org/10.1080/10888431003623546

[7]. Dumont, R., Willis, J.O., Veizel, K., &Zibulsky, J. (2014). Test of Silent Contextual Reading Fluency (TOSCRF). In C.R. Reynolds, K.J. Vannest& E. Fletcher- Janzen (Eds.), Encyclopedia of Special Education. Wiley. https://doi.org/10.1002/9781118660584.ese2375

[8]. Fletcher, J. M., Lyon, G. R., Fuchs, L., & Barnes, M. (2007). Learning Disabilities: From Identification to Intervention. New York: Guilford Press.

[9]. Fuchs, L.S., Fuchs, D., Hosp, M.D., & Jenkins, J. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. Scientific Studies of Reading, 5, 239–259. https://doi.org/10.1207/S1532799XSSR0503_3

[10]. Gagliano, A., Ciuffo, M., Ingrassia, M., Ghidoni, E., Angelini, D., Benedetto, L., Germanò, E., & Stella, G. (2015). Silent reading fluency: Implications for the assessment of adults with developmental dyslexia. Journal of Clinical and Experimental Neuropsychology, 37, 972 – 980. https://doi.org/10.1080/13803395.2015.1072498

[11]. Hammill, D. D, Wiederholt, J. L. & Allen, E.A. (2006). TOSCRF: Test of Silent Contextual Reading Fluency. Austin, TX: Pro Ed.

[12]. Johnson, E. S., Pool, J. L., & Carter, D. R. (2011). Validity Evidence for the Test of Silent Reading Efficiency and Comprehension (TOSREC). Assessment for Effective Intervention, 37(1), 50–57. https://doi.org/10.1177/1534508411395556

[13]. Kim, Y. S., Wagner, R. K., & Foster, E. (2011). Relations among oral reading fluency, silent reading fluency, and reading comprehension: A latent variable study of first-grade readers. Scientific Studies of Reading, 15, 338–362. https://doi.org/10.1080/10888431003623546

[14]. Kuhn, M.R., Schwanenflugel, P.J., Meisinger, E.B., Levy, B.A., &Rasinski, T.V. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody, and definitions of fluency. Reading Research Quarterly, 45(2), 230–251. https://doi.org/10.1598/RRQ.45.2.4

[15]. Manolitsis, G. (2004). The relation between metalinguistic skills and reading acquisition in Greek speaking children: The neglected role of preschoolers' syntactic awareness. Poster session presented at the 11th Annual Conference of the Society for the Scientific Study of Reading, Amsterdam, Netherlands.

[16]. Mangen, A., Walgermo, B. R., &Brønnick, K. (2013). Reading linear texts on paper versus computer screen: Effects on reading comprehension. International Journal of Educational Research, 58, 61-68. https://doi.org/10.1016/j.ijer.2012.12.002

[17]. Miller, S. D., & Smith, D. E. (1990). Relations among oral reading, silent reading, and listening comprehension of students at differing competency levels. Reading Research and Instruction, 29, 73–84. https://doi.org/10.1080/19388079009558006

[18]. National Reading Panel (2000). Teaching Children to Read: Reports of the Subgroups (00-4754). Washington, DC: U.S. Government Printing Office.

[19]. Rasinski, T.V. (2004). Assessing reading fluency. Honolulu, HI: Pacific Resources for Education and Learning (PREL).

[20]. Rasinski, T. V., Chang, S- C, Edmondson, E., Nageldinger, J., Nigh, J., Remark, L., Srsen, K. L., Walsh- Moorman, E., Yildirim, K., Nichols, W. D., Paige, D., Rupley, W. H. (2017). Reading Fluency and College Readiness. Journal of Adolescent & Adult Literacy, 60(4), 453– 460. https://doi.org/10.1002/jaal.559

[21]. Robinson, M. F.,Meisinger, E. B, & Joyner, R.E.(2022). The Relation Among Phonological Processing, Oral and Silent Reading Fluency, and Reading Comprehension for Students with Dyslexia: A Longitudinal Investigation, Reading & Writing Quarterly, 38:5, 436-453, https://doi.org/10.1080/10573569.2021.1972880

[22]. Padeliadu, S., Antoniou, F., &Sideridis, G. (2019). DADA- Reading Skills Assessment Test. Athens: Rocket-lexia

[23]. Protopapas, A., &Skaloubakas, X. (2008). The assessment of reading fluency to identify reading difficulties. Psychology, 15, 267-289.

[24]. Seok, S. & DaCosta, B. (2014). Oral Reading Fluency as a Predictor of Silent Reading Fluency at Secondary and Postsecondary Levels. Journal of Adolescent & Adult Literacy, 58(2), 157–166. https://doi.org/10.1002/jaal.342

[25]. Shinn, M. R., & Shinn M. M., (2002). AIMSweb TM Training Workbook Administration and Scoring of Reading Curriculum-Based Measurement (R-CBM) for Use in General Outcome Measurement.

[26]. van den Boer, M., Bazen, L. & de Bree, E. (2022). The Same yet Different: Oral and Silent Reading in Children and Adolescents with Dyslexia. Journal of Psycholinguist Research, 51, 803–817. https://doi.org/10.1007/s10936-022-09856-w

[27]. Williams, A., & Bell, S. M. (2005). Test of Silent Word Reading Fluency. Journal of Psychoeducational Assessment, 23(2), 182-188.

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