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# The Effects of Presentation Rate on the Decoding Profiles of Reading Disordered Adults

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## INTRODUCTION

Reading Disorders are defined by primary deficits in decoding (word reading). Decoding assessment tools should assess both sight word decoding skills and phonological decoding skills. An individual may be diagnosed as deficient in either of the two methods independently or as deficient in both methods. The description of the reading disorder which results from this categorization guides and directs the appropriate intervention strategy.

Sight word decoding is considered to be the hallmark of an automatic or fluent reader, whereas phonological decoding is a far less efficient method which is typically reserved for unfamiliar words and beginning readers. Sight word decoding is best assessed using nonphonetic words while phonological decoding is best assessed using pronounceable nonsense words. While these decoding areas constitute two distinctly different reading abilities, differentiation between the two areas is not always recognized and as a result, reading disorders are treated homogeneously.

## PURPOSE

Failure to identify actual sources of reading failure may also be the result of test selection or the parameters of how a test is administered. Various factors have been shown to influence the rate and efficiency of decoding, including the speed of stimulus presentation and word type. Attention to these factors will assist in better identification and subtyping of reading disorders, and ultimately remediation. This study investigated the influence of stimulus presentation rate on the decoding profile of both reading disordered and normal reading populations when using the *Woodcock Reading Mastery Test-Revised*.

## MEAN STANDARD SCORE TABLE

Main Effect: Group Decoding Accuracy			
Control Group	100.222		
RD Group	86.375		
Interaction: Presentation Rate X Subtest			
Slow SW	92.133	Slow Ph	94.772
Fast SW	94.844	Fast Ph	91.444

## MATERIALS AND PROCEDURES

Participants were divided into two groups based on formal assessment based on formal assessment. The experimental procedure consisted of a central presentation of single words on a computer screen. Accuracy (standard score) and reaction time (ms) data were collected at rates of 100ms, 40ms, and 25 ms.

## RESULTS AND CONCLUSIONS

A 2-way ANOVA revealed significant main effects for rate ( $p=0$ ) and decoding ( $p=.035$ ). Analysis also revealed a significant interaction of rate X decoding. Results indicate that both group's accuracy improved when presentation rates increased during lexical decoding tasks. However, both group's performance declined when the presentation rates increased phonological decoding tasks. This provides further evidence for the theory that the phonological decoding method is a less efficient strategy for decoding words.