



**Conceptual Framework and Rationale for Online, Non-language Based Phonological Processing Tasks**

**Context:** Students with dyslexia and other reading impairments are under identified. Students who are English learners and students from minority and low SES backgrounds are most impacted in part due to shortages of school psychologists, and in part due to language-based measures that can be difficult to interpret, particularly for English learners and young students. Deficits in phonological processing are thought to underlie most cases of dyslexia. Phonological processing is the use of phonological information in processing written and oral language.

**Research goals:** 1) Develop an online, limited-language based screening tool that assesses phonological processing that is automatically scored. 2) To determine the feasibility of administration and the construct validity of the online measure with a standardized measure of PP.

Constructs that comprise Phonological Processing	Definition	How currently measured	Proposed Online Task
Phonological Awareness	One's awareness of and access to the phonology of one's language*	Elision Blending Words Phoneme Isolation	1. Rhythm production (hear & play along) 2. Hear a word & indicate number of sounds**
Phonological Memory	Phonetic recoding to maintain information in working memory*	Memory for digits Nonword repetition	3. Rhythm production (hear & repeat) 4. Rhythm discrimination (hear, identify a match) 5. Tone discrimination (hear & identify which is different)
Rapid Automatized Naming	Naming speed processes and retrieval of words/labels	Rapid naming of objects, colors, digits, letters	Virtual Hebb-Williams maze task (data for this construct is being collected through an NIH R15 grant activity).

\* Wagner & Torgesen, 1987

\*\*Although this task is language based, we include it to determine the relationship of this task with a rhythm/beat task.