PREDICTIVE RELATIONSHIPS BETWEEN PHONEMIC AWARENESS, VERBAL SHORT-TERM MEMORY, AND WORKING MEMORY WITH SPELLING ACHIEVEMENT AMONG GRADE 1 STUDENTS AT THAI CHRISTIAN SCHOOL, THAILAND

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Abstract: This research investigates spelling achievement along with the ability to recognize sounds in words and the capacities to temporarily store and manipulate information in memory. The aims were to determine the levels of phonemic awareness, verbal short-term memory, working memory, and spelling achievement among 114 grade 1 students at Thai Christian School; then, to investigate if there was a predictive relationship with spelling achievement. The level of phonemic awareness was much lower (3rd percentile) than U.S. first grade students (Cummings, Otterstedt, Kennedy, Baker, & Kame’enui, 2011); verbal short-term memory and working memory levels were average; and spelling achievement was in the early to middle stage of letter name-alphabetic spelling, within the expected range for students in kindergarten to the middle of grade 2. A multiple regression analysis found significant positive predictive relationships between phonemic awareness, verbal short-term memory, and working memory with spelling achievement. Spelling achievement findings closely aligned with a developmental model, but students had a wide range of abilities, suggesting a differentiated spelling program based on developmental stages could be beneficial. Recommendations include a direct focus on teaching phonemic awareness skills as well as providing further practice with early spelling features, specifically the need to master final consonants and short vowels. Further research could improve the prediction of spelling achievement by including other measures linked to literacy, such as letter-sound knowledge.

Keywords: Phonemic Awareness, Verbal Short-Term Memory, Working Memory, Spelling Achievement, Grade 1, Thailand.

Introduction
Spelling is an especially challenging task for young students on the path to literacy (Gurney-Read, 2015). Unfortunately, English is a complicated language, particularly as there are different spellings of the same sounds and many foreign words that have