Early spelling in a unique writing system: The case of Arabic

Rana Yassin, PhD Student. Supervisors: Prof. David L. Share and Dr. Yasmin Shalhoub-Awwad

My research: My PhD focuses on the impact of language-specific visual-orthographic features of the Arabic writing system on the early development of spelling. These include ligaturing/cursivity, allography, letter shape similarity and non-linearity (following Daniels & Share, 2018). The question of the prevalence of these different varieties of spelling errors was addressed in a preparatory cross-sectional study examining the distribution of visual- orthographic spelling errors and their development across three grades (1st, 2nd, and 4th grades). The results (Yassin, Shalhoub-Awwad, & Share, 2020) showed that ***visual-orthographic spelling errors*** are relatively common, constituting the second most common error category across the three grade levels and accounting for over one quarter (27%) of all spelling errors. *Ligaturing* (36%) and *letter shape formation* (34%) errors emerged as the two most prevalent types of errors within this category. *Confusion of identical or near-identical letter forms* (11%) and *allographic substitutions* (8%) also contributed a non-trivial number of visual-orthographic errors. *The non-linearity* category comprised less than 1% of all visual-orthographic errors.

Building on these initial findings, I am now examining the distribution and precursors of these visual-orthographic spelling errors in the Safra longitudinal study, as well as the developmental changes from kindergarten to 2nd grade among children with different learning strengths and weaknesses.

Why is my study unique? The Arabic language has a unique orthography, containing several specific visual-orthographic features (e.g., common letter shapes, allography, ligaturing/cursivity, and non-linearity), all of which are pervasive in Arabic but rare or absent in most other writing systems. Shedding light on these special features is essential for a complete science of literacy learning. Moreover, a small but growing number of studies have begun to investigate the effect of these specific visual-orthographic features of the Arabic writing system on reading, but none has yet examined this issue in spelling.

Analyses currently underway: I am now analyzing the data from several tests of early spelling administered in kindergarten and 1st grade (word likeness, orthographic choice, and real word spelling) in a random stratified subsample of 120 children from the complete cohort. I also plan to

analyze the spelling errors among additional subsamples of children with specific difficulties (in motor skills, language, and others).

Why is my research important for education and/or clinical practice? Investigation of this issue at the onset of literacy acquisition will allow early identification of difficulties that students may experience later on. Thus, the results should help guide efforts to develop effective teaching methods and early intervention programs needed to improve spelling skills, particularly among struggling readers and writers.