Biliteracy education programs have been implemented massively in many regions worldwide, with children beginning to learn a second language (L2) in their earliest years at school. Children generally have a considerable head start in their first language (L1), so they often display unbalanced biliteracy skills in primary grades. Can children’s early reading abilities in L1 predict later literacy development in L2? In this presentation, I will highlight the findings from a 3-year longitudinal study on cross-language transfer of cognitive-linguistic abilities between two distinctly different orthographies – Chinese (L1) and English (L2). Our results suggest that L1 markers underlying reading difficulties in both L1 and L2 can help identify L2 learners at risk for later reading problems, even when their L2 proficiency is too limited to render proper identification at this stage. One of these common markers emerged from our study is rapid automatized naming (RAN), defined as the ability to quickly name a set of highly familiar visual stimuli (e.g., colors, objects, digits, or letters). I will also address the possible underlying mechanisms relating RAN to reading, and present results from an intervention study aiming to improve RAN and reading fluency in Chinese and English through repeated oral reading.