

Twenty-Seventh Annual SSSR Conference
PROGRAM

July, 2020

In memory of
Carol McDonald Connor



SYMPOSIUM

Professional development research on literacy instruction and dyslexia

Chair: Alida Anderson -- American University, Washington DC

This symposium presents different research perspectives on professional development for literacy instruction and dyslexia. The five papers share theoretical and applied relationships among professional development for literacy instruction, teachers' knowledge of literacy concepts and dyslexia, and students' literacy outcomes. The first paper systematically reviews literature on teacher knowledge of literacy concepts. The second paper presents teachers' self-reported knowledge of spelling components and self-perceptions of teaching spelling. The third paper presents an approach to assessing teacher knowledge of literacy instruction and dyslexia. Papers four and five present findings from pilot intervention studies aimed at improving teachers' knowledge of dyslexia and literacy instruction through innovative and multimedia learning formats. Paper four presents findings from a multimedia intervention with preservice teachers aimed at improving knowledge of literacy instruction and dyslexia. Paper five presents findings from a professional development intervention using an interactive neuroscience-education dyslexia learning module on teachers' dyslexia knowledge.

- **Paper 1: Teachers' knowledge of basic language constructs: A systematic review**
 - **First Author: Alida Hudson -- Texas A & M University**

- **Paper 2: Teachers' knowledge about the phonological, morphological, and orthographic characteristics of spelling**
 - **First author: Ramona Pittman -- Texas A&M University-San Antonio**

- **Paper 3: Assessing teacher knowledge of dyslexia: How do we know what they know?**
 - **First author: Erin Washburn -- University of North Carolina at Charlotte**

- **Paper 4: Educating the future: Addressing preservice teachers' knowledge gaps in dyslexia**
 - **First author: Susan Chambré -- Marist College**

- **Paper 5: Investigating the effects of an interdisciplinary neuroscience-education learning module on teachers' dyslexia knowledge**
 - **First author: Alida Anderson -- American University**

Reaping the rewards of the reading for understanding initiative

Chair: Gina Biancarosa -- University of Oregon

This symposium reviews the findings of three research syntheses of the work conducted under the Institute of Education Sciences \$120 million Reading for Understanding research initiative. Six interdisciplinary teams were funded for five years to (a) explore the development of reading comprehension, (b) develop and test curricula and instruction aimed at the improvement of reading comprehension, and (c) develop and validate innovative assessments of reading comprehension, with the six teams collectively covering from pre-kindergarten through the end of high school.

- (1) Educational Testing Service (ETS) - Assessing Reading for Understanding: A Theory-Based, Developmental Approach,
- (2) University of Illinois at Chicago – Reading for Understanding Across Grades 6 Through 12: Evidence-Based Argumentation for Disciplinary Learning,
- (3) University of Texas at Austin - Understanding Malleable Cognitive Processes and Integrated Comprehension Interventions for Grade 7-12,
- (4) Strategic Education Research Partnership - Catalyzing Comprehension Through Discussion and Debate,
- (5) Florida State University - Examining Effective Intervention Targets, Longitudinal Intensity, and Scaling Factors in PreK Through 5th Grade, and
- (6) The Ohio State University - The Language Bases of Reading Comprehension.

The symposium will present syntheses across the work of all six teams in each of the targeted areas: development, instruction, and assessment. A fourth paper will synthesize across the entire body of work with implications for practice and future research. The discussant will comment on the results, as well as the promise and perils of this kind of large-scale investment in reading research, from an international perspective.

- **Paper 1: The nature and development of reading comprehension**
 - **First Author: Gina Cervetti -- University of Michigan**
- **Paper 2: The RfU impact on reading comprehension assessments**
 - **First author: Panayiota Kendeou -- University of Minnesota**
- **Paper 3: The RfU impact on reading comprehension curriculum and instruction**
 - **First author: Gina Biancarosa -- University of Oregon**
- **Paper 4: Reaping the rewards, seeding the future**
 - **First author: P. David Pearson -- University of California, Berkeley**
- **Discussion: Implications of RfU for the field of reading comprehension research and Practice**
 - **Discussant: Paul van den Broek -- Leiden University**

The design and use of early literacy digital materials: What's new? What's working?

Chair: Adriana Bus -- University of Stavanger

Studies of first-generation digital media (books, apps, games) yielded important insights concerning the design and features of interactivity promoting early literacy skills. Reviews, for example, revealed the design pitfall of digital additions that introduce extraneous information, but lacked enough studies to make a clear-cut distinction between problematic and possibly promising interactivity in apps. Building on this work, this set of symposium papers examines efforts to improve and advance interactive designs and affordances in digital materials to increase engagement and deepen children's early literacy and literary experience. Papers reflect two emerging themes in this growing body of research: effects of specific affordances (e.g., motion; gamification) on learning and usefulness of digital material in instructional interactions. Theories driving digital design and interaction are also discussed.

- **Paper 1: E-book reading in kindergarten and story comprehension support**
 - **First Author: Ofra Korat -- Bar Ilan University**

- **Paper 2: The effect of multimedia on low-income children's word learning: A theory of synergy**
 - **First author: Susan B. Neuman -- NYU Steinhardt**

- **Paper 3: Potentiating young children's story comprehension with high-quality digital storybooks**
 - **First author: Karen Burstein -- iTether Technologies**

- **Paper 4: A structured mobile digital learning environment to help parents share picture books with young children**
 - **First author: Merel de Bondt -- VU Universiteit**

- **Paper 5: Discussion**
 - **Discussant: Kathleen Roskos -- John Carroll University**

Text comprehension: The impact of strategies and knowledge

Chair: Kate Cain-- Lancaster University

In recent years, there has been growing debate about the relations between reading comprehension (and its component skills, such as inference making) and the extent to which knowledge (vocabulary, background knowledge) and strategies impact on performance. Some have proposed that reading comprehension and/or reading strategies cannot be taught, and that instructors should instead focus on instruction in knowledge. A wealth of research shows that much knowledge (vocabulary and background knowledge) is acquired through independent reading, and that strategies such as inference from context are implicated in knowledge acquisition. It is likely that the relations between knowledge, strategies and reading comprehension change across the course of development, differ for different reading purposes or genre, and for different populations of reader. A better understanding of how, why, and when knowledge and strategies are related to reading comprehension is essential for empirically-motivated models of reading comprehension, curricula and interventions. This symposium brings together papers that address these issues and aims to provoke wider discussion and promote ideas for future work in the area.

- **Paper 1: Teaching inferencing in K-2: The role of scaffolding and feedback**
 - **First Author: Kristen McMaster -- University of Minnesota**

- **Paper 2: The influence of reader and text characteristics on 6th graders' inference making**
 - **First author: Kate Cain -- Lancaster University**

- **Paper 3: Knowledge predicts inference-making and inference-making interventions improve knowledge acquisition**
 - **First author: Marcia Barnes -- Vanderbilt University**

- **Paper 4: Influences of language and non-academic knowledge on basic and deep comprehension**
 - **First author: John Sabatini -- Institute for Intelligent Systems, University of Memphis**

- **Paper 5: Discussion**
 - **Discussant: Art Graesser -- University of Memphis**

Adolescent writing

Chair: Penelope Collins -- University of California, Irvine

Writing is an important skill for all students, and one that is not being mastered. According to the National Center for Educational Statistics (NCES, 2012d), only 27% of 8th grade students performed at or above the criterion proficiency level in writing on recent national tests in the United States. The development of effective writing skills is challenging because writing, particularly argumentative writing, is a complex, multidimensional task. This symposium explores writing development through adolescence, with a focus on the specific skills and use of digital tools to support effective argumentative writing. The first paper examines the influence of instructional time devoted to digital writing on student writing achievement. The second paper explores the development of argumentative writing, and the linguistic skills that contribute to effective writing, from middle school through high school, for native English speakers and language minority students with varying levels of proficiency in English. The third paper examines the development of argumentative structures, argumentative strategies, and lexical sophistication in middle school students' argumentative essays. The fourth paper explores the role of perspective taking in student writing. These are followed by discussion of the implications for theory and practice.

- **Paper 1: Digital writing across the curriculum: A look at one district over four years**
 - **First Author: Tamara Tate -- University of California, Irvine**

- **Paper 2: Linguistic diversity and the development of argument writing among secondary students**
 - **First author: Penelope Collins -- University of California, Irvine**

- **Paper 3: Middle school argumentative writing: An analysis of argumentative structures and strategies across multiple topics**
 - **First author: Karen Taylor -- Stanford University**

- **Paper 4: Does perspective-taking matter for writing?**
 - **First author: Minkyung Cho -- University of California, Irvine**

- **Paper 5: Discussion**
 - **Discussant: Jennifer Fletcher -- California State University, Monterey Bay**

Spelling Matters! Revealing the complexity of the relation between spelling and reading

Chair: Nicole Conrad -- Saint Mary's University

Research shows that spelling and reading are related. Both are components of literacy development and both depend on many shared cognitive and linguistic skills. However, if we are to bridge the gap between research and practice, we must better understand how these two skills are related. The diverse set of research studies included in this symposium each contribute a piece to understanding this larger theoretical question. Four studies examine transfer between spelling and reading at the individual word level. First, Conrad demonstrates that children in Grade 2 can establish in memory strong word-specific representations during spelling that facilitate word reading, but differences in reading speed and accuracy occur depending on the quality of the established representations. Second, Ouellette demonstrates that for children in Kindergarten, practice spelling a word enhances vocabulary learning, and vocabulary learning enhances learning to read that word; yet the direct relation between spelling practice and word reading was not evident at this age. Ruberto and colleagues next demonstrate that gains in spelling skill for French-speaking children are greater following explicit spelling instruction combined with reading practice than reading practice alone. Tucker and Deacon then demonstrate that accurately decoding a word in text enhances the learning of the spellings of new words for children in Grade 2, but not in Grade 1. Breadmore and colleagues take a step back from transfer at the individual word level to test whether individual differences in spelling onset latency predict individual differences in reading and spelling skill a year later. Together, these studies reveal the complexities of the relation between spelling and reading, complexities that are amplified by the diversity of these studies, which together provide ideas of how and why spelling and reading are related. A better understanding of the how leads to improvements in instructional practices.

- **Paper 1: Variation in lexical quality on word reading outcomes: Assessing the quality of word-specific representations established during spelling practice**
 - **First Author: Nicole Conrad -- Saint Mary's University**
- **Paper 2: Capitalizing on shared storybooks in kindergarten: The interplay between semantics, spelling, vocabulary acquisition and learning to read**
 - **First author: Gene Ouellette -- Mount Allison University**
- **Paper 3: Does formal explicit instruction promote learning of words' visual aspects? Results from a quasi-experimental study conducted on second-grade French-speaking children.**
 - **First author: Noémia Ruberto -- Université de Montréal**
- **Paper 4: An evaluation of phonological recoding as the key mechanism for learning new spelling patterns during emerging readers' independent reading**
 - **First author: Rebecca Tucker -- Dalhousie University**
- **Paper 5: Spelling fluency as a predictor of children's reading and spelling outcomes**
 - **First author: Helen Breadmore -- Coventry University**

Understanding the role of sign language in reading

Chair: Frances Cooley -- University of Texas at Austin

Deaf signers of American Sign Language (ASL) are often bilingual in ASL and English, although much variation exists with respect to spoken English and reading abilities in this population. For many signers, bimodal bilingualism is evidenced by the daily use of ASL for face-to-face communication and the reading and writing of English for other purposes such as education, social media communication, and personal development. This population provides opportunities to examine literacy development and reading processes for readers who rely heavily on visual language for everyday communication. This symposium addresses literacy development and processes for child and adult signers of ASL while also considering signed language. We assemble investigators from multiple labs, with approaches that span various frameworks and datasets that involve behavioral measures, eye-tracking, neuro-imaging, as well as classroom studies. A unifying theme of these presentations is the examination of relationships between signed language and literacy for DHH readers.

- **Paper 1: Vocabulary knowledge and reading for ASL-English bilinguals**
 - **First Author: David Quinto-Pozos -- University of Texas at Austin**

- **Paper 2: The role of lexical access in peripheral perception: Evidence from sign superiority effects in deaf signers**
 - **First author: Elizabeth Schotter -- University of South Florida**

- **Paper 3: Assessing the contribution of lexical quality and sign language variables to reading comprehension in deaf adults**
 - **First author: Zed Sehyr -- San Diego State University**

- **Paper 4: The development and evaluation of a reading comprehension program for deaf children who use ASL**
 - **First author: Amy Lederberg -- Georgia State University**

- **Paper 5: Mapping reading networks in deaf & hearing children considering language modality**
 - **First author: Chris Brozdowski -- Vanderbilt University**

Arabic orthographic features and their impact on reading

Chair: Rob Davies -- Lancaster University

The written form of the Arabic language has many distinctive orthographic features. These include cursive writing, ligaturing, diacritic vowelization, and the root-pattern morpho-orthographic structure of the written word. In what ways do these features present challenges to the development of reading skill in emergent readers? How do skilled reading processes handle these challenges? While a tradition of research into reading in Arabic spans a near-40-year period, recent research has seen the accumulation of findings that shed light not just on the development and processes of skilled reading in Arabic but on reading more generally. We focus on the emergence and the instantiation of knowledge in the population of the root-pattern morphological and the spelling-sound structure critical to recognition and encoding of the printed Arabic word. The submissions consider the representation of morphological and spelling-sound information, the development of awareness of this information, and the relationship between morphological and reading skills.

- **Paper 1: Impact of diglossia on morphological awareness and reading in low versus mid-high SES Arabic speaking children**
 - **First Author: Elinor Saiegh-Haddad -- Bar-Ilan University**
- **Paper 2: The role of the nominal word pattern in Arabic reading acquisition: Insights from cross-modal priming**
 - **First author: Yasmin Shalhoub-Awwad -- University of Haifa**
- **Paper 3: The predictors of vowelization uncertainty in Modern Standard Arabic**
 - **First author: Rob Davies -- Lancaster University**
- **Paper 4: The contribution of language proficiency in Spoken Arabic, Modern Standard Arabic and morphological awareness to reading Arabic language**
 - **First author: Abeer Asli-Badarneh -- Haifa University**
- **Paper 5: Discussion**
 - **Discussant: Elinor Saiegh-Haddad-- Bar-Ilan University**

Use of technology in improving literacy outcomes

Chair: Stephanie Day -- University of California, Irvine

The purpose of this symposium is to present recent advancements in the use of technology to improve literacy outcomes in students ranging from preschool up through 8th grade. Three of the studies examine the impact of interactive features of digital books on improving literacy skills, particularly in regards to reading comprehension and vocabulary. These studies consider how affordances of digital reading can be utilized to improve student engagement and literacy outcomes. Another study presents a newly developed classroom observation tool designed to provide detailed information for teachers about the classroom experiences of individual children, specifically the amounts and types of instruction that young students receive and the impact of individualized instruction on literacy outcomes. The final study focuses on an iPad application designed to help dual language learners read for comprehension in English. These studies demonstrate how technology can be utilized to both directly and indirectly improve student reading outcomes.

- **Paper 1: Improving elementary students' reading comprehension using the word knowledge e-book**
 - **First Author: Stephanie Day -- University of California, Irvine**

- **Paper 2: Reinventing the picture storybook for a new generation of readers: Results of Individual Participant Data (IPD) meta-analysis**
 - **First author: Adriana Bus -- University of Stavanger**

- **Paper 3: Using OLOS classroom observations to measure individualized literacy learning**
 - **First author: Ashley Adams -- University of California, Irvine**

- **Paper 4: Interactivity in digital books for young children: evidence from theory-driven design**
 - **First author: Kathleen Roskos -- John Carroll University**

- **Paper 5: Using EMBRACE technology for english language learning in Chile**
 - **First author: Maria Graciela Badilla Quintana -- Universidad Católica de la Santísima Concepción**

Creative reuse and repurposing of data

Chair: Wilhelmina van Dijk -- Florida State University

Data are often collected with a specific purpose in mind. Often, however, other researchers come up with innovative research questions unrelated to this purpose that can be answered with the same data, or with a combination of several data sets. The intent of this symposium is to illustrate the benefits, pitfalls, and possible outcomes of creative reuse of extant data. The presenters will provide an overview of strategies to maximize the reuse and repurposing of extant data, discuss an example of a methodological innovation needed to prepare data for reuse, demonstrate a technique on combining data sets from different sources, and finally present an example of creative reuse of data. Active discussion of the topic will be encouraged.

- **Paper 1: Strategies to leverage extant data for the next generation of collaborative studies of reading and reading development**
 - **First Author: Erik Willcutt -- University of Colorado, Boulder**
- **Paper 2: Evaluating measurement invariance with effect sizes: Avoiding the sample size paradox**
 - **First author: Wilhelmina van Dijk -- Florida State University**
- **Paper 3: Using integrative data analyses to answer questions in the field of reading**
 - **First author: Christopher Schatschneider -- Florida State University**
- **Paper 4: Reanalysis of the CLASS using a bias correction model**
 - **First author: Jessica Logan -- The Ohio State University**
- **Paper 5: Discussion**
 - **Discussant: Christopher Schatschneider -- Florida State University**

Reading delay and difficulty: What is the role of risk for intervention effectiveness?

Chair: Jan Frijters -- Brock University

Risk for reading delay and/or difficulty ranges from early deficits in preliteracy and language skills necessary for reading development to broader social and economic factors. The relationship between individual risk factors and reading skill has had good coverage in extant research. However, there has been much less focus on how risk, broadly defined, intersects with evidence-based interventions aimed at addressing reading failure and/or building reading skill. The four papers in the proposed symposium address risk along two dimensions. The first dimension is early risk, with Rigmor-Walgermo, Piasta, and Mirza reporting on interventions preselecting participants based on early screeners. The second dimension is broader risk (i.e., social, economic, or educational), with Greenberg and Mirza's projects that include interventions conducted in populations at broader risk. The discussant will draw on 20 years of experience in reading intervention to address the ideas of cumulative risk, risk burden, and compensatory vs. restitutive effects of intervention in relation to interpreting intervention outcomes.

- **Paper 1: Effects of a small-group, emergent literacy intervention for preschoolers at risk for reading difficulties when implemented under routine conditions by classroom teachers and community aides**
 - **First Author: Shayne Piasta -- The Ohio State University**
- **Paper 2: First grade reading intervention and the dynamics of interest for reading and reader self-concept**
 - **First author: Bente Rigmor-Walgermo -- University of Stavanger**
- **Paper 3: Empower™ Reading Intervention: An experimental approach to remediate reading disabilities among at-risk population**
 - **First author: Amna Mirza -- Brock University**
- **Paper 4: Cumulative and domain-specific risk influences on both skill and motivation change among adults with low literacy skills**
 - **First author: Greenberg Daphne -- Georgia State University**
- **Paper 5: Discussion**
 - **Discussant: Jan Frijters -- Brock University**

Writing development across childhood: Advances across international, conceptual, and digital contexts

Chair: Hope Gerde -- Michigan State University

This dynamic symposium examines writing across childhood by attending to diverse instructional (i.e., home, school) and international contexts (i.e., China, Israel, & United States). Studies offer new ideas and the potential to ignite insightful discussion regarding developmental theoretical writing frameworks, writing processes across orthographies, family support, and electronically-mediated assessment. The works utilize a range of methodologies to answer questions of writing development for diverse students including children living in poverty and speaking varied languages. The symposium begins with an empirical examination of early writing theories with a diverse group of young children, followed by a cross-cultural examination of writing development in US and Chinese children. The next presentation delves into the complexity of home environmental writing supports by examining how parents and siblings support children's writing development. The finale expands current assessment approaches by examining the utility of a computer-based writing assessment for elementary children, which provides valuable formative guidance for instruction.

- **Paper 1: Early writing development across preschool: Attention to transcription and composing processes**
 - **First Author: Xiao Zhang -- Georgia State University**
- **Paper 2: Composing development in preschool: Examining change over time in children's writing processes**
 - **First author: Margaret Quinn -- University of Tennessee, Knoxville**
- **Paper 3: Early writing environments in Chinese preschool classrooms: Associations with children's early reading and writing skills**
 - **First author: Chenyi Zhang -- Georgia State University**
- **Paper 4: Writing development in the family context: The nature of writing interactions game between preschoolers and their mothers and older siblings**
 - **First author: Kholod Zabaneh -- Tel Aviv University**
- **Paper 5: Pragmatic computer-based formative and summative writing assessments**
 - **First author: Debra McKeown -- Texas A&M University**

What's age got to do with it? Learning to read in a second language

Chair: Alexandra Gottardo -- Wilfrid Laurier University

Research has established many cognitive and linguistic variables related to literacy acquisition in a second language. However, learning a second or additional language (L2) can begin at many different ages. Although age is usually associated with better L2 skills, these effects are often conflated with language experience as well as other variables. The current set of studies examined the effects of age on word reading and reading comprehension. The results of the studies are mixed with age effects being expected in some cases and unexpected in other cases. The findings point to the importance of considering multiple cognitive and demographic variables as well as acknowledging alternative explanations for relationships among variables when examining factors related to L2 acquisition. Additionally, learning experiences in classrooms in North America might result in different relations among variables than for learners in developing countries or for refugees, groups who have different learning experiences and trajectories.

- **Paper 1: The role of age and experience in language and literacy attainment: An examination of different age groups of Syrian refugee children**
 - **First Author: Alexandra Gottardo -- Wilfrid Laurier University**

- **Paper 2: Effects of age and the socio-economic status on English learning and motivation to learn a second language in Iranian immigrants and second generation immigrants in Canada**
 - **First author: Ali Jasemi -- Wilfrid Laurier University**

- **Paper 3: The development of strategies used by English-French bilingual children to discriminate languages with a shared alphabet**
 - **First author: Krystina Raymond -- University of Toronto/OISE**

- **Paper 4: A longitudinal study on the role of word reading fluency: Learning French as a second language**
 - **First author: Michelle Ru Yun Huo -- University of Toronto/ OISE**

- **Paper 5: L1, L2, and L3 reading among multi-linguals of different age groups: Learners in the Philippines**
 - **First author: Portia Padilla -- Wilfrid Laurier University**

Contextualizing the science of reading II—Considering implementation to address reading in vulnerable student populations

Chair: Tiffany Hogan -- MGH Institute of Health Professions

The purpose of this two-part symposium is to contextualize the science of reading to better understand and address reading difficulty and disability among students who are vulnerable to experiencing difficulty in school. Models regarding vulnerable populations have been applied in the social sciences and public health to understand disparities in various outcomes and to design interventions to improve those outcomes. Importantly, vulnerability is governed by context; consequently, the causes of disparity are not always easily understood, in part because vulnerability is multifaceted. Applied to the field of reading, research suggests that both individual differences in learners and conditions within and outside of schools can increase vulnerability for reading difficulty. Across two symposia, we will discuss findings from research teams that are considering multiple factors associated with the vulnerability of specific student populations to address reading assessment and development (symposium 1) and reading instruction and intervention (symposium 2) in school-based settings.

- **Paper 1: Implementing research-based reading interventions in diverse community settings: Can quality implementation be sustained in outreach?**
 - **First Author: Maureen Lovett -- The Hospital For Sick Children & University of Toronto**

- **Paper 2: Examining high-risk children’s differential word reading growth in the HillRAP intervention program as a function of teacher training**
 - **First author: Laura Steacy -- Florida State University**

- **Paper 3: The development of language-focused professional development for prekindergarten teachers**
 - **First author: Mindy Bridges -- University of Kansas Medical Center**

- **Paper 4: Developing a sustainable literacy tutoring program for children in foster care**
 - **First author: Mark Lauterbach -- City University of New York**

- **Paper 5: Discussion**
 - **Discussant: Jessie Ricketts -- Royal Holloway, University of London**

Spelling in alphabetic languages

Chair: R. Malatesha Joshi -- Texas A & M University

Spelling provides valuable information about children's extent of orthographic knowledge which is one of the major foundations of language and literacy development. However, as compared to reading, spelling research has received much less attention, even less so in the spelling development of children learning English as a second language and in other non-English alphabetic languages. What holds true for monolingual children learning English might not be universal across different learners and different alphabetic languages. For instance, it has been shown that monolingual Spanish speaking children make more errors on consonants than on vowels, a trend opposite of what is seen among monolingual English speaking children. The purpose of this symposium is to examine the spelling performance of children from bilingual backgrounds who learn English and contrast that to other alphabetic languages of differing orthographic depth. The papers adopt multiple perspectives, looking at both spelling errors and achievement of children."

- **Paper 1: Language-specific effects in response to spelling intervention in Italian (L1) and English (EFL)**
 - **First Author: Barbara Arfé -- University of Padova, Italy**
- **Paper 2: Spelling error analyses in German**
 - **First author: R. Malatesha Joshi -- Texas A & M University**
- **Paper 3: Spanish early kindergarten literacy interventions and predictors of end of grade one spelling**
 - **First author: María Elsa Porta -- CONICET**
- **Paper 4: Analysis of spelling performance and contextual factors among native Spanish-speaking English language learners**
 - **First author: Amanda Lindner -- Texas A & M University**
- **Paper 5: Differences in bilingual preschool children's code-related skills based on exposure to the language of school instruction at home**
 - **First author: Trelani Milburn -- University of Alberta, Edmonton**

Delving deeper into comprehension considering child, text, and assessment factors

Chair: Young-Suk Kim -- University of California, Irvine

The goal of this symposium is to expand our knowledge on multiple factors that contribute to comprehension. Previous studies have provided rich information about individual characteristics that contribute to comprehension (e.g., working memory, vocabulary). However, growing evidence, and recent theoretical models (e.g., DIER, Kim, 2019; complete view of reading, Francis et al., 2018) indicate the roles of text and assessment characteristics on comprehension. In this symposium, a collection of five papers systematically addresses the interplay of these factors using diverse data and methodologies. They reveal that text and assessment factors as well as child factors explain large variance in children's comprehension; the results vary by children's language skill; precision of estimates is enhanced when accounting for nesting (items within passages); the relation of vocabulary to reading comprehension varies by the characteristics of vocabulary words; and vocabulary demand on comprehension significantly greater in science texts compared to social studies or mathematics.

- **Paper 1: Comprehension unpacked: Relations of child, text, and assessment factors to comprehension**
 - **First Author: Young-Suk Kim -- University of California, Irvine**
- **Paper 2: Reader skill and measurement error in reading comprehension assessment**
 - **First author: Alyson Collins -- Texas State University**
- **Paper 3: Understanding clustering effects when examining reading comprehension as a function of reader-text interactions: Explanatory item response study**
 - **First author: Paulina Kulesz -- University of Houston**
- **Paper 4: Word meanings and reading comprehension: Exploring the relationship across target word characteristics**
 - **First author: Joshua Lawrence -- University of Oslo**
- **Paper 5: The comparative volume of academic vocabulary in elementary grades U. S. science, mathematics, and social studies disciplinary textbooks**
 - **First author: Jeff Elmore -- MetaMetrics**

Spelling in non-alphabetic languages

Chair: Poh Wee Koh -- Texas A & M University

This symposium brings together five presentations that examine how spelling is associated with reading and reading-related skills in non-alphabetic languages (i.e., Chinese, Japanese, Korean, and Tamil). The underlying thread across presentations is the focus on different variants of non-alphabetic languages (e.g., syllabic, akshara-syllabic, alpha-syllabic, and morpho-syllabic systems), which allows for an in-depth examination of language-universal and language-specific features of spelling. Furthermore, the consideration of both cross-sectional and longitudinal perspectives serves to inform about the suitability of existing theoretical frameworks in explaining spelling development at different points in the developmental trajectory. The findings of these papers relating to cognitive correlates (e.g., phonological awareness, morphological awareness, reading accuracy & fluency) and home literacy factors have implications on how instruction in these skills both in school and at home can facilitate spelling development. Findings also shed light on how reading and spelling instruction can be complementary.

- **Paper 1: Kindergarten predictors of first- and second- grade literacy performance in Chinese**
 - **First Author: Catherine McBride -- Chinese University of Hong Kong**

- **Paper 2: Reciprocal relations between Mandarin spelling and reading fluency in early elementary grades**
 - **First author: Bing Han -- Texas A & M University**

- **Paper 3: Cognitive and environmental correlates of spelling development in the hybrid writing system of Japanese**
 - **First author: Tomohiro Inoue -- Seigakuin University**

- **Paper 4: Different cognitive correlates of early learning of spelling of different target types in Korean Hangul among L1 children and L2 adults**
 - **First author: Jeung-Ryeul Cho -- Kyungnam University**

- **Paper 5: Spelling words in simplified Chinese and Tamil: what are the error patterns?**
 - **First author: Beth A. O'Brien -- National Institute of Education, Singapore**

Bilingual reading developments: Cross-linguistic & neuro-behavioral perspectives

Chair: Ioulia Kovelman -- University of Michigan

The symposium's primary objective is to explain the effects of bilingualism and multilingualism on children's literacy. Literacy is acquired differently across languages. These differences often yield cross-linguistic transfer effects in bilingual learners. How do cross-linguistic differences render bilingual learners different from monolinguals and different across their two languages? Across five distinct studies united by the bilingual lense for evaluating cross-linguistic perspectives on learning to read we used behavioral and brain imaging approaches with language groups that included Spanish, English, French, Chinese, and multilingual learners. The findings revealed bilingual neuro-cognitive transfer effects that rendered bilingual learners different from monolinguals in their oral-language literacy skills. Children who spoke more languages or more distinct languages showed the greatest differences from monolinguals. Nevertheless, investigations of poor bilingual readers revealed similar dual-language (dis)ability profiles among learners of similar as well as distinct orthographies. The findings shed new light on bilingual and cross-linguistic literacy perspectives.

- **Paper 1: Neuro-cognitive transfer effects on Morphological processing in Chinese-English bilinguals**
 - **First Author: Xin Sun -- University of Michigan**

- **Paper 2: Morphological awareness in English reading: A comparative study of English monolinguals, Spanish-English bilinguals, and Chinese-English bilinguals**
 - **First author: Rebecca Marks -- University of Michigan**

- **Paper 3: The use of entropy to characterize individual differences in multilingual experience and their linguistic, literacy and cognitive correlates**
 - **First author: Olga Kepinska -- University of California, San Francisco**

- **Paper 4: Poor reading comprehension in English-French bilingual children: A latent profile analysis**
 - **First author: Diana Burchell -- Ontario Institute for Studies in Education, University of Toronto, Canada**

- **Paper 5: The reading profiles of bilingual children with reading difficulties**
 - **First author: Miao Li -- University of Houston**

Examining the comorbidity between learning (dis)abilities and attention deficit hyperactivity disorder

Chair: Callie Little -- University of New England

Research has demonstrated that learning (dis)abilities and Attention-Deficit Hyperactivity Disorder co-occur at higher rates than expected by chance. Children with an identified learning problem are more likely to exhibit higher rates of another learning disability or behavior problems like ADHD than their typically developing peers. However, our understanding of how these skills and behaviors co-influence each other both longitudinally and across the continuum of ability is limited, as well as our knowledge of which etiological influences are general across these domains versus those that are domain-specific. These research questions can be appropriately examined by implementing a range of methods across multiple samples and measures, which this symposium addresses through a combination of advanced statistical approaches implemented across several labs. Results from latent growth curve modeling, dual change score modeling, bi-factor models, and genetically-sensitive quantile regression methods will be presented and discussed to examine the comorbidity between learning dis(abilities) and ADHD.

- **Paper 1: The relationship between ADHD and reading comprehension throughout the achievement spectrum**
 - **First Author: Jeffrey Shero -- Florida State University**
- **Paper 2: How specific are learning disabilities?**
 - **First author: Lauren McGrath -- University of Denver**
- **Paper 3: Exploring reading and numeracy development using latent growth curve modeling**
 - **First author: Sally Larsen -- University of New England**
- **Paper 4: Exploring the co-development of attention deficit hyperactivity disorder and language ability**
 - **First author: Callie Little -- University of New England**
- **Paper 5: Discussion**
 - **Discussant: Erik Willcutt -- University of Colorado, Boulder**

Using change scores to examine dynamics in reading research

Chair: Lee Branum-Martin -- Georgia State University

Dual change score models or latent difference scores can accommodate nonlinear individual processes, but have not seen wide application in reading research. Bivariate and trivariate extensions can capture differential change across constructs as leading or lagging influences. These models open interesting questions not only of co-development, but of treatment, summer learning, bilingualism, and disability. The current symposium highlights innovative applications in language and reading. The first presentation gives an overview of change score models, their relation to standard growth models, and an application of a bivariate model for reading real words versus nonwords. The second presentation examines summer setbacks for students learning Spanish and English. The third presentation examines intervention effects for language and self-regulation. The fourth examines school differences in the effect of African American dialect on the co-development of reading and writing. The fifth presentation examines performance discrepancies in three phonological awareness skills for students with disabilities.

- **Paper 1: Latent change score modeling: Applications for reading research**
 - **First Author: Jamie Quinn -- Florida State University**

- **Paper 2: Developmental changes in language proficiency of bilingual children during the academic year and summer**
 - **First author: Yusra Ahmed -- University of Houston**

- **Paper 3: School effects in the dynamics of reading, writing, and African-American dialect**
 - **First author: Lee Branum-Martin -- Georgia State University**

- **Paper 4: A bivariate latent difference score analysis of intervention effects on language and self-regulation coupling**
 - **First author: Janelle Montroy -- Children's Learning Institute**

- **Paper 5: Performance discrepancy in phonological awareness tasks**
 - **First author: Ryan Bowles -- Michigan State University**

Contributors to English reading comprehension of linguistically diverse learners across the K-12 years

Chair: Jeannette Mancilla-Martinez -- Vanderbilt University

The consequences of compromised reading comprehension during the school-age years can be far-reaching. Among children from linguistically diverse homes in the U.S., nativity, English language proficiency, and socioeconomic status emerge as commonplace, interrelated factors that contribute to a profile of reading comprehension struggle. This symposium spans the K-12 school years and centers on better understanding contributors of English reading comprehension among this growing population in an effort to better support their academic needs. The studies draw on primary and secondary data, utilize cross-sectional and longitudinal designs, and focus on both bilingual and English-only instructional contexts. Greenfader and Miller investigate the roles of nativity and parental involvement, Yuuko et al. address Spanish-English cross-linguistic influences, Hwang et al. problematize the conceptualization of language comprehension, Kieffer underscores the stubborn influence of socioeconomic status, and Townsend et al. offer insight into instructional approaches that best support students independent of their level of English proficiency.

- **Paper 1: How parental involvement in school relates to the early reading abilities of Latino children of immigrants**
 - **First Author: Christa Mulker Greenfader -- California State University, Fullerton**
- **Paper 2: Predicting English and Spanish reading comprehension: Spanish-English dual language learners**
 - **First author: Yuuko Uchikoshi -- University of California, Davis**
- **Paper 3: Early elementary grade dual language learners from Spanish-speaking homes struggling with English reading comprehension: The dormant role of language skills**
 - **First author: Jin Kyoung Hwang -- University of California, Irvine**
- **Paper 4: Long-term reading development of bilingual learners and their monolingual classmates: Evidence from a U.S. national longitudinal dataset**
 - **First author: Michael Kieffer -- New York University**
- **Paper 5: Long Term English Learners' vocabulary and reading comprehension: Supporting growth and closing gaps**
 - **First author: Dianna Townsend -- University of Nevada, Reno**

Instruction to support orthographic mapping

Chair: Katharine Miles -- Brooklyn College

This symposium examines instructional approaches that support orthographic mapping skills at the individual, small group, classroom, school, and curriculum level. Study one demonstrates the effect of a first-grade intervention (one-on-one and small group) that emphasizes multi-sensory phonics. Study two shows that students with reading difficulties learned to read polysyllabic words better when given more individual practice rather than learning complex decoding rules. Study three investigates the effect of a classroom-wide phoneme-manipulation training on remembering words for students with severe word reading difficulties. Study four shows that implementing a school level phonics curriculum grounded in Ehri's Phase Theory improves overall reading scores in K-2nd students. Study five examines the relationship between words' orthographic complexity and type of literacy curriculum provided (phonics-based or not) with rates of pronunciation errors in K-3rd students. The symposium is important because it highlights various instructional approaches/considerations for supporting orthographic mapping, especially with struggling readers.

- **Paper 1: Supporting struggling readers' orthographic mapping skills through a small group version of Reading Rescue**
 - **First Author: Katharine Miles -- Brooklyn College**
- **Paper 2: Effects of rules, practice, and contextual diversity on orthographic learning in elementary-age children**
 - **First author: Devin Kearns -- University of Connecticut**
- **Paper 3: Does training phonemic proficiency enhance orthographic learning in older struggling readers?**
 - **First author: David Kilpatrick -- State University of New York College, Cortland**
- **Paper 4: Evaluating EL Education's K-2 language arts curriculum: Does grapheme-phoneme instruction make a difference?**
 - **First author: Ben Friedman -- EL Education**
- **Paper 5: The impact of orthographic complexity and curriculum type on word reading errors**
 - **First author: Billy Skorupski -- Amira Learning**

The use of dynamic learning tasks to predict growth in reading, identify children at risk of literacy and related difficulties and forecast response to intervention

Chair: Hannah M. Nash -- University of Leeds

The purpose of this symposium is to bring together current research on the use of dynamic assessment (DA) in predicting growth, identifying children at risk of difficulties and forecasting response to intervention (RTI). Dynamic tasks are designed to measure the ability to learn through teaching during the task, providing a measure of learning potential as opposed to current knowledge (Grigorenko, 2009). Therefore, they provide a promising supplement to conventional predictors of growth and screening measures.

Recent published research has focussed on DA of decoding (e.g., Petersen et al., 2018; Gellert & Elbro, 2018). In this symposium the use of DA is expanded to broader language skills (vocabulary - Nash, morphology - Gellert; Whyllie, and narrative - Petersen) and their role in predicting growth in reading comprehension and identifying those at risk of difficulties and RTI. Finally, Cho presents a DA of math designed to predict calculation and word problem solving outcomes.

- **Paper 1: Morphological awareness in the first year of schooling contributes to reading comprehension after a year of formal literacy instruction**
 - **First Author: Sarah Whyllie -- Coventry University**
- **Paper 2: Using kindergarten dynamic assessment of language to predict future reading comprehension difficulty**
 - **First author: Douglas B. Petersen -- Brigham Young University**
- **Paper 3: Can a dynamic vocabulary learning task add to the prediction of growth in reading comprehension and the identification of children with reading comprehension difficulties?**
 - **First author: Hannah M. Nash -- University of Leeds**
- **Paper 4: Examining the predictive validity of a dynamic assessment of morphological analysis to forecast response to a morphological vocabulary intervention**
 - **First author: Anna S. Gellert -- University of Copenhagen**
- **Paper 5: Dynamic assessment for identifying Spanish-Speaking English Learners' risk for mathematics disabilities: Does language of administration matter?**
 - **First author: Eunsoo Cho -- Michigan State University**

Understanding DLLs' reading development by exploring child- and text-level factors outside the SVR framework

Chair: Amy Pratt -- University of California, Irvine

Though many Dual Language Learners (DLLs) become proficient readers in English, most do not (NAEP, 2019). The proposed symposium begins by using latent profile analysis to establish that, as early as PreK, DLLs are overrepresented in the “risk for reading failure” profile. Subsequent papers explore both child- and text-level factors that may contribute to variability within and across DLL readers from Kindergarten to fifth grade. Paper 2 investigates how kindergarteners’ metalinguistic skills, such as morphological awareness, predict spelling and word reading in second grade. Paper 3 investigates the extent to which working memory contributes to third graders’ reading comprehension in Spanish and English. Paper 4 explores the effect of text type and difficulty on comprehension among DLLs through 5th grade. Together, this work underscores that reading comprehension is not a unitary construct; rather, complex interactions that vary across readers and texts should be considered in future reading research with DLLs.

- **Paper 1: Examining relationships between early learning profiles and DLL status**
 - **First Author: Jill Pentimonti -- American Institutes for Research**

- **Paper 2: From contenyouto continue: A cross-linguistic model of spelling development in Spanish-English DLLs**
 - **First author: Kathleen Durant -- Kent State University**

- **Paper 3: Examining working memory effects on reading comprehension for Spanish-English DLLs**
 - **First author: Ryan Grimm -- SRI International**

- **Paper 4: Effect of text type and text difficulty on DLLs' reading comprehension**
 - **First author: Amy Pratt -- University of California, Irvine**

- **Paper 5: Discussion**
 - **Discussant: Maria Adelaida Restrepo -- Arizona State University**

Cognitive and linguistic contributors to spelling within and across languages

Chair: Susie Russak -- Beit Berl College, Israel

Despite the fact that one cannot be considered truly literate without knowing how to spell, this skill has been much less investigated than the more prominent skill of reading. Furthermore, the majority of extant research on spelling and spelling development to date has focused on the English language. While English may be the most widely spoken language in the world today, it is not the majority native language of all of the speakers. Thus there is still much work to be done to understand this essential literacy skill among speakers of different languages (Treiman, 2017). The present symposium explores spelling and spelling development in different linguistic contexts, different developmental stages and among learners of different levels of language proficiency. The presentations explore cognitive and linguistic contributions from L1 and additional languages to spelling, spelling strategies, spelling errors. Multiple L1 backgrounds, typological and orthographic differences are explored.

- **Paper 1: Spelling development in Hong Kong early Chinese-English literacy learners**
 - **First Author: Yanyan Ye -- The Chinese University of Hong Kong**
- **Paper 2: Allocation of cognitive and linguistic resources for L2 (English) spelling development among L1 Spanish ELLs at different levels of English language proficiency**
 - **First author: Elena Zaretsky -- Clark University**
- **Paper 3: Developmental, cognitive, and typological spelling error patterns of English language learners coming from 3 typologically different home language backgrounds**
 - **First author: Sharmigaa Ragunathan -- University of Toronto**
- **Paper 4: Contributors to spelling in English as a foreign language among native Arabic speakers**
 - **First Author: Susie Russak -- Beit Berl College, Israel**
- **Paper 5: Discussion**
 - **Discussant: Gloria Ramirez -- Thompson Rivers University**

Supporting teachers' enrichment of children's language environment in early childhood education and care settings

Chair: Veslemøy Rydland -- University of Oslo

Over the past decade of more ecologically valid observational and intervention studies in Early Childhood Education and Care (ECEC) settings, it has become increasingly evident that we need more knowledge about how Professional Development models lay the foundation for endorsing evidence-based practices among staff in a way that connects to child outcomes. It is particularly important to understand how teachers can offer children more cognitively challenging and language-rich interactions with individualized support. The four papers in the present symposium address this issue, with the first connecting assessments of US teachers' knowledge and skills in supporting dual language learners to child outcomes, and the three subsequent papers presenting intervention work with teachers in China, Norway, and the US, respectively. The overarching aim is to discuss how effective language interventions in ECEC settings can attune to the diversity of learners as well as to local and national educational contexts.

- **Paper 1: How are early childhood teachers equipped to support dual language learners?**
 - **First Author: Lulu Song -- Brooklyn College CUNY**

- **Paper 2: Intelligence built into the curriculum: How can curriculum support low-resource early childhood education teacher's development in rural China?**
 - **First Author: Si Chen -- Harvard Graduate School of Education**

- **Paper 3: Supporting teachers' book-sharing practices: An intervention study addressing second-language learners in Norwegian preschool classrooms**
 - **First Author: Vibeke Grøver -- University of Oslo**

- **Paper 4: Child and teacher talk in prekindergarten classrooms: Which learning opportunities are associated with more teacher and child talk?**
 - **First Author: Carol Connor -- University of California, Irvine**

- **Paper 5: Discussion**
 - **Discussant: Deborah Vandell -- University of California, Irvine**

Changing perspectives in the home literacy environment

Chair: Eliane Segers -- Radboud University Nijmegen

The home literacy environment (HLE) has been shown to support children's early literacy development. HLE is often assessed via questionnaires tapping into the main caregiver's literacy activities in interaction with their child. However, recently, the traditional HLE has been challenged, in the sense that the child's environment has rapidly changed over the last decade due to the emergence of new technologies (tablets became mainstream in households after 2010). In addition, research has questioned to what extent the role of HLE remains when brain/gene factors are taken into account (see e.g. Puglisi et al., 2017 SSR; Van Bergen et al., 2017, RRQ). In the current symposium, we focus on these changing perspectives in HLE in which we consider the role of new technologies invading the homes. In addition, we examine the impact of the HLE, when including the role of genetics and the brain in interaction with the environment, in predicting early literacy outcomes.

- **Paper 1: Literacy activities with preschool children in the digital home environment and children's early literacy**
 - **First Author: Galia Meoded Karabanov -- Tel Aviv University**

- **Paper 2: The impact of the digital home environment on kindergartner's language and early literacy.**
 - **First Author: Eliane Segers -- Radboud University**

- **Paper 3: Evaluating the respective roles of home literacy environment and white matter organization in shaping early language abilities: a longitudinal investigation from infancy to toddlerhood**
 - **First Author: Jennifer Zuk -- Boston Children's Hospital/Harvard Medical School**

- **Paper 4: The role of family risk and HLE on reading development across grades 1 and 9**
 - **First Author: Daria Khanolainen -- University of Jyväskylä**

- **Paper 5: Discussion**
 - **Discussant: Roel van Steensel -- University of Rotterdam**

Changes in the role of reading on vocabulary learning from early childhood to adulthood

Chair: Laura Shapiro -- Aston University

Reading is important for vocabulary learning and print exposure is assumed to be the key driver: people who read more books are exposed to a greater number and diversity of words, providing greater opportunities for learning the meanings of those words. This symposium will track vocabulary learning from books across development, highlighting how this process differs in pre-readers, young readers, adolescents and adults: (i) simple (non-tactile) picture-books best facilitate vocabulary learning in pre-readers; (ii) reading ability becomes increasingly important for vocabulary learning as books include increasingly rare words; (iii) both reading ability and exposure are important drivers of vocabulary even into adolescence (iv) skilled adult readers efficiently learn new word meanings from stories, with learning becoming richer with more exposures, and following sleep (offline consolidation). Our discussant will consider how reader and text-level factors relate to learning and the dynamic roles of reading ability and print exposure during development.

- **Paper 1: Lift-the-flap features in ‘First Words’ picture books impede word learning in pre-readers**
 - **First Author: Jeanne Shinsky -- Royal Holloway University of London**
- **Paper 2: Changes in the influence of word reading on vocabulary growth from Kindergarten to grade 10**
 - **First Author: Dawna Duff -- University of Pittsburgh**
- **Paper 3: Modelling the association between reading and vocabulary: both reading experience and reading ability drive vocabulary knowledge in 10-12-year-olds**
 - **First Author: Laura Shapiro -- Aston University**
- **Paper 4: Skilled adult readers efficiently learn new word meanings from stories, with learning enhanced by sleep**
 - **First Author: Rachael Hulme -- Aston University and University College London**
- **Paper 5: Discussion**
 - **Discussant: Kate Nation -- University of Oxford**

Analyzing and supporting reading and writing motivation: Outcomes of descriptive and intervention studies

Chair: Roel van Steensel -- Erasmus University Rotterdam/Free University Amsterdam

Motivation is an important component of students' reading and writing development, because it ignites a positive cycle (Mol & Bus, 2011), leading to more frequent and better reading and writing. Effective support of students' motivation can thus have profound impacts on their reading and writing proficiency. This symposium combines descriptive and intervention studies on reading and writing motivation. Lepper and colleagues examine whether gender differences in interest for reading are related to text characteristics such as topic, protagonist gender and complexity. Oostdam and colleagues analyze the validity and impact of positive (affirming) and negative (undermining) motivations for school writing. Van Steensel and colleagues present the outcomes of a meta-analysis of reading motivation interventions testing effects of specific theoretical mechanisms on reading motivation and comprehension. Finally, Van Ammel and colleagues discuss design principles and outcomes of a reading motivation intervention based on Self-Determination Theory. Segers will synthesize and discuss the presentations.

- **Paper 1: Gender-specific interplay among text-based interest, text characteristics and reading comprehension**
 - **First Author: Chantal Lepper -- TU Dortmund**

- **Paper 2: Affirming and undermining motivations for writing in low-achieving adolescents**
 - **First Author: Ron Oostdam -- Amsterdam University**

- **Paper 3: Theory-driven reading motivation interventions: Results of a meta-analysis**
 - **First Author: Roel van Steensel -- Erasmus University Rotterdam; Free University Amsterdam**

- **Paper 4: ProjectExpert: Enhancing vocational students' reading motivation and comprehension**
 - **First Author: Kim Van Ammel -- Ghent University**

- **Paper 5: Discussion**
 - **Discussant: Eliane Segers -- Radboud University Nijmegen**

Contextualizing the science of reading I—Vulnerability as a framework to understand and address reading

Chair: Nicole Patton-Terry -- Florida State University

The purpose of this two-part symposium is to contextualize the science of reading to better understand and address reading difficulty and disability among students who are vulnerable to experiencing difficulty in school. Models regarding vulnerable populations have been applied in the social sciences and public health to understand disparities in various outcomes and to design interventions to improve those outcomes. Importantly, vulnerability is governed by context; consequently, the causes of disparity are not always easily understood, in part because vulnerability is multifaceted. Applied to the field of reading, research suggests that both individual differences in learners and conditions within and outside of schools can increase vulnerability for reading difficulty. Across two symposia, we will discuss findings from research teams that are considering multiple factors associated with the vulnerability of specific student populations to address reading assessment and development (symposium 1) and reading instruction and intervention (symposium 2) in school-based settings.

- **Paper 1: Including biopsychosocial measurement into screening models for reading risk**
 - **First Author: Yaacov Petscher -- Florida State University**
- **Paper 2: School-based, classroom-wide screenings for dyslexia and developmental language disorders**
 - **First Author: Tiffany Hogan -- MGH Institute of Health Professions**
- **Paper 3: Comparing the effects of explicit and implicit alphabetic coding instruction on the application of orthographic patterns in reading and spelling**
 - **First Author: Alison Arrow -- University of Canterbury**
- **Paper 4: Persistence and fadeout: Investigating long-term effects of a language intervention for children at risk**
 - **First Author: Åste Mjelve Hagen -- University of Oslo**
- **Paper 5: Discussion**
 - **Discussant: Nicole Patton Terry -- Florida State University**

Dynamic interactions between brain changes and reading development

Chair: Maaïke Vandermosten -- KU Leuven

Learning to read is associated with substantial changes in brain structure and function. Studying the dynamic interplay of both behavioral and neural factors is crucial for our understanding of both typical and atypical reading development and has important clinical and educational implications. In this symposium we bring together studies that look at neural predictors of later reading ability by means of both neuroanatomical (Bouhali) and neurophysiological (González) investigations, investigate the contribution of family risk in structural connectivity pre-reading (Blockmans), and investigate training-induced neuroplasticity in both early (Economou) and advanced (Yeatman) readers. The symposium aims to further our understanding of the dynamic associations between reading development and changes at the neural level, and how these change in response to intervention.

- **Paper 1: Deciphering directionality in the association between cortical structure and reading skills across development**
 - **First Author: Florence Bouhali -- University of California, San Francisco**
- **Paper 2: Visual N1 sensitivity to letters in kindergarten and during primary school in children with familial risk for dyslexia**
 - **First Author: Fraga González -- University of Zurich**
- **Paper 3: Pre-reading differences along white matter tract profiles in children at risk for dyslexia**
 - **First Author: Lauren Blockmans -- KU Leuven, Belgium**
- **Paper 4: Training-induced white matter plasticity in pre-readers at risk for dyslexia**
 - **First Author: Maria Economou -- KU Leuven, Belgium**
- **Paper 5: Plasticity and learning: How interventions shape white matter development**
 - **First Author: Jason Yeatman -- Stanford University**

Integrative processes in reading comprehension

Chair: Ludo Verhoeven -- Radboud University

Comprehending what is read requires the dynamic interplay of reading and language subsystems that bring about word identification, word meaning retrieval and integration, sentence parsing, referential-binding, and text memory guided by relevant knowledge and general cognitive resources. Central in this interplay are the integrative processes that result in comprehension. In the present symposium, we bring together research on different levels of integration and different research approaches to integration in diverse groups of learners. The symposium combines four lines of research: (1) modeling the linguistic components in text comprehension, (2) studying the self-paced reading times and individual differences in text integration processes, (3) identifying ERP indicators of word-to-text integration, and (4) uncovering the temporal flow in word-to-text integration processes via eye tracking and imaging. The outcomes of these complementary research paradigms will be discussed in perspective of a neurocognitive account of integrative processes in reading comprehension.

- **Paper 1: Linguistic components in early first and second language reading comprehension**
 - **First Author: Ludo Verhoeven -- Radboud University**

- **Paper 2: Role of word-to-text integration and lexical predictors in ESL reading comprehension**
 - **First Author: Evelien Mulder -- Radboud University**

- **Paper 3: Incremental processes in text comprehension: Sources for word-to-text integration captured by Event Related Potentials**
 - **First Author: Anne Helder -- Leiden University**

- **Paper 4: Assessing combinatorial processing in skilled- and less-skilled comprehenders**
 - **First Author: Julie van Dyke -- Haskins Laboratories**

- **Paper 5: Discussion**
 - **Discussant: Charles Perfetti -- University of Pittsburgh**

Seeking improvements in literacy instruction through an ecological model lens

Chair: Kausalai Wijekumar -- Texas A&M University

Poor performance of reading and writing skills in elementary schools is often associated with poor knowledge of literacy related concepts by teachers. However, related factors such as the role of principals and other school administrators, collectively termed ecological factors, in literacy achievement have not been explored. The purpose of this symposium is to examine the role of school administrators in improving literacy skills which was examined through surveys and observations of classrooms. In addition to literacy knowledge, self efficacy of teachers and administrators were also examined in both regular and special education settings. The results from the five proposals showed that many ecological factors, in addition to teacher knowledge, may be responsible for poor performance of literacy skills in students. Research and educational implications will be discussed to improve literacy skills of students.

- **Paper 1: Effects of web-based teacher professional development about elementary grade reading comprehension**
 - **First Author: Manjari Banerjee -- Texas A&M University**

- **Paper 2: Educator knowledge of phonological awareness, phonics, and dyslexia**
 - **First Author: Tiffany Peltier -- University of Oklahoma**

- **Paper 3: Can principals lead when they are in the dark?**
 - **First Author: Julie Kate Owens -- Texas A&M University**

- **Paper 4: Characterizing the knowledge of educators across the tiers of instructional support**
 - **First Author: Timothy Odegard -- Middle Tennessee State University**

- **Paper 5: The influence of teachers' knowledge and teaching practice on outcomes for beginning readers**
 - **First Author: C. Braid -- Massey University**

Unlocking different manifestations of reading impairments in opaque and shallow orthographies

Chair: Taeko N. Wydell -- Brunel University

In this symposium we discuss how visual and phonological impairments are manifested in developmental dyslexic (DD) readers of alphabetic and non-alphabetic languages with deep (English, Chinese) and shallow (Spanish, Japanese Kana) orthographies. For alphabetic languages, English (deep) DD-readers showed dual visual-phonological impairments captured in speed and accuracy, while Spanish (shallow) DD-readers showed a phonological deficit in reading speed only, with greater errors in spelling. For non-alphabetic languages, Japanese DD-readers showed impairments in both reading speed and accuracy when reading in Kana (shallow), and these impairments were phonological in nature. Interestingly reading skills of Chinese (deep), especially those with DD, improved when they were taught Chinese characters in an analytical manner – that is, characters with the same visual configuration patterns were grouped together by phonetic radicals.

- **Paper 1: Double trouble - visual and phonological impairments in English dyslexic readers**
 - **First Author: Daniel Roberts -- Brunel University London**
- **Paper 2: Manifestation of reading/writing difficulties in Spanish dyslexic children: Phonology is still the key**
 - **First Author: Francisca Serrano -- University of Granada**
- **Paper 3: Speed is not everything in reading syllabic Hiragana and Katakana among Japanese speaking children with developmental dyslexia**
 - **First Author: Akira Uno -- University of Tsukuba, Japan**
- **Paper 4: Configuration patterns matter in reading Chinese? – analytic learning is more effective than whole-word learning especially for children with reading impairments**
 - **First Author: Fuk Chen Ho -- Education University of Hong Kong**
- **Paper 5: Discussion**
 - **Discussant: Taeko Wydell -- Brunel University**

The role of executive function in skilled reading

Chair: Jessica Younger -- University of California, San Francisco

Recent research has pointed towards attention regulation or executive function (EF) skill playing a critical role in successful reading development. However, the specific role of EF may differ depending on the developmental stage and individual characteristics of the reader. In this symposium, the role of EF in various subcomponents of reading is examined across multiple stages and contexts of development. Haft et al. examines emerging readers in Kindergarten, while Younger and Gazzaley compare the relation between EF and reading skill in early vs later readers. Patael et al. use neuroimaging evidence to show EF may act as a compensatory mechanism to support reading comprehension in those who struggle with decoding. Finally, Meri and Horowitz-Krause assess the potential for an EF-based reading intervention to support skill in children with dyslexia. Implications of this work for reading instruction and intervention will be discussed.

- **Paper 1: Direct and indirect contributions of executive function to word decoding and reading comprehension in kindergarten**
 - **First Author: Stephanie Haft -- University of California, Berkeley**
- **Paper 2: Developmental differences in the role of executive function and print and sound-symbol correspondence knowledge**
 - **First Author: Jessica Younger -- University of California, San Francisco**
- **Paper 3: Prefrontal cortex drives the dissociation between decoding and reading comprehension**
 - **First Author: Smadar Patael -- Tel-Aviv University**
- **Paper 4: Training executive functions to improve reading in children with reading difficulties: an fMRI study**
 - **First Author: Raya Meri -- Technion Israel Institute of Technology**
- **Paper 5: Discussion**
 - **Discussant: Jessica Younger -- University of California, San Francisco**

SPOKEN PAPERS

[What are they doing? Using eye-tracking technology to better understand students' test-taking behavior.](#)

Scott Ardoin

[Deconstructing bilingual phonemic awareness: the case for language-specific instruction](#)

Emily Barnes

[Orthographic influences on phonological awareness in school-age children with dyslexia, compensated dyslexia, and typical word reading skills](#)

Lauren Baron

[The impact of reading acquisition on audiovisual processing](#)

Sendy Caffarra

[Screening at school entry and skill acquisition in the first six months of school: Predicting children's progress in beginning reading at the end of the first year](#)

Tracy A. Cameron

[Examining the pathways between prosodic awareness and word reading in school-age children across Grades 3 to 6](#)

Jessica S. Chan

[Developmental differences in the ability to apply cognate knowledge as a cue to meaning of unfamiliar English words](#)

Yi-Jui Iva Chen

[Prevalence of isolated reading and spelling difficulties in Chinese: Differential demand of lexical route in reading and spelling](#)

Edmond Hong Kei Cheung

[Mandarin-speaking preschoolers' pitch discrimination, prosodic and phonological awareness, and the relation with their reading abilities in first grade](#)

Wei-Lun Chung

[Dissociating Executive Function and ADHD Influences on Reading Ability in Children with Dyslexia](#)

Noor Al Dahhan

[The Reading Anxiety-Reading Achievement Link in College Students](#)

Mia Daucourt

<u>“Giants is all cannybully and murderous”: Linking children’s experiences of morphological complexity in texts and processing of morphologically complex words</u>	Nicola Dawson
<u>Literacy intervention and psychosocial development in New Zealand students with low levels of literacy acquisition</u>	Amanda Denston
<u>Determining the Academic and Affective Outcomes of Dyad Reading Among Third Graders</u>	Jacob Downs
<u>Masked ERP repetition priming in deaf and hearing readers</u>	Karen Emmorey
<u>Early spelling as a unique predictor of later reading and spelling in the deep Danish orthography</u>	Stine Engmose
<u>Examining the role of text and talk in later school-relevant language development in middle grade classrooms</u>	Emily Phillips Galloway
<u>Multidimensional Morphological Assessment for Middle School Students</u>	Amanda Goodwin
<u>A collaborative dialogic inquiry approach to improving students’ use of vocabulary in reflective writing</u>	Ming-Yi Hsieh
<u>Does theory of mind predict reading comprehension using a direct and indirect model?</u>	Sophie Jackson
<u>English Skills and Social- Behavioral Wellbeing Predict English Word Reading</u>	Redab Janaideh
<u>Reading Development in LMICs: Insights from rural Côte d'Ivoire</u>	Kaja Jasinska
<u>Learning new vocabulary items from reading versus listening to stories: does the presentation of orthography benefit learning?</u>	Sanne van der Kleij
<u>A systematic review of the effectiveness of vocabulary interventions on vocabulary and reading comprehension outcomes</u>	Poh Wee Koh
<u>Orthotactic sensitivity vs. phonological constraints on word recognition: An ERP study with deaf and hearing</u>	Brittany Lee

readers

Biological networks associated with reading ability

Hope Lancaster

Co-development of reading and math skills across an academic year and its longer term predictive significance

Christopher Lonigan

The stability, overlap, and predictors of bilingual word reading difficulties in first to Third grade students

Elizabeth MacKay

Incidental word learning from print: The role of semantic diversity

Matthew HC Mak

Phonological awareness in L2 English: Exploring response patterns, scoring options, and error types on CTOPP deletion

Katherine Martin

A comparison of three reading comprehension tests using eye movements.

Diane Mézière

Frequency trajectory as a criterion for identifying core academic vocabulary

William Nagy

Modeling changes in achievement gaps in reading and mathematics

Jessica Namkung

Improving comprehension and vocabulary skills through online deliberate practice

Pelusa Orellana

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