

# **Bilingual Acquisition of Language and Literacy (BiALL)**

## **Book of abstracts**

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## Keynotes

### **Long-term development of reading proficiencies in heritage languages: Evidence from Russian and Polish heritage speakers in Germany**

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Reading proficiency is very often considered to be a crucial prerequisite and predictor for children's educational success. Therefore, it is regularly included in national and international surveys which aim at measuring academic success of children (e.g., PISA, PIRLS/IGLU, DESY and other studies). What is mostly measured in these studies, however, is the comprehension of written texts. The ability to decode and orally reproduce a written text (i.e. the ability to read aloud) is rarely identified as a topic that deserves an in-depth investigation. This is especially true for bilingual children in general, but also for more specific settings where the majority language and the heritage language use different script systems (as is the case with Russian-German bilinguals).

In my talk, I will focus on the development of both reading comprehension and the ability of reading aloud in Russian-German and Polish-German bilingual adolescents. Reading comprehension was tested by using two texts for each language (one newspaper and one belletristic text). All 45 study participants had to read these texts and answer questions that were aimed at global text understanding as well as the extraction of detailed information. Reading aloud was tested through a short belletristic text for each language and measured by parameters such as speed, fluency and accuracy of reading.

As a first step of the analysis, the bilinguals' results for both languages will be compared. The main objective here is to investigate whether there is a correlation (a) between the two skills (reading comprehension and reading aloud) in each language and (b) between each skill respectively in the majority language German and in the Slavic heritage language. Furthermore, we wanted to look at factors that might influence these results, including the role of the script system that is applied for writing texts in the respective languages (Latin script for German and Polish, Cyrillic script for Russian). Thus, the study aims to contribute to the discussions on the possibility of transferring literacy skills from one language to the other in bilinguals.

As a second step, I will look at the development of reading proficiencies in the heritage language from a longitudinal perspective. For this purpose, data from a smaller sample of our study was collected over a period of five years. The collection of data on reading comprehension and reading aloud in the heritage language was accompanied by interviews on literacy practices in the families and the family language policies as well as the collection of data on the overall development of the heritage language (including development of vocabulary size and grammatical skills in the heritage language). This will allow us to compare the development of reading proficiency and the general development of heritage language proficiency as well as to investigate external factors that might have an impact on these skills.

# **The bilingual development of migrant children in Canada with a focus on the Syrian refugee community**

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Commonly-held popular beliefs hold that migrant children in a host society learn a second language (L2) rapidly and with uniform outcomes, in contrast to migrant adults. This plenary draws on 10 years of research with over 400 English L2 children in Canada from diverse L1 and migration backgrounds to show that these popular beliefs are myths. The developmental trajectories of English L2 children demonstrate that it takes years in elementary school for their English abilities to approach that of their monolingual peers, and that some linguistic domains are acquired faster than others, e.g., narrative skills in the L2 reach monolingual levels well in advance of accuracy with verb morphology. Throughout the elementary school years, children show wide individual variation in their rates of English L2 acquisition for vocabulary, morphology, syntax and narrative skills. Sources of these individual differences include both child-internal and child-external factors, indicating that multiple mechanisms underlie child L2 acquisition. Child-internal factors that influence the rate of L1 and L2 acquisition include age of L2 acquisition, cognitive capacities (verbal memory and analytical reasoning) and socioemotional well-being. L1 typology influences the rate of L2 morphosyntax. Proximal external factors include both quantity and quality of L1 and L2 input. Longer exposure to L2 input, un-controversially, predicts better L2 abilities; however, quality factors like the source and richness of this L2 input also play a role in shaping L2 acquisition. Distal external factors, like maternal education levels, are related to quantity and quality of input and, in turn, also predict children's L1 and L2 acquisition. A detailed examination of the Arabic-L1 and English-L2 of recently arrived Syrian refugee children reveals how migration background should be taken into account when setting expectations for children's bilingual development and supporting them in the education system.

## **Predicting cross-linguistic influence in bilingual language development: the role of language-level, contextual, and individual-level factors**

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The general consensus in the bilingual first language acquisition literature is that there is separate development of the child's two languages. At the same time, however, there is clear evidence that under certain circumstances, one language may influence the other (Paradis & Genesee, 1996). This cross-linguistic influence (CLI) varies across linguistic domains, language combinations and children, and several language-level and individual-level factors have been invoked to explain this variation (see Serratrice, 2013 for review), including surface overlap and language dominance (e.g., Döpke, 1998; Hulk & Müller, 2000; Yip & Matthews, 2000). Which of these factors constitute necessary and/or sufficient conditions for CLI and the exact mechanisms by which CLI occurs remain unknown, however. In this talk, I will report on the first results from a 5-year project in which we try to arrive at a better understanding of CLI in bilingual language development by drawing on insights from the bilingual adult psycholinguistic literature (e.g., Hartsuiker et al., 2004). Our central hypothesis, following work by Serratrice (2014, 2015), is that CLI in bilingual children is driven by (structural) priming and reflects a certain level of cross-language sharing. Consequently, we predict that as a result of parallel co-activation of a child's two languages, the presence and magnitude of CLI should be predicted by individual-level, contextual, and language-level factors which have been shown to affect the magnitude of co-activation and priming in adults, namely language exposure, use and proficiency, language mode, and surface overlap (e.g., Bernolet et al., 2007; Elson-Güttler et al., 2005; Kootstra et al., 2010; Poort et al., 2015; Van Hell & Tanner, 2012).

## **Presentations**

### **Language assessment tools for newly arrived Arabic speaking children?**

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Due to the civil war in Syria, many families with school-age children have arrived in Germany. Even if language support is available, it is difficult to assess the progress in the acquisition of German in these children because assessment procedures for such groups are practically non-existent: there are only very few assessment tools with bilingual norms and these norms are based on populations of simultaneous or early successive bilinguals with first systematic contact to German at Kindergarten age; the recommendation for norm adjustments (Thordardottir 2015) also seem to work best with simultaneous or early successive bilinguals. These difficulties are not only due to the language structures used but often also to the fact that the children had no schooling for a considerable period of time.

Our paper compares 11 new-arrivals of Syrian origin at school age (7;7-11;6), with 11 younger heritage speakers (5;10-8;11), i.e. simultaneous or early successive bilingual children with Arabic as L1. We establish that these children show typical language development by assessing their skills in their home-language and then investigate their performance in German by administering standardized tests for morphosyntax and vocabulary and two repetition tasks, the German LITMUS (Language Impairment Testing in Multilingual Settings, COST Action IS0804, see Armon-Lotem et al. 2015) sentence-repetition and non-word repetition task. Comparisons to the groups of heritage children show that scores are comparable only for nonword repetition, whereas sentence repetition and other tests involving morphosyntax and vocabulary show poor performance even after 24 months of exposure. Questionnaire background data allows exploring whether variables such as age-of-exposure, length-of-exposure, current L2 use or socio-economic-status influence performance in the LITMUS tasks. We also discuss our results in the light of official educational policies in Germany assuming that 12 months of systematic exposure and support will suffice for integrating a child into a regular-classroom.

## Using Non-word and Sentence Repetition tasks to assess language performance in a heterogeneous group of multilingual children

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The number of children speaking more than one language as well as the number of languages spoken in Ireland significantly increased posing a problem for identification of children with language disorder. To tackle this problem, the pilot study compared performance of monolingual and multilingual children on language-processing tasks: (1) Cross-linguistic non-word repetition (CL-NWR) (Chiat & Polišenská, 2016), and (2) Sentence repetition (SR) in English (Marinis & Armon-Lotem, 2015), Polish (Haman et al., 2017) and Russian (Meir, Walters & Armon-Lotem, 2015). The study included 41 monolinguals and 47 multilinguals age 5-8 years. Multilinguals formed a heterogeneous group speaking English and one of 16 other languages. Language emergence, the age of exposure (AoE) to English and the percentage of English spoken at home were recorded for multilinguals.

CL-NWR yielded similar distribution of scores for monolinguals and multilinguals. There was no significant difference in performance between the lingual groups. English SR showed large individual variations in both lingual groups. Monolinguals significantly outperformed multilinguals on this task. Comparison of SR in English and Polish/Russian for the subset of children who spoke those languages highlighted the heterogeneity of this group: some children showed balanced performance in both languages while others showed marked differences performing better in either Polish/Russian or English depending on their AoE to English and percentage of English spoken at home.

This pilot study suggests that CL-NWR is a promising screening tool for identifying monolingual and multilingual children at risk of language disorder. SR tasks provided more detailed information on language performance which was linked to children's language exposure. Comparison of SR performances across children's languages indicated heterogeneity of the multilingual group with respect to their language skills in English and Polish/Russian. Because of that, we suggest SR to be used only when comparable tasks are available in all of child's languages.

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## Understanding MAIN picture stories: a study of Swedish-Turkish children aged 4-7

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When learning to tell stories, children not only need to describe story events, but also infer, verbalize and explain story characters' thoughts, goals and emotions. A prerequisite is story comprehension, which develops substantially during the late preschool and early school years, along with cognitive development. Story comprehension in bilingual children is underresearched (Bohnacker 2016; Lindgren 2018; Maviş et al. 2016).

This paper reports on 100 Swedish-Turkish bilingual 4-7-year-olds growing up in Sweden, focusing on their story comprehension in the majority language Swedish. The children's home environment was predominantly Turkish. 27% were exposed to both Turkish and Swedish from/soon after birth, while 73% were sequential bilinguals. All had attended Swedish-medium preschools for at least two years. Two picture-based narrative tasks, Cat/Dog and Baby Birds/Baby Goats from MAIN (Multilingual Assessment Instrument for Narratives, Gagarina et al. 2012), elicited oral narratives and answers to standardized questions, probing the understanding of story characters' goals and emotions. Receptive and expressive vocabulary was assessed with the Swedish version of the Cross-Linguistic Lexical Task (CLT, Haman et al. 2015). (The same type of narrative and vocabulary data was also collected in the children's L1 Turkish.)

Swedish comprehension scores at age 4 were generally low. Congruent with the literature on other populations, we found clear age effects, and story comprehension was at a high level at age 6-7. Interestingly, a task effect emerged, where scores for one narrative MAIN task were significantly lower than for the other, even though both tasks used seemingly identical comprehension questions. Vocabulary scores were a significant predictor of story comprehension. As there was much individual variation, especially among younger children, we explored exceptionally high- and low-scoring children. Here, language input and use in and outside the home were central to understanding the children's story comprehension results, in addition to vocabulary knowledge and age.

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## **Double literacy effects on language and reading skills in Italian-English primary school children**

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Major concerns still surround literacy education in a foreign language during primary school. In this study we aim to establish (1) whether bilinguals perform worse in Italian literacy tests than monolinguals; (2) whether literacy skills transfer from Italian to English. We tested 97 Italian-English bilingual first-, third- and fifth-graders (attending two bilingual primary schools in Italy, with a simultaneous 50:50 immersion program) and a control group of 40 monolingual Italian pupils in Grades 1 and 3. All participants were tested in Italian, measuring the following skills: vocabulary, phonological awareness, reading proficiency and verbal short-term memory. Bilingual participants – who had been exposed to Italian since birth and to English within the first three years of their lives – were also tested on the same measures in English. The results showed that bilingual first-graders outperformed their monolingual peers in verbal short-term memory, thus revealing a possible cognitive advantage in the early stage of literacy acquisition. Monolingual and bilingual first- and third-graders did not differ in reading speed. The two groups made an almost similar number of errors (monolingual and bilingual first-graders, respectively  $M = 2.40$  and  $M = 5.32$ ; monolingual and bilingual third graders, respectively  $M = 1.75$  and  $M = 3.12$ ), but the small difference turned out to be statistically significant. Bilingual subjects' reading attainment was found to be within monolingual normal limits in both languages and on all measures except for English reading comprehension, which, together with English vocabulary, was found to be below the English norm. Aside from reading comprehension, on all other measures bilingual children's performance in Italian correlated with their performance in English, suggesting the presence of cross-linguistic transfer of language and reading skills.

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## **Exploring the lexical abilities and language exposure patterns of Arabic-Swedish bilingual children (4-7) in Sweden**

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Bilingual children's exposure to each of their languages is generally less than the amount of language exposure that a monolingual child receives. This may lead to a smaller lexicon in one or both of a bilingual child's languages (Bialystok et al., 2010). Language exposure patterns affected by certain environmental factors, socio-economic status (SES), age of acquisition and age effects, further impact the development of a bilingual child's lexical ability. Not taking these factors into consideration might lead to falsely diagnosing the child with Language Impairment (LI). Children who do have LI, however, often show a slower rate of vocabulary growth; furthermore, their lexicon is believed to be less diverse than that of same-age peers (Leonard & Deevy, 2004).

Since the language characteristics of bilingual children in Sweden are gravely under researched, we have collected and analyzed data from Arabic-Swedish bilingual children in both languages, with a view to characterize typical language development and tease apart the lexical characteristics of bilingualism from LI.

We present first results for ca. 100 typically developing (TD) Arabic-Swedish speaking children (4-7). The LITMUS Cross-linguistic Lexical Tasks (CLT) (Haman et al., 2015) is used to measure lexical ability. CLT is a picture-based vocabulary task that assesses the bilingual child's comprehension and production of nouns and verbs, allowing a comparison of lexical abilities in Arabic and Swedish. We also investigate how the children's lexical performance in both languages is affected by age, SES and language exposure measures using background information from parental questionnaires. Preliminary results from 67 children show that speaking Arabic at home significantly boosts the TD bilingual children's lexical knowledge in Arabic while not decreasing their lexical knowledge in Swedish.

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## **French-English bilingual children's sensitivity to genericity and specificity: evidence of implicit and explicit knowledge**

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Recent research posits the role of processing mechanisms on cross-linguistic influence (CLI) (see Nicoladis, 2016). Genericity marking is known to be challenging for Romance-Germanic bilinguals (e.g. Serratrice et al, 2009). This paper examines 8-to-10-year-old French-English children's sensitivity to grammatical violation in the encoding of genericity and specificity in online and offline tasks; and considers how individual measures of fluency and language exposure affect CLI.

Forty-five French-English children, 24 French monolinguals and 20 English monolinguals took part in an online self-paced reading task (SPR) tapping into implicit knowledge, and an offline Acceptability Judgement task (AJT) tapping into explicit knowledge, in their respective language(s) (Godfroid, Kim, Hui, & Isbell, 2018). In a generic context, French requires the projection of a definite article while English allows bare mass nouns and bare plural nouns. Based on these differences, all the tasks included 8 paired-sentences in the generic condition (e.g. Paul loves green fruit, he thinks that 0/\*the kiwis are delicious) and 8 in the specific condition (e.g. Julie wants to buy fruit from the market stall, she thinks that the/\*0 pears are ripe) – identical in both languages. Cattani et al.'s (2014) parental questionnaire was used to measure language exposure and fluency.

Our results show bi-directional CLI. In French, increased English exposure leads to lower accuracy at rejecting ungrammatical sentences in the AJT. All the children discriminate the sentences based on grammaticality in the SPR, regardless of group or English exposure. In English, accuracy at rejecting ungrammatical sentences is low across groups in the AJT. The bilinguals display a delayed development in comparison to the monolinguals as they fail to identify grammatical sentences in the generic condition in the SPR. These findings suggest that CLI occur both at the level of bilinguals' implicit and explicit knowledge and re-emphasise the importance of individual measures of language exposure.

## **Factors That Shape Host and Heritage Language Acquisition Among Preschool Children in the United States: A Longitudinal Study**

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**Introduction:** Early language trajectories in bilingual children are known to be more variable than they are in monolingual children, but the factors that shape bilingual development in preschool period have not been well described.

**Method:** 126 U.S.-born children living in Spanish-speaking families in the U.S. were studied longitudinally from 2.5 to 5 years. The outcome measures analyzed here were scores on standardized tests of English and Spanish expressive vocabulary knowledge, which were administered at 6-month intervals from the age of 2.5 to 5 years.

**Results:** Separate multilevel models identified three factors that were significant predictors of both languages: the relative amount of children's exposure to that language at home, the highest level of education their mothers had attained in that language, and children's phonological memory skills measured in nonword repetition tasks with English- and Spanish-like stimuli. The nature of the relation of home exposure to growth in each outcome differed. Differences among children in English skill related to home exposure diminished over time while differences in Spanish skill related to home exposure increased. Hierarchical regressions predicting English and Spanish vocabulary scores at 5 years, calculated to estimate effects sizes, indicated that the environmental factors of exposure and maternal education together accounted for 24% of the variance in English vocabulary and 30% of the variance in Spanish vocabulary. Phonological memory skill accounted for an additional 11% of the variance in each outcome.

**Conclusion:** Individual differences in children's bilingual growth during the preschool period depend on the quantity and quality of language exposure and also on children's phonological memory ability. While the contribution of phonological memory skills is comparable across languages, home exposure matters more to heritage language acquisition than to host language acquisition.

## **Growing up Bilingual: Understanding Specific Benefits Across the Mainstream and Complementary Education Sectors**

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**Background:** While bilingualism has become more common as our world has become more interconnected, there continues to be debate as to whether this yields any specific benefits, particularly cognitively (Antoniou, 2019). Within the United Kingdom language learning has starkly declined (Ratcliffe, 2013), and communities have tried to overcome this and preserve their mother tongue language by setting up complementary schools, which take place on weekends. A significant educational movement for the past half-century (Li, 2006), these schools provide an opportunity to research early bilingualism.

**Aims:** This study details the first time-point of a three-year longitudinal project based in East London, investigating the potential benefits of bilingualism in children aged 4-9 years old that attend complementary schools, compared to bilinguals who do not. Alongside the social benefits investigated, it aims to ascertain any cognitive benefits by measuring attentional control, executive functioning, and object naming.

**Methods:** Data collection has begun in complementary schools of Albanian, Russian, Tamil, and Gujarati communities, as well as matched mainstream primary schools in surrounding boroughs. Attentional control and executive functioning are measured using a flankers task, and the Dimensional Card Sort task via the National Institute of Health Toolbox app, while object naming of nouns and verbs is measured in English using an electronic cross-linguistic task (Haman et al., 2013). Additional information is also collected on students' language proficiencies and family affluence/backgrounds.

**Expected Results:** Preliminary findings will include a comparison of measures, using accuracy and reaction time data, between bilinguals that attend complementary schools, and bilinguals that don't. Comparisons will also be made between bilinguals of the different mother tongue languages represented, and with the consideration of the different proficiencies and backgrounds identified. **Conclusions:** It is expected that this study will give an important initial insight into potential benefits of early bilingual development, how that may be different under the additional context of complementary schools, and inform subsequent research with these cohorts.

## **Effects of dominance and typological proximity on the narrative abilities of Dutch-German bilingual children as compared to their isolated lexical and grammatical skills**

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Narratives are considered a particularly insightful instrument for the investigation into bilingual children's literacy abilities since they allow for the investigation of a number of cognitive and linguistic subskills (Bongartz & Torregrossa, 2017; Gagarina, Klop, Tsimpli, & Walters, 2016). A number of studies indicate that this allows for an in-depth investigation of variability within and across bilingual children's language and literacy development, i.e. bilingual profile effects (Francis, 2011; Knopp, in print; Pearson, 2002). This may be partly related to the fact that bilingual children can share some components of narrative ability across their two languages more than others, particularly those related to literacy and secondary discourse ability across their two languages (Francis, 2004; Gagarina, 2016; Knopp, in print). However, also other factors, such as dominance and crosslinguistic differences, may be a potential source for profile effects in bilingual language and literacy development (ibid.).

In the present study, findings from a pilot study conducted at a bilingual secondary school in the Dutch-German border-zone will be presented. Oral narratives produced by 10-12 year-old Dutch-German bilinguals elicited with the Edmonton Narrative Norms Instrument (Schneider, Hayward, & Vis Dubé, 2006) are compared on a number of micro- and macrostructural measures across their two languages. These results are then compared (1) with the results from more decontextualised proficiency tests (i.e. a measure of vocabulary and grammatical knowledge) and (2) the results from an earlier study with Greek-German bilinguals (Knopp, in print). It is hypothesized (1) that differences in dominance are less prevalent in children's narrative productions than in more isolated lexical and grammatical tasks and that (2) the typological proximity between Dutch and German allows Dutch-German bilingual children to their narrative abilities to a high degree even in cases of stark bilingual language dominance. It is expected that this is the case to a higher degree than in the stories produced by the Greek-German bilinguals, indicating that bilingual language dominance interacts with typological proximity.

## Age and linguistic complexity in child second language acquisition

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This study investigated the impact of internal (age/memory) and external (length of exposure, henceforth, LoE) factors in predicting comprehension of complex sentence structures in child second language acquisition (cL2). CL2 allows measurement of age effects at different maturational stages while accounting for influencing factors (e.g. LoE). Early childhood developmental phases are linked with constraints on cognitive properties (e.g. attention, memory and analytical reasoning), affecting processing and interpretation of complex sentences such as those containing embedded clauses and/or non-canonical forms (Clahsen & Felser 2006). Recent research (Paradis et al. 2017; Rothman et al. 2016) investigating age effects in cL2 acquisition of complex structures have found an advantage for older L2 children. However, task designs may have favoured particular participants, and studies focused on 1 complex structure type only—passives and 2-clause structures, respectively. The present study measured comprehension of 4 sentence structures ranging in complexity: actives and subject relative clauses (canonical order); and passives, and object relative clauses (non-canonical order).

The experimental design comprised a simple colouring task to reduce processing costs and age bias (Zuckerman et al. 2015). Pictures on a touchscreen PC were coloured in, based on test sentences from an 8 x 8 sentence design set (actives/passives; subject/object relative clauses), alternated by fillers. Factors were age, LoE, and memory (between subjects), and structures (passives/relative clauses, within subjects) and complexity (non-complex/complex, within subjects). Participants were 41 child L1 Arabic-speakers acquiring L2 English (age range 5 to 12), and 38 age-matched monolingual controls.

Regression analyses using participant averages revealed positive associations for age, LoE and memory on comprehension of non-canonical forms (passives/object relative clauses), with age and memory more robust predictors than LoE. Comprehension of canonical forms (actives/subject relative clauses) showed no positive correlation with factors.

Results suggest interpretation and processing of non-canonical complex structures require the more advanced cognitive ability and higher memory capacity associated with older children.

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## **Executive Functions in Monolingual and Multilingual Children**

*Veronika Mak*

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This presentation reports on research that broadens the scope of monolingual and bilingual comparison focusing on cognitive executive function control. The purpose of this study was to investigate the effect of bilingualism on executive function control in kindergarten-aged children by testing inhibition, working memory and cognitive flexibility skills. The main research question was: Do immersion bilingual Hungarian-English speaking kindergarteners show an advantage of executive function control in comparison with their monolingual peers? The hypothesis was that bilingual children would perform on level or better than the monolingual participants of the study. Furthermore, the monolinguals were expected to score higher on the vocabulary measure compared to the bilinguals. The participant pool consisted of Hungarian monolingual and Hungarian-English immersion bilingual five- and six-year-olds. Specific verbal tasks for engaging differences in the cohesive workings of executive function control were employed, such as the dimensional change card sort, visually cued recall, and embedded figures task. Data collection was completed individually in Hungarian and lasted approximately 30 minutes. The results indicated that the participants of the two language groups performed similarly; no significant difference was found between monolingual and bilingual kindergarteners' performance on the executive control tasks. These results support the hypothesis that bilinguals are performing at the same achievement level in terms of cognitive executive functions as their monolingual peers. In light of the current literature on bilingualism, the discussion provides implications for parents, educators, and policymakers, with suggestions for future research directions with a larger variety of bilingual populations.

## **Non-word repetition tasks in Arabic–Swedish-speaking bilinguals (4–7): Effects of age, non-word items, language exposure and vocabulary**

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Bilingual children are at risk of being both over and underdiagnosed with Language Impairment (LI), since features of L2 Swedish and characteristics of LI overlap. Non-Word Repetition (NWR) requires the child to repeat a series of phonological nonsense forms. NWR has been shown to reliably identify LI in monolinguals across languages (e.g. Chiat 2015). Since NWR performance is less dependent on language exposure than other tasks, NWR is a potentially reliable method of screening for LI in bilinguals.

However, some evidence suggests that monolinguals are better at repeating non-words that share the phonological rules of real words in their language (Chiat/Roy 2007), and are thus at least to some extent affected by language exposure and experience. Bilingual children are therefore expected to vary in their performance on NWR tasks with different characteristics, based on exposure patterns and previous experience (Chiat 2015). Therefore, it is important to investigate how children speaking the same language combination perform on different NWR tasks.

In this talk we present our work regarding NWR in Arabic-Swedish-speaking bilinguals age 4–7 years with typical language development (n=98). Different sets of non-words were used, varying in item length, segmental complexity, and lexical stress patterns. Tasks include a Swedish language-specific task (Radeborg/Barthelom/Sjöberg/Sahlén 2006), and Swedish and Arabic versions of quasi-universal NWR tasks developed within COST Action IS0804 (Chiat 2015; dos Santos/Ferré 2016).

Preliminary results from 67 children show age effects for all NWR tasks, but no effect of age of onset or daily language exposure, not even for the Swedish language-specific task. We will report results for all children and investigate differences in performance based on NWR characteristics. The results are discussed in light of background factors such as language use and exposure, as well as vocabulary as a potential mediating factor for NWR performance.

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## **Links Between L1 Morphology and Semantics and L2 Morphology after 5 Years**

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In the United States, Spanish is the most spoken language by English language learners (ELLs). Past studies have shown that morphological skills in L1 Spanish are associated with word-reading and reading comprehension skills in L2 English (Kieffer & Leseaux, 2008; Ramirez et al., 2009). Research indicates that there is a general language ability that accounts for overall performance across languages but coexists with additional language-specific contributions (Gray et al., 2015). Further, Castilla et al. (2009) found that Spanish semantic and grammatical skills predicted English grammar in bilingual preschoolers 9 months later. The present study examined the strength of the link between L1 Spanish morphosyntactic and semantic skills in preschool and L2 English morphosyntactic skills in the third grade in ELLs. Following Cummins' linguistic interdependence hypothesis, we predicted that proficiency in L1 Spanish in preschool should correlate with L2 English morphosyntactic skills in third grade.

Spanish-English bilingual preschoolers (286) in the greater Phoenix area were tested annually for 5 years on various semantic and morphological skills in Spanish and English. These students participated in mandated English-only curriculum. We examined a composite English score of receptive and expressive morphology measures in third grade, using Spanish preschool performance on morphology and semantics as independent variables.

We performed linear regression analysis of semantic and morphological Spanish scores in preschool on later English morphological skills. Results showed that Spanish L1 morphological skills in preschool accounted for 20% of the variance in later English, with semantic skills explaining an additional 8% for a total of 28% while controlling for age and gender. These results support the notion that semantic and morphological skills in the L1 significantly predict morphological performance in L2 despite several years in an English-only academic environment. This has implications for maintaining L1 Spanish during preschool for later L2 English achievement.

## **To what extent do receptive language abilities in German measured with the MSVK differ between bilingual and monolingual first graders?**

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**Purpose:** Previous research has shown a gap in linguistic ability between monolingual and bilingual children, especially those with minority languages as L1, often attributing their lack of educational success to insufficient language proficiency. This study examines the development of receptive L2 language abilities of bilingual primary school children over the course of their first grade and compares them with monolingual peers.

**Research Questions:**

- (1) Do linguistic abilities of multilingual children differ from the monolingual norm sample at the beginning and end of first grade?
- (2) How high is the proportion of results that fall below the normal range?

**Method:** This study analysed the L2 German of 37 bilingual children with 16 different L1s aged 6-7 years. The MSVK (Marburger Sprachverständnistest für Kinder) (Elben & Lohaus, 2000) was administered at the beginning and end of first grade testing receptive lexicon, semantic, syntax, pragmatics as well as understanding of complex instructions. To compare the results with the monolingual norm sample a bilingual reference score was calculated.

**Results:** Compared with the monolingual norm by the end of first grade the bilingual children showed lower performance in the lexical domain, but similar results in the understanding of semantics and complex instructions as well as higher performances in receptive syntax and pragmatics.

Following on from Thordardottir (2015), a performance of a bilingual child in a monolingual test below T-score 30 can be considered below average. The proportion of subtests with results below this limit was at 6.3% at the beginning and 5.4% at the end of first grade. These results differ only slightly from the expected 2.2% under the normal distribution assumption.

**Conclusion:** With the exception of lower lexical skills, the children showed very similar abilities compared with their monolingual peers, sometimes even outperforming them.

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## **Subject-verb agreement, case marking, and non-word repetition in 7-year old German bilinguals with and without SLI**

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There is inconclusive research on German case marking in monolingual and bilingual acquisition as well as in children with specific language impairment (SLI; Eisenbeiß et al. 2005, Schönenberger et al. 2011, Ruigendijk 2015, Ulrich et al. 2016). Therefore, a former study ('Author of the present study' 2018, 2019) investigated German dative case marking within longitudinal studies of simultaneous (2L1) bilingual children with SLI (N=3) aged 4 and 7 years, and aged-matched cross-sectional studies (monolingual TD children, 2L1 TD children, early sequential (L2) TD children, monolingual children with SLI, and L2 children with SLI, N=50). Results showed no differences between 2L1 and SLI by age 4. However, by age 7, there were differences between 2L1 and SLI, but no differences between L2 and SLI. Dative case marking turned out to be a potential linguistic marker for monolingual children at ages 4 and 7, but for 2L1 children only at age 7 – due to a temporary delay in bilingual TD by age 4. Further research is necessary to understand the performance of L2 children.

Therefore, the present pilot study on the production of German case marking uses the LIT-MUS tool developed by Ruigendijk (2015) in order to determine the role of case marking as an indicator for bilingual SLI in L2 German (BiTD: N=10, mean age 7;10, mean age of onset 2;11; BiSLI N=13, mean age 7;6, mean age of onset 3;1). Performance in case marking as a late acquisition phenomenon is compared to performances in subject-verb agreement (SVA) as an early acquisition phenomenon (LITMUS tool, de Jong 2015) and a non-word repetition task (NWR, see Grimm & Hübner 2018). Results show NWR and SVA as valid clinical markers, whereas case marking does not disentangle SLI from TD in the investigated bilingual population.

## On the correlation of reading and writing skills in multilingual contexts

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The successful development of literacy skills (reading and writing) is a crucial prerequisite for students' educational attainment (Daane et al., 2005; Bialystok, 2013; Gogolin, 2014). In multilingual contexts, literacy skills undergo a complex process of development accompanied by highly heterogeneous experiences with both languages in bilinguals (Hammer et al., 2014). The current contribution will explore the heterogeneity of reading and writing skills in German-Russian bilinguals based on the data from two research studies “LiMA Language Panel (LiPS/Ru\_LiPS\_laut)” and “Multilingual Development: A Longitudinal Perspective (MEZ)”. Both studies provide unique and extensive receptive and productive data on students' bilingual literacy skills in Germany. By presenting the first study (LiPS), we will focus on students' (N=13, aged 12-13 and 16-17) ability to produce phonemes as well as the corresponding graphemes in their HL Russian. The results show that writing is characterized by more deviations than reading. There is no significant difference between the two age groups in reading. The differences in writing are significant between the both age groups. This result points to cognitive, linguistic, and extralinguistic distinctions in the acquisition of both literacy skills. In a further step, we will explore the difference in both skills and introduce profiles of biliteracy in a migration context based on the data from the MEZ study (N=249, students from the 7th and the 9th grades). The results of this analysis reveal that despite the given, rather restrained opportunities for acquiring biliteracy in a migration situation, German-Russian bilinguals in our sample manage to become biliterate. Furthermore, the results approve the different extends of reading and writing skills in both languages found by LiPS. Finally, this contribution will address the necessity to consider the potential of students' languages - both heritage (Russian) and majority (German) - as valuable resources for literacy learning in multilingual societies.

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## **Developing literacy in linguistically diverse children: a pre-literacy intervention study**

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This study explored the efficacy of a classroom-based pre-literacy programme in a linguistically diverse preschool context. The purpose was twofold: explore whether a pre-literacy intervention in the school language Luxembourgish is beneficial for children with poor oral language skills in Luxembourgish, and determine whether a Luxembourgish pre-literacy intervention has effects on literacy development in German. In Luxembourg preschool education is provided in Luxembourgish, however, children learn to read and write in the foreign language German in Grade 1.

Children from 28 Luxembourgish public preschool classes were allocated to either the intervention-(n=89) or the standard curriculum (control) group (n=100). In total 15 different languages were spoken as the main language in the homes of the participants. Trained teachers delivered the 20-min. classroom-based intervention sessions in Luxembourgish four times per week over 12 weeks. The program was designed to support children in developing early pre-literacy skills (i.e. phonological awareness (PA) and letter-sound knowledge (LSK)). Multimodal teaching methods were used and needs of L2 learners were taken into account. Children were assessed immediately before and after the intervention in preschool, and at a nine-months delayed follow-up in Grade 1 after having started formal literacy instruction in German.

Children from the intervention group significantly outperformed children from the control group on measures tapping into PA, LSK and literacy at post-test and delayed follow-up. Transfer effects from pre-literacy skills in Luxembourgish to pre-literacy and literacy skills in German are addressed. Differential intervention effects for measures of early reading and spelling are discussed and linked to theory. Post-hoc analyses examined the efficacy of the intervention for children with poor oral language skills in the language of the pre-literacy intervention.

The results provide evidence for the effectiveness of a pre-literacy intervention in the language of schooling for linguistically diverse children. Implications for educational practice are addressed.

## **English language ability and working memory development of English Language Learners in a multilingual context**

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South Africa, with its 11 official languages and several other minority languages, is linguistically and culturally diverse, yet English continues to be the preferred LoLT (Heugh, 2000). Many South African children are thus English Language Learners (ELLs) who have little English proficiency upon entering school. The differing levels of English proficiency at school entry, together with a wide range of first languages in one classroom, pose challenges. One of these challenges is that a certain level of proficiency in English is required to perform well academically in an English-medium school. It is widely accepted that academic success is highly dependent on language competence (Hoff, 2013; Owens, 2008), entailing that an understanding of the development of language is crucial for assisting learners to perform well academically. Moreover, measures of non-linguistic processing, such as working memory, provide important information on language development in multilingual contexts (Paradis, 2010).

Twenty-seven ELL participants were assessed longitudinally, three times over the course of their first year of formal schooling with an English language assessment battery and working memory tasks. A total of nine different first languages (L1s) were represented in the ELL group. All participants were from one low socio-economic status school, where the sole language of learning and teaching (LoLT) is English. A small group of English monolinguals were included for comparison.

Results from this study showed that the phonological loop and the central executive were implicated in the ELLs' English language development. The children's performance on the tasks assessing these two components were predictive of outcomes on certain language domains. This study also found that both the ELLs and the English monolinguals showed a comparable growth trajectory to each other on the language as well as the working memory tasks.

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