

The 1st Annual Conference on Child Language Acquisition Research in Alberta University of Lethbridge

November 24 -26, 2016

Organizing committee:

Fangfang Li (Psychology), Robbin Gibb (Neuroscience), Inge Genee (Modern Languages), Claudia Gonzalez (Kinesiology), Noella Piquette (Education), and Alain Takam (Modern Languages).

Volunteer chiefs:

Jessica Diakow and Graham McKenzie

University of
Lethbridge



Detailed Program

Thursday, November 24th, 2016

5:00 pm – 7:00pm
(PE 250)

Onsite Sign In

7:00 pm – 8:15 pm
PE 250

Public Keynote Address: Developing Bilinguals: Changing Minds and Brains

Ellen Bialystok – York University

It is now clear that children learning two languages from an early age experience different developmental pathways than do children learning only one language. These differences can be both positive, as in their accelerated mastery of attentional control, and negative, as in their slower vocabulary development and more effortful language processing than are experienced by monolingual children. Moreover, there is emerging evidence that there are educational consequences of these differences, again with both positive and negative outcomes. For these reasons, the consequences associated with bilingualism in childhood are important, making it essential to understand the mechanism by which these changes occur. I will review the evidence from behavioural and neuroimaging studies of children and propose an explanatory framework for these broad effects of bilingualism on children's development.

Friday, November 25th, 2016

8:30 am – 9:30 am
AH 100

Breakfast

9:30 am – 10:30 am
AH 100

Keynote Address: Children Learning English as a Second Language: Developmental Trajectories, Individual Factors and Long-Term Outcomes

Johanne Paradis – University of Alberta

The popular wisdom holds that, in contrast to adults, migrant children in a host society learn a second language (L2) quickly, effortlessly and with uniform outcomes. However, the research contradicts the popular wisdom. This plenary draws on my research documenting how English language learners take years to approach monolingual language abilities and they "catch up" for different linguistic domains at different times. English language learners display a great deal of variation in their English language abilities and numerous factors such as, quantity and quality of L2 exposure, material education and L2 fluency, first language typology, and language learning aptitude play a role in determining how quickly individual children learn English. Finally, toward the end of elementary school, English language learners still display variation with respect to convergence on monolingual norms, and these long-term outcomes call into question the notion of "catching up".

10:45 am – 12:00 pm
AH 118

Chair: Inge Genee

Round Table Session 1

Issues for L2 Pronunciation in Children

Tracey Derwing – University of Alberta

Most research involving second language (L2) pronunciation is conducted with adults, who often face difficulties making themselves understood because of their L2 accents. Although some children may need instruction to enhance intelligibility, most have few problems with L2 pronunciation; those who start L2 acquisition early in life can be indistinguishable from native speaker peers. Others may have an L2 accent, but be comprehensible (easy to understand). L2 students sometimes make faster progress in mastering phonology than other linguistic skills. There are cases where children have been placed in special education classes because they sound native-like, but do not perform well academically. However, the problem may not be with their intellectual abilities, but with their under-developed language skills that are masked by excellent L2 pronunciation. The complex role of child L2 pronunciation will be addressed.

Starting Over and Catching Up: Second First Language Acquisition in Children Adopted Internationally

Karen E. Pollock – University of Alberta

Children adopted internationally are exposed to one language early in life, and then typically experience an abrupt and total switch to the language of their adoptive family. Most often there is little or no continued exposure to the first language, and the adopted child learns the new language through complete immersion in the new linguistic environment. Because the course of language development in these children is different from that of both monolinguals and bilinguals, they have been described as second first language learners. In addition, pre-adoption experiences (e.g., institutionalization) place them at risk for developmental language delays.

Longitudinal studies of early second first language acquisition show substantial individual variation in the rates at which children acquire vocabulary and simple sentences over the first year or two post-adoption. However, the majority achieve language scores within normal limits when compared to norms for monolingual peers by two years post-adoption. Age at adoption, quality of pre-adoption care, health/developmental status, and post-adoption environment all influence the ease with which children make the shift to the new language how quickly and completely they catch up to non-adopted peers.

This session will present data from longitudinal research on children adopted from China, including profiles of vocabulary acquisition over the first two years post-adoption as well as language measures from the early and later elementary school years. This will be followed by a discussion of risk and protective factors that influence outcomes for language development in this unique population.

Catching English: Early sequential bilinguals in Edmonton

Elena Nicoladis – University of Alberta

Usage-based theories can explain many aspects of children's language acquisition. However, research from early sequential bilinguals shows that some

aspects of language acquisition are not tightly linked to usage. Notably, Chinese-English bilinguals in Edmonton can score as high on some standardized tests of English as monolinguals and tell stories just as long and complex, even with much smaller vocabularies. While some of the bilinguals' English abilities can be linked to transfer from L1 Chinese, others cannot. I argue that motivation to learn English may lead them to "catch" English.

12:00 pm – 1:15 pm
Markin Hall Atrium

Lunch and Poster Session

1. Socio-Emotional Predictors of Early Productive Vocabulary: A Longitudinal Study

Poliana G. Barbosa; Elena Nicoladis – University of Alberta

We investigated what aspects of parent-infant interactions and infant's individual characteristics are predictive of early vocabulary. Infants securely attached to their caregivers engage more frequently with people around them, encountering a more varied linguistic environment (Ainsworth et al. 1974). These infants also tend to have caregivers who engage in linguistic exchanges with them and interpret their vocalizations as meaningful (Meins, 1998). Finally, securely attached infants control their attention/emotion better, spending more energy exploring the environment and learning words instead of regulating their emotions (Bloom, 1993). Therefore, being securely attached, having an attuned parent, as well as having an easy temperament may improve early vocabulary acquisition. The purpose of the present study was to test these predictor variables longitudinally.

To date 38 full-term infants and their mothers have been assessed longitudinally. Infant's temperament was assessed at 9 months with the "Infant Behaviour Questionnaire". Mother awareness/guidance of infant's behaviour was assessed in a mother-infant free-play interaction at 9 months. Infant-mother attachment at 12 months was assessed with the Attachment Q-set. Finally, infant's productive vocabulary at 18 months was assessed through the MacArthur-Bates Communicative Inventory.

We ran correlation analyses to investigate predictors of infant's productive vocabulary. Surprisingly, only infant's negative affect was significantly correlated with productive vocabulary, $r = -.300$, $p = .049$. Infants displaying lower levels of negative affect might be more likely to instigate adults to interact in more creative ways with them, fostering more opportunities and scenarios for language learning. There were, however, correlations between the predictor variables. Infant's effortful control and parent guidance were both positively related to attachment security. A possible explanation is that infants might feel safer around caregivers that help them control their attention/emotions, fostering a secure relationship.

Future studies should further investigate how infant's emotional states influence infant's behaviors towards them.

References

1. Ainsworth, M. D. S., Bell, S. M., & Stayton, D. F. (1974). Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), *The integration of a child into a social world* (pp. 99-135). London, UK: Cambridge University Press.
 2. Bloom, L. (1993). *The transition from infancy to language: Acquiring the power of expression*. London, UK: Cambridge University Press.
 3. Meins, E. (1998). The effects of security of attachment and maternal attribution of meaning on children's linguistic acquisitional style. *Infant Behavior & Development*, 21 (2), 237-252.
-

2. Longitudinal Changes in Cortical Responses in Non-Native English Listeners

Shweta Soni & Matthew Tata – University of Lethbridge

Identifying the boundaries of different linguistic events in speech and parsing them flawlessly is considered as speech segmentation process. The perception of these distinct events is crucial in order to comprehend speech, and might be affected by the differential experience of language. Recent studies have shown that successful perception of fluent speech is accompanied by strong phase-locking between brain oscillations and the dynamics of speech. We tested the theory that second language familiarity improves speech perception in non-native English listeners because it enhances this phase-locking effect. In this longitudinal study, native Canadians and non-native late learners of English completed a simple auditory task where they were asked to write the sentences they heard. These non-native English learners were also examined in three phases over a year separated by the gap of 3-4 months. The native English listeners performed highest on the task as expected. However, non-natives showed a pattern of gradual improvement in behavioural performance as a function of English experience. We also found that non-natives exhibited enhancement of phase-locked responses over time. Moreover, the changes in performance were highly correlated with the changes in these speech-evoked neural responses. We conclude that as non-native listeners gain the familiarity with second language then their ability to segment linguistic information gets boosted and so does their second language perception.

3. Factors Influencing Second Language Acquisition in Children with Autism Spectrum Disorder: A Case Study

Chantal Labonte, Dr. Veronica Smith – University of Alberta

Background: Several factors have been identified to explain the individual differences in language learning among typically developing children. Child-internal factors, such as motivation, personality, and cognitive abilities, are factors that the child brings with them when learning a second language. In contrast, child-external factors occur outside the child, and include the quality and quantity of language exposure (Paradis, Genesee, & Crago, 2011). When children with autism spectrum disorder (ASD) learn a second language, they may experience additional factors related their ASD. **Objectives:** Identify possible child-internal and child-external factors unique to second language learning in children with ASD through the case of one 6-year old boy with ASD, Adam, exposed to French and English.

Methods: Standardized norm-referenced measures were used to assess Adam's ASD symptomology and adaptive abilities. The Preschool Language Scales Fifth Edition (PLS-5) in both French and English were used to measure language skills. Parent report provided further information of the language-learning environment.

Results: Despite having regular exposure to French and English before the age of three and continued regular exposure, Adam's French language learning was significantly behind his English language development. Adam's ASD symptomology was characterized as severe. Parent report identified that a recommendation to limit Adam's French language exposure due to his ASD resulted in a reduction in quality and quantity of exposure to French.

Conclusion: Changes to a child's language environment due to recommendations to limit the child's language environment to one language after being given a diagnosis of ASD represents a unique child-external factor for

children with ASD. The child's ASD symptoms were also brought to second language learning. There appears to be unique child-external and child-internal factors that influence second language learning for children with ASD.

4. Concurrent and Predictive Validity of Parent-Report Measures of Children's Language Development

Thomas Klee – University of Hong Kong

Introduction. The study aimed to inform the question of how professionals should respond to parents who approach them with concern about their child's speech and language development, particularly after they have been primed to think about their child's language.

Methods. Data from a longitudinal investigation of 168 English-speaking children are reported. Cohorts of children with ($n = 51$) and without ($n = 117$) early language delay were assessed at four time points in their development between the ages of 2 and 5. Parents completed three written questionnaires at Time 1 when the children were 24-31 months of age: 1) a New Zealand adaptation of the MacArthur-Bates Communicative Development Inventory: Words & Sentences; 2) the Parent's Evaluation of Developmental Status; and 3) a parent questionnaire. Children were also administered the Preschool Language Scale 4 (PLS4), a standardized language test, at Time 1 and Time 3, 18 months later.

Results. The associations between various combinations of parent-report measures and clinical outcomes were estimated with likelihood ratios. At Time 1, children who were not combining words and whose parents expressed concern were 38 times more likely to have PLS4 Expressive Communication scores in the low range (1 SD or more below the normative mean) than in the average range. By Time 3, there was still a 9-fold increase. The positive and negative likelihood ratios of all parent-report measures at each time point will be reported.

Conclusions. We conclude by highlighting challenges faced in translating research evidence into clinical practice and suggest a next step in the research.

5. Bilingualism and the Use of Syntactic Information in Word Learning

Kurt Hablado, Ariba Khan, Cass Foursha-Stevenson, & Elena Nicoladis – Mount Royal University

Bilingual adults have demonstrated an advantage in word learning in comparison to monolinguals (Kaushanskaya & Marian, 2009). However, other research has established that bilinguals between three and six years of age are less likely than monolinguals to use the mutual exclusivity bias to learn words (Davidson & Tell, 2005). In simple terms, this bias results in children applying new labels to new items. As bilinguals have multiple labels for the same items, this may lead to the reliance on other more effective word learning strategies. Bilingual children demonstrate enhanced syntactic awareness in comparison to monolinguals (Foursha-Stevenson & Nicoladis, 2011) and this awareness may improve their ability to use syntactic information in language learning tasks. To test this, three-, four-, and five-year-old children were presented with a forced-choice comprehension test. The syntactic information in the sentence presented required children to match a novel word with one of two pictures (e.g. "This is a blicket", indicating that "blicket" is one object).

Five-year-old bilinguals performed overall above chance ($t(11) = 13.40, p < .001, M = .72, SE = .016$). Although monolinguals demonstrated a trend in this direction, the results did not reach significance ($t(5) = 1.86, p = .12, M = .69, SE$

= .100). An ANOVA, across all age groups, revealed that bilinguals and monolinguals performed differently across the trials ($F(1,28) = 4.68, p < .05, \eta^2 = .143$). This is particularly true for five-year-olds, in which bilinguals performed above chance on five out of eight trials, while monolinguals only performed above chance on two of the trials. These findings indicate that bilingual children may have an advantage in using syntactic information to learn words, driven by an overall enhanced syntactic awareness.

6. Assessing the Factors Affecting Learning English Languages for Ethiopian Students

Firdos Kedir – Addis Ababa University

The study was aimed at assessing the factors affecting learning English language for Amharic speaking students at five selected primary educations in Addis Ababa, Ethiopia. The students viewed second language as an abstract concept. They had high amounts of anxiety because of the obvious vastness of the task of memorizing thousands of words in order to use the second language effectively. This problem is due to how students see learning the language as a task rather than a new or even feasible way of communication. Oral interview and structured questionnaires were designed in English and Amharic languages and distributed to 165 selected students and 46 English teachers. The data obtained were analyzed using percentages and descriptive techniques. The analysis of the data indicates that the medium of instruction had its own influences on student performance. Most students did not participate in group work, presentation activities, peer learning, asking and answering questions in English classes. The findings regarding enrollment showed that most students prefer to attend their lessons in their Amharic rather than English. They did not have a constructive attitude towards learning in English, as they could not communicate well. The study identified and categorized the problems affecting student's learning English as factors related to teachers, students and learning environment. Factors that affect English learning by the students are failure of teachers not using learners-centered approach; the lack of opportunities to practice oral English through project-based activities; interference of the phonetic system of the native language; and lack of English language support at home. Therefore, it is imperative to put a system by which they get language familiarization which let the school to create a new system that help students and their families for solving root cause of the problem.

7. Cultural Shame: The non-acquisition of Cree

Janine Jackson – University of Lethbridge

The topic of this conference is language acquisition, with a heavy focus on second language acquisition and bilingual and multilingual language development. A fundamental question that often remains unexamined in this context concerns the attitudes and conditions that obstruct the acquisition of multiple languages and instead promote monolingualism. In the Canadian context monolingualism often entails the non-acquisition of one or more minority ancestral languages at the expense of English or French.

This paper addresses the non-acquisition of Canadian indigenous languages and examines some of the causes that lead to monolingualism in indigenous communities. In particular, I examine how the residential school experience contributed to the loss of indigenous languages. This loss not only affected the survivors themselves, but their families and succeeding generations as well. Students received constant punishment for speaking their ancestral languages

and English was enforced as the language of education and “civilization”. By examining the Truth and Reconciliation Commission of Canada’s final report, my own personal experience with the loss of the Cree language in my family and community, and interviews with my family members, I will highlight some of the attitudes and reasoning behind language abandonment and its inter-generational effects. I will explore ways in which the cultural shame that contributed to parent’s decisions not to transmit their language to their children can become cultural pride that can encourage language revitalization.

References

1. Bigstone, J. (2016, March 23). Phone Interview.
2. Bigstone, L. (2016, March 30). Phone Interview.
3. Truth and Reconciliation Canada. (2015). Final report of the Truth and Reconciliation
4. Commission of Canada, Volume One: Summary: Honouring the truth, reconciling for the future. Winnipeg: Truth and Reconciliation Commission of Canada.

8. VOT Development in Franco-Manitoban Children

Nicole Rosen, Daniel Berube – University of Manitoba

Rationale: Canadian studies on French phonetic development (pronunciation) have primarily been undertaken in Quebec, with much less attention paid to French speakers in Western Canada. Bilingual exposure to French and English has an important effect on the acquisition of pronunciation, as reported for unilingual [1] and bilingual speakers in Quebec [2, 3, 4]. However, French is different in Manitoba and Quebec [5]. This is the first study to examine the influence of English on the phonetic development of Manitoba French speakers.

Objectives: To better understand how bilingual exposure to French and English influences the phonetic acquisition of Franco-Manitobans, we examined: (1) aspects of pronunciation, specifically voice-onset time (VOT) of adults and preschoolers; (2) the influence of English on French and English VOT of adults; and (3) acquisition of pronunciation of VOT in preschoolers.

Procedure: We examined French VOT in two groups of participants: 5 French-speaking preschoolers and 5 French-speaking adults in St. Boniface, Manitoba. St. Boniface is the unofficial Francophone capital in Western Canada, with over 13% bilingual Francophones in the area [6], but French remains a minority language. The VOT was measured with acoustic analyses using PRAAT [7].

Results and discussion: Generally, VOT values differed in French and English. For example, voiceless obstruents (/p, t, k/) had a long-lag VOT in English (e.g. paper, tomato, and coffee) and a comparatively shorter VOT in French (e.g. pomme, tête, and casquette). However, voiced obstruents (/b, d, g/) had a short VOT in English. In comparison to French-speakers in Quebec [8, 9], Franco-Manitoban adults showed less pre-voicing of voiced obstruents. Francophone children in Manitoba did not show any pre-voicing and followed the same pattern of acquisition relative to adult targets as their Quebecois counterparts [10]. We claim that the shorter pre-voicing in adults is due to influence of the majority language English on the minority language French. The absence of pre-voicing among preschoolers can be explained by articulatory challenges of pre-voicing, where the young children simply haven’t learned how to pre-voice their consonants yet.

References

1. Mack, M. (1990). Phonetic transfer in a French-English bilingual child. *Language attitudes and language conflict*, 107-124.

-
2. Caramazza, A., Yeni-Komshian, G. H., Zurif, E. B., & Carbone, E. (1973). The acquisition of a new phonological contrast: The case of stop consonants in French-English bilinguals. *The Journal of the Acoustical Society of America*, 54(2), 421-428.
 3. MacLeod, A. A., Stoel-Gammon, C., & Wassink, A. B. (2009). Production of high vowels in Canadian English and Canadian French: A comparison of early bilingual and monolingual speakers. *Journal of Phonetics*, 37(4), 374-387.
 4. Kang, K. H., & Guion, S. G. (2006). Phonological systems in bilinguals: Age of learning effects on the stop consonant systems of Korean-English bilinguals. *The Journal of the Acoustical Society of America*, 119(3), 1672-1683.
 5. Rosen, N., & Blakely, D. (2016). Le voisement dans la variété franco-manitobaine : effet de la langue et de l'acquisition. *Vie conférence Les français d'ici*, Winnipeg, Canada.
 6. Statistics Canada (2011). Population by mother tongue and age groups. Retrieved 11 October 2016 from www12.statcan.gc.ca/census-recensement/2011.
 7. Boersma, P. & Weenink, D. (2016). Praat: Doing phonetics by computer [Computer program]. Version 6.0.10, retrieved 8 January 2016 from <http://www.praat.org/>
 8. MacLeod, A. A. N., & Stoel-Gammon, C. (2005). Are bilinguals different? What VOT tells us about simultaneous bilinguals. *Journal of Multilingual Communication Disorders*, 3(2), 118-127.
 9. Ryalls, J., Cliche, A., Fortier-Blanc, J., Coulombe, I., & Prud'Hommeaux, A. (1997). Voice-onset time in younger and older French-speaking Canadians. *Clinical linguistics & phonetics*, 11(3), 205-212.
 10. MacLeod, A. A. N. (2016). Phonetic and phonological perspectives on the acquisition of voice onset time by French-speaking children. *Clinical Linguistics and Phonetics*, 30(8), 584-598.

9. Phonological Neighborhood Density Affects Word Production: Corpus, computational and neurophysiological evidence

Stephanie F. Stokes - University of Hong Kong

Phonological neighbourhood density (PND): Words in our mental dictionaries that have many close “neighbours” (other words that sound similar) have High-PND (cat, mat, hat). Words with few neighbours have Low-PND (cow). By 2, most children understand and say High- and Low-PND words. But Late Talker’s (LT) understand, but do not say, words of Low-PND1.

Hypothesis: Low-PND words may place greater demands on cognitive processes than High-PND words during speech production.

Corpus evidence: Parent completed vocabulary checklists for 2-year-olds (English2 n=222, French3 n=200, Danish4 n=894). PND and frequency values for each child’s words came from corpus databases (CELEX, Lexique 3, Odese Twin Corpus).

Result: In regressions 41%-53% and 3%-14% of the variance in expressive vocabulary size was accounted for by PND and word frequency respectively. LTs had higher mean PND values than their TD peers.

Computational evidence: A Simple Recurrent Network (SRN) computer program was exposed to the meaning and phonological form of 268 monosyllabic English words that varied on PND, and the phonological form only of 2320 words. Input frequency to the SRN was controlled.

Result: The SRN (computer) learning pattern resembled that of children; smaller lexicons and first-learned words were of High-PND.

Neurophysiological evidence: 7-year olds (N=25) named 40 pictures of High- and Low-PND objects (cat, cow) while EEG data were collected.

Results: Low-PND pictures had greater voltage amplitudes at the time of phonological encoding (N2-P3 ERP components) and were named slower than High-PND pictures. Greater neural effort was needed to put together the speech sounds that make up low PND words.

Conclusions: It is easier to say High-PND words than Low-PND words, presumably because of a neural spreading activation effect (neural networks firing together).

References

1. Stokes, S. F. (2014). The impact of phonological neighborhood density on typical and atypical emerging lexicons. *Journal of Child Language*, 41(3), 634-657.
2. Stokes, S. F. (2010). Neighborhood density and word frequency predict vocabulary size in toddlers. *Journal of Speech, Language, and Hearing Research*, 53, 670-683.
3. Stokes, S. F., Kern, S., & dos Santos, C. (2012). Extended statistical learning as an account for slow vocabulary growth. *Journal of Child Language*, 39, 105-129.
4. Stokes, S.F., Bleses, D., Basbülül, & Lambertsen, C. (2012). Statistical learning in emerging lexicons: The case of Danish. *Journal of Speech, Language, and Hearing Research*, 55, 1265-1273.
5. Takac, M., Knott, A., & Stokes, S. F. (2016). A simple recurrent network model of neighbourhood density effects in vocabulary development. *Journal of Child Language*.
6. Hansmann, D., Gavin, W. J. & Stokes, S. F. (2015). Influence of phonological neighbourhood density on word production in children: An ERP study. Paper presented at the ASHA convention, Denver Nov.
7. Dell, G. S. (1986). A spreading activation theory of retrieval in sentence production. *Psychological Review*, 93(3), 283-321.

10. What is Different About Complex Syntax in Bilingual Children with SLI?

Stephanie Thomlinson, Johanne Paradis – University of Alberta

Accurate discrimination of children with Specific Language Impairment (SLI) among bilinguals is clinically challenging. This is because research has determined that language abilities overlap between bilingual children with SLI and those with typical development (TD) more so than with monolinguals (1, 2). Moreover, TD bilingual children can fall below monolingual norms, also complicating accurate identification of SLI. Abilities with complex syntax can discriminate children with SLI among monolinguals (3). However, there are no studies on complex syntax in children with and without SLI who are learning English as a second language (ESL). Our objective was to determine whether there are characteristics of ESL children's complex syntax that can discriminate TD from SLI.

We asked (1) if children with SLI produced fewer complex sentences and were less productive than TD children, and (2) what was the effect of amount of exposure to English on both groups. Participants were 17 ESL children with SLI and 42 ESL children with TD with various first languages were matched for age and exposure to English. Spontaneous language samples and narrative samples were analyzed for complex sentences with relative clauses (clauses that modify a noun), complement clauses (clauses that act as a complement of a verb), adverbial clauses (subordinate clauses that begin with an adverb) and

coordinated clauses (two clauses joined together). Analyses indicated that children with SLI produced fewer complex sentences and were also less productive in their use of relative, complement and adverbial clauses. For example, they used more formulaic sentence frames with fewer novel verbs compared to TD children. Greater exposure to English increased use of complex sentences for both groups, though children with SLI had a smaller increase. Overall, the differences observed between the complex syntax of ESL children with or without SLI show promise for discriminating between TD and SLI among bilinguals.

References

1. Sorenson Duncan, T., & Paradis, J. (2016). English Language Learner's Nonword Repetition Performance: The Influence of L2 Vocabulary Size, Length of L2 Exposure and L1 Phonology. *Journal of Speech Language and Hearing Research*, 59, 39-48.
2. Paradis, J. (2016). The development of English as a second language with and without specific language impairment: Clinical Implication. *Journal of Speech, Language and Hearing Research*, 58, 171-182.
3. Leonard, Laurence B. *Children with Specific Language Impairment*. Cambridge, Mass. : MIT Press, 2014. Print.

11. Speaking a Heritage Language: Implications for Health among Aboriginal Children in Canada

Helen Connolly – University of Lethbridge

This research focuses on the intersection of two disturbing trends in Canada: the significant health disparities, which exist between Canada's aboriginal and non-aboriginal populations and the endangered state of many aboriginal languages. While the cultural and spiritual importance of aboriginal languages has long been recognized, little research has focused on the role of language as a health determinant among aboriginal populations. This poster examines the correlation between speaking an aboriginal language and health outcomes (measured in diagnoses of long-term health conditions) among aboriginal children aged 6-11 in Canada. For this study I used survey data from the public use microdata file of Statistics Canada's 2012 Aboriginal People's Survey (APS), which I then analyzed using PASW software. Initial results suggest that children in this sample who spoke an aboriginal language experienced lower rates of diagnoses for these conditions than their counterparts who did not speak an aboriginal language.

12. Narrative Structure and Child Language Assessments

Karissa Eichelt, Tammie Zielinski, Jessie Bee Kim Koh, Elena Nicoladis, & Karen Pollock – University of Alberta

Speech-language pathologists often assess children's expressive language, which sometimes includes narrative abilities, when screening and diagnosing language delays. Typically, narratives are analyzed for grammatical and lexical complexity. Grammatical complexity is measured by Mean Length Utterance, that is, by dividing the number of words or parts of words by the number of utterances. Lexical complexity is captured through Guiraud's Index, which takes into account the size and variety of a child's vocabulary. In this study, we tested whether measures of narrative structure quality complement and/or add information to the typically used assessment measures. Narrative structure would allow speech-language pathologists to assess whether children are able

to effectively articulate and organize different pieces of information into a meaningful story. Specifically, narrative structure includes orienting (i.e., when, where, who, what), referential (i.e., actions), evaluative (i.e., thoughts and feelings) and coda (i.e., moral insights) information. Seventy-nine typically developing English monolingual children (aged 4-6) were asked to watch a Pink Panther cartoon and recount the story of what they had seen. Their narrations were videotaped and transcribed in orthographic words. The narratives were coded for information that reflects the four structural elements (i.e., orientation, referential, evaluation, and coda). Each child's Mean Length of Utterance and Guiraud's index were also calculated. Correlations were run between the narrative structure variables and the traditional narrative measures to determine if they were related and if narrative structure added new information. The results showed that Mean Length of Utterance was not significantly correlated with the four narrative structure variables. However, the narrative structure variables were positively and moderately correlated with Guiraud's index, $r_s = .443$ to $.561$, $ps < .001$. These findings suggest that narrative structure is related to children's lexical complexity, adds new information to understanding children's narrative abilities, and should be considered for inclusion in child language assessments.

13. Mandarin Chinese Language Maintenance Among 2nd Generation Children from Chinese Immigrant Families in Saskatchewan

Qin Xiang, Veronika Makarova – University of Saskatchewan

Canada is a linguistically and culturally diverse nation, where First Nations, Canadian citizens, immigrants, refugees, and temporary visitors from different parts of the world are constantly remaking the fabric of society. With the dramatic growth of immigration in the last quarter of the 20th century (Harrison, 2000), language is known to be the foremost issue that immigrants have to face in their new surroundings (Portes & Rumbaut, 2001). The proficiency in at least one official language of Canada is essential for socioeconomic success; however, "maintaining one's mother tongue and passing it on to the next generation", are regarded as important components of "immigrant's cultural and personal well-being" (Harrison, 2000, p.14).

The prestigious status of Mandarin in China as the language of education and government is reflected in Canada not only in the growth of the number of Mandarin speakers, but also in the highest retention rates of the language as compared to other Chinese languages spoken by Canadian immigrants. However, in Saskatchewan, Mandarin overall is one of the less spoken languages. Mandarin Chinese language teaching in schools, community centers and churches as well as the support of Chinese languages in mass media are less pronounced in Saskatchewan than in British Columbia and Ontario (Harrison, 2000). The number of speakers of Mandarin as the mother tongue in Saskatchewan is lower than that of Cantonese and other Chinese dialects (Statistics Canada, 2011). Furthermore, Mandarin use at home has been decreasing in Saskatoon during the last two decades, especially among age groups from 5 to 14 (Statistics Canada, 2001; Statistics Canada, 2006). Therefore, one of the major inspirations for this project is to investigate the reasons for the language shift among children from Chinese-speaking immigrant families in Saskatchewan. Moreover, each family and each child is a platform where the negotiation of identities, languages and life goals unfold, thus investigating these individual platforms of language attitudes vs. the overall picture is the second major inspiration for this study.

Reference:

- 1.Harrison Brian. (2000). Passing on the language: heritage language diversity in Canada, Canada social trends, Statistics Canada, Catalogue No. 11-008.
- 2.Portes, A., & Rumbaut, R.B. (2001) Legacies: The story of the immigrant second generation. Berkeley: University of California Press.

14. Why the First Animal That Comes to Mind is an Ostrich: Items Generated on a Verbal Fluency Task are Related to Frequency

Enns, R., & Nicoladis, E. – University of Alberta

Semantic category verbal fluency tasks are thought to tap on semantic organization (Jarrold et al., 2000). Previous research has shown that children in general and bilingual children in particular generate some apparently odd items on these tasks (Jarrold et al., 2000; Peña et al., 2002). For example, one typically-developing child in Jarrold et al.'s (2000) study mentioned "gerbil" and "squirrel". One possible interpretation of these results is that children have not yet developed hierarchical organization in their mental lexicons. In the present study, we test whether frequency can at least partially explain the items chosen by children on this task.

We tested 54 children ages 4-6 years old, and finished the coding for 29. The children were asked to name as many items as they could from the following semantic categories in 30 seconds: 1) clothes, 2) animals, and 3) food and drinks. The children generated a total of 31 different clothes, 64 animals, and 71 food and drinks. To see if there was an effect of frequency, we correlated the number of children who came up with each item (e.g., the most frequently mentioned animal was a giraffe, with 10 children mentioning it) with the frequency per million words in ChildFreq (<http://childfreq.sumsar.net/result>). ChildFreq relies on data entered at the CHILDES website from adult-child conversation. The correlations were positive for all semantic categories: clothes, $r(29) = .324$, $p = .07$, animals, $r(62) = .537$, $p < .01$, food and drinks, $r(69) = .765$, $p < .01$

These results suggest that one important predictor of the items that children generate on semantic category verbal fluency tasks is the frequency with which those items are used in their everyday conversations. We also compare the children's performance to adults' and conclude that children are actively forming their taxonomic categories.

References

1. Jarrold, C., Hartley, S. J., Phillips, C., & Baddeley, A. D. (2000). Word fluency in Williams syndrome: Evidence for unusual semantic organisation?. *Cognitive Neuropsychiatry*, 5(4), 293-319.
- Peña, E. D., Bedore, L. M., & Zlatic-Giunta, R. (2002). Category-generation performance of bilingual children: The influence of condition, category, and language. *Journal of Speech, Language, and Hearing Research*, 45(5), 938-947.

15. What Did You Say? The Dilemma of Speech and Hand Movement

Nicole van Rootselaar, Fangfang Li, Claudia L.R. Gonzalez – University of Lethbridge

Multiple studies have determined that speech production and hand movement influence each other. When grasping and speaking simultaneously, the shape of

the mouth was reflected in the shape of the hand completing the grasp. For example, producing an open vowel encourages the hand to open wider than necessary when grasping a block (Gentilucci, Santunione, Roy, & Stefanini, 2004). The opposite direction of this interaction is less straightforward. Speech formants (indicates the position of speech filters, such as the tongue) appear inconsistently altered by grasping motions according to different studies (Gentilucci et al., 2004; Tiainen, Tiippana, Vainio, Komeilipoor, & Vainio, 2016). An explanation provided in one study is that in order to affect speech, the motion must include a reach component as well as a grasping motion (Tiainen et al., 2016). The purpose of this study was to combine methodologies used in previous research to determine the effects of different reaching and grasping motions on speech production. University students were recorded producing a simple consonant-vowel sound while acting towards a large and small food item. These actions included: grasping, reaching toward it without hand movement, reaching forward and grasping it to bring it towards the body, and finally, reaching and grasping it, but bringing it toward the mouth as if to eat it. Preliminary results (N= 10) indicate that speech formants are not influenced by different grasping and reaching actions. More participants are required before drawing conclusions from these results.

References

1. Gentilucci, M., Santunione, P., Roy, A. C., & Stefanini, S. (2004). Execution and observation of bringing a fruit to the mouth affect syllable pronunciation. *European Journal of Neuroscience*, 19(1), 190-202. doi:10.1111/j.1460-9568.2004.03104.x
2. Tiainen, M., Tiippana, K., Vainio, M., Komeilipoor, N., & Vainio, L. (2016). Interaction in planning vocalisations and grasping. *The Quarterly Journal of Experimental Psychology*, 1-35. doi:10.1080/17470218.2016.1195416

16. Accentedness in Bilingual School Children: A Pilot Study

Charlene Chan, Emily Goodridge, Joelle Lam, Karen Pollock – University of Alberta

Edmonton, Alberta, is home to the largest Mandarin-English bilingual program outside China, offered in 14 different Edmonton Public Schools from kindergarten to Grade 12. It is a two-way bilingual program with children who speak English as their first language, learning alongside children who speak Mandarin as their first language in the same classroom.

Little is known about the speech development of children learning a second language in a school setting, and the factors that influence the acquisition of native-like pronunciation. This study investigated the perceived accentedness of speech produced by students enrolled in the program as part of a pilot project for a larger study.

Seventeen students from kindergarten to grade six were recorded repeating three sentences in Mandarin and three sentences in English. Parents of these participants completed a questionnaire adapted from the Alberta Language Environment Questionnaire to gain insight on language background factors (e.g., age of onset of second language exposure, time spent in each language). Three native English speaking raters listened to the recorded English sentences, and rated them from 1 (native-like) to 9 (heavily accented). Three native Mandarin speaking raters did the same for the Mandarin sentences.

A post hoc analysis found no significant correlations between global accentedness ratings and age of onset or language richness scores in each language (from the parent questionnaire). This pilot study offers several recommendations for future studies, including participant demographics, stimulus recordings, and questionnaire development.

17. Vowels and Consonants: The Relative Effect of Speech Sounds Errors on Intelligibility

Kaitlin M. Mackie, Karen E. Pollock – University of Alberta

Speech-language pathologists (SLPs) have access to a wealth of information to guide the selection and prioritization of targets for intervention with children who have speech sound disorders (SSDs), but vowel errors are often neglected. The present study explored the relative effect of vowel and consonant error patterns on intelligibility. Twenty-eight young adults listened to recordings of a six-year-old female child producing real English words with and without specific vowel and consonant errors. All were native speakers of Western Canadian English. Stimuli included 18 words (16 monosyllabic, 2 disyllabic) common in children's speech controlled for neighborhood density. Vowel errors included laxing, backing, and diphthong reduction. Consonant errors included prevocalic voicing, stopping, and consonant cluster reduction. Productions resulting from the application of an error pattern were non-words. For example, the target word "fast" was produced in four ways: 1) the correct form [fæst], 2) with a consonant error [fæs], 3) with a vowel error [fast], and 4) with both a consonant and a vowel error [fəs]. Listeners heard all productions in random order and were asked to type out the real English word that they believed the child was trying to say. Percent accuracy was calculated for error type (i.e. no error, vowel error, consonant error, and combined errors) and for individual error patterns (e.g., Tensing) and combinations of error patterns (e.g., Stopping + Diphthong Reduction). Results revealed no significant differences between vowel and consonant error types. Post-hoc analysis of the combined effect of word position and individual error pattern suggested that errors may affect intelligibility uniquely as a function of word position. Given that both vowel errors and consonant errors had similar impacts on intelligibility, this study provides support for clinicians to investigate vowel errors more

18. Vocabulary Development in Immigrant and Refugee Children: Different Input, Same Outcome

Tamara Sorenson Duncan & Johanne Paradis - University of Alberta

Previous research into the determinants of bilingual language acquisition in migrant children has focused on children from small immigrant families¹. Consequently, research has emphasized the role of maternal input in language development². Empirical investigations of refugee children's development, especially in large families, are lacking. This study asks: are determinants of language acquisition the same for immigrant and refugee children with varied family sizes?

Methods: Productive vocabulary scores from the narratives of 26 Somali-refugee children were compared to those of 24 immigrant children who spoke Hindi, Punjabi or Urdu. Children were living in Canada, had 9 months of exposure to English and were 4 years and 10 months old. In the immigrant group, children had an average of 1.91 siblings, whereas children in the Somali group had an average of 3.27 siblings.

Results: No significant difference was found in terms of productive vocabulary. There were, however, differences in the determinants of children's English vocabulary size. For children in the immigrant group, higher amounts of maternal English input were associated with increased vocabulary. For children in the Somali group, maternal input had no significant effect on English vocabulary, but a higher amount of English input from siblings did positively impact scores.

This study reveals that despite the more challenging situations faced by refugee

families (e.g., war and limited access to education prior to migration), the refugee group of children had comparable English development to the immigrant group. However, the aspect of these children's home lives that supports English differed. Somali culture places greater responsibility on older siblings to care for younger siblings. Consequently, older siblings are more crucial language models. This study highlights that a child's language learning can only be understood in the particular context of that child's language experiences.

19. A Study on the Problems that Affect Student's English Speaking Skill: Boditti Secondary School

Ermias Ayza - Wolaita Sodo University

The aim of this research was to identify problems that affect student's English speaking skills in Boditti secondary school of Wolaytta zone, Ethiopia. To this end, a descriptive method was employed by using both quantitative and qualitative approaches. The sample population of the study includes 100 students and 5 teachers of the target school. They were selected using simple random sampling techniques. The data were gathered through questionnaires, interviews, and classroom observation. Statistical tool such as index numbers and percentages were used to analyze the collected data. The result of the study revealed that the current level of the student's participation in English speaking classes of the target grade is low, due to the fact that classes were mostly teacher dominated. Accordingly, it was found the majority of students were supposed to listen to their teacher's talk rather than be actively involved in various classroom speaking activities. In addition, other factors related to teachers, students, classroom and instructional materials. The findings indicated the existence of problems related to teachers, such as belief about language teaching, lack of training, teaching methodology, inability to provide classroom oral activity, teacher's perceptions and proficiency, testing system, way of error, correction and failure to use teaching aids in speaking classes. The study also indicated the problems related with classroom and instructional materials such as a large number of students in a class, unsuitability of seating arrangement for pair and group work, and lack of access to teaching aids. Finally, on the basis of the findings, it was recommended that in order to improve student's participation, above all, students have to practice speaking in the target language by participating in pair or group and individual activities in the classroom. To this end, teachers also ought to play a prominent role.

20. Building Brains and Futures: One Connection at a Time

Celeste Halliwell, Lara Coelho, Mark Mendoza, LaVonne Rideout, Isabelle Plomp, Michelle Mackinnon, Claudia Gonzalez, & Robbin Gibb – University of Lethbridge

Only 40% of children in Lethbridge city core are developing appropriately in five areas as measured by the Early Development Instrument (EDI). This disappointing result shows us behind the Alberta average and far behind the Canadian average. The EDI tested five domains: physical health and wellbeing, social competence, emotional maturity, language and thinking skills, communication skills and general knowledge. Our children struggled in all of these areas. Building Brains and Futures is a research project based in Lethbridge, Alberta assessing the effect of intentional activities designed to promote early literacy and executive function (EF) in preschoolers. Early educators and caregivers are trained and encouraged to incorporate activities with the children that exercise various aspects of EF. Activities include games

such as Simon Says and Musical Freeze. After participating in the program, the adults in the community will have the knowledge, skills, and ability to provide nurturing, supportive environments that positively impact the early years of child development. By building adult capability through the understanding of the importance of healthy brain development and protective factors that strengthen families, we will reduce vulnerability for children and families and improve life outcomes. By increasing adult awareness of adverse childhood experience (ACE) and the negative impact of ACE's on child development we can provide supports that will reduce a child's exposure to ACE's. This in turn will improve population health, reduce crime, and increase educational attainment. These factors work in synergy to ultimately improve wealth and happiness in our society (Moffitt et al., PNAS 2011). Westminster School, Ecole St. Mary's School, Sunny South Day Care, and Opokaa'sin Early Intervention Society are currently participating in the program. Preliminary results show significant improvements in both language and EF.

21. Articulations Speaks to Executive Function

Nicole Netelenbos, Robbin L. Gibb, Fangfang Li, & Claudia L. R. Gonzalez – University of Lethbridge

This study investigated the relation between executive function (EF) and speech articulation in children between the ages of 4-6 years (N = 33). Significant correlations indicated that children with better EF (via parental report) exhibited stronger speech sound production abilities. Furthermore, regression analyses revealed a reciprocal relation between EF and speech sound proficiency. Together, these results demonstrate the imbricated nature of EF and speech sound production while bearing theoretical and practical implications. Theoretically, the close link between EF and speech articulation may indicate a common ontogenetic pathway. From a practical perspective, the results could serve as the basis for bidirectional remediation strategies: to implement speech articulation strategies to improve EF, and to apply EF skill development to enhance speech articulation in children.

22. Parental Experiences Change Offspring Ultrasonic Vocalizations: Assessing Neurodevelopment Using Complex Acoustic Features

Rachel Stark, Sarah Raza, Allonna Harker, Fangfang Li, & Robbin Gibb – University of Lethbridge

Rodents emit ultrasonic vocalizations (USVs) that serve a communication purpose, especially between an infant rodent and its mother. This communication is analogous to a baby crying and tells the mother that the pup needs something. In rats it stimulates retrieval, grooming, and lactation. As in humans, rodent vocalizations become more and more complex throughout the duration of development and have been shown to be changed by various pharmacological treatments (Branchi, Santucci, & Alleva, 2001). Prenatal exposure to valproic acid (VPA), a drug used to treat epilepsy and bipolar disorder in humans, has been shown to increase the incidence of autism by 4.2% (Williams et al. 2001). Thus it has therefore been used to induce autism like symptoms in model organisms (like the rat). This project looks at the impact of VPA on rat pups prenatally exposed to the drug. The use of analyzing USVs to study the neurodevelopment of VPA exposed animals can provide insight into the etiology of this disorder. These results have potential implications to develop remediation techniques. Combined with USV analysis allows for an almost real

time evaluation of the effectiveness of the treatment. Branchi, I., Santucci, D., & Alleva, E. (2001). Ultrasonic vocalization emitted by infant rodents: a tool for assessment of neurobehavioural development. *Behavioural Brain Research*, 125, 49-56. Williams, G., King, J., Cunningham, M., Stephan, M., Kerr, B., & Hersh, J.H. (2001). Fetal valproate syndrome and autism: Additional evidence of an association. *Developmental Medicine & Child Neurology*, 43, 202-206.

1:15 pm – 2:15 pm
AH 100

Keynote Address: Language Acquisition Research Across Languages and Cultures

**May Bernhardt & Joseph Stemberger – University of British
Columbia**

Child language development research has expanded in recent years beyond English and euro-western contexts. The multilingual context of Canada, and commitments to revitalization of First Nations languages and enhanced education of Aboriginal children, underscore the importance of these expanding research initiatives. The current presentation will outline two research programs: (1) an ongoing crosslinguistic study addressing children's phonological (speech) development in 14 countries (Germanic, Romance, Chinese, Japanese and Arabic languages); and (2) a group of exploratory studies in British Columbia concerning First Nations English dialects and approaches to child language intervention with children of Aboriginal heritage. Both research programs involve ongoing partnership development with people of different cultures, languages, and perspectives on research and language acquisition. Key aspects of methodology, results and knowledge mobilization strategies from the two research programs will be offered as springboards for future approaches to language acquisition research and knowledge mobilization across cultures and countries.

2:30 pm – 3:45 pm
AH 177

Workshop: A Practical Introduction to Data Transcription and Annotation in Phon

Yvan Rose – Memorial University Of Newfoundland

This tutorial will provide a full introduction to the function available within Phon for building and analyzing a phonological corpus documenting language acquisition. This includes the following steps: 1) media linkage and segmentation (to link the transcript data to the relevant time intervals on the recorded media file); 2) orthographic and IPA transcription (to adhere to the research standards developed within CHILDES/PhonBank); 3) syllabification (to label the IPA transcripts for syllable position); 4) alignment (to perform phone-by-phone alignment between target/intended forms and actual productions of these forms) ; 5) data preparation for acoustic measurement; 6) query and reporting. The tutorial will be as hands-on as possible, and also include question periods during which we will be able to address needs specific to current research. These discussions will also provide opportunities to gather feedback for future development of the Phon software toward improved functionality.

4:00 pm – 5:15 pm
AH 100

Workshop: Electronics and the Developing Brain

Christie Schipper M.Sc.-RSLP – Children's Allied Health

Times have changed and most people, regardless of age, are on their electronic devices throughout the day. Every day. The question is: is that bad for you? What about kids, is it bad for kids to spend time with electronics? The simple answer is: it depends.

I am so excited to share my findings after months of research on electronics and how they affect the developing brains of our next generation. You will learn about the following things:

- How does a typical brain develop
- What happens to an infant's brain if the child is neglected?
- What happens to the developing brain under the influence of electronics?
- Mind blowing stats on electronic use today
- Best and worst electronic toys
- Violence, video games, brain outcomes
- Detailed recommendations on how to safely implement use of electronics for infants, toddlers, kids and teens

By the time the presentation is over it is my hope you will feel enlightened by the information I shared as well as EXCITED to get out there and tell others about what you learned. Together we can make sure our next generation is a healthy and well-rounded one.

6:00 pm – 8:00 pm
AH 100

Lightning Talks

1. How Babies Begin to Learn Words

Suzanne Curtin and Susan Graham – University of Calgary

Learning about words is one of the key building blocks of language acquisition. To learn a new word, infants begin by identifying the relevant sound pattern and then mapping it to the correct object or action. Despite the apparent complexity of this task, infants move from producing about 6 words at 12 months to a vocabulary of over 300 words by 24 months. In this talk, we will discuss some of the ways in which young infants use the sound information in the speech signal to map words to meaning. Specifically, we will present research exploring how knowledge of the sound system established over the first year of life influences infants' mapping of new words to novel objects.

2. What Can We Do to Better Children's Learning Experience in a French Immersion Program?

Dr. Fangfang Li (University of Lethbridge) & Dr. Nicole Rosen (University of Manitoba)

French immersion is a type of L2 education program that targets English L1 children, and French is both the language of instruction and of communication. As one of the best-studied L2 education models in the world, research demonstrates that French immersion "worked" because it enables students' functional communicative abilities in both French and English (Genesee et al., 1989; Harley, 1992; Swain, & Lapkin, 1982). More importantly, the mastery of French is achieved at no expense to students' English language skills or academic performance (Appel, & Muysken, 1987; Cummins & Swain, 1986). However, students' French oral speech skills have been an area that lags behind reading and writing abilities. This talk will highlight our research findings on French immersion student's speech production. These research findings can be used by educators and parents for ways to better children's French learning

experience.

3. Teaching Hearing Toddlers to Sign

Elena Nicoladis – University of Alberta

Some young children can learn to gesture before they learn any words. Some research has shown that learning baby signs can lead to a larger vocabulary in toddlerhood. I report on several studies we have done, trying to teach hearing toddlers gestures. I will show that toddlers resist learning gestures referring to objects but can easily learn gestures referring to actions, particularly when the gestures look a lot like the action itself. These results suggest that by the age of 18 months, hearing toddlers already have expectations about what gestures can mean.

4. Culture and Language Integrated Learning (CuLIL): How not to run into seven ditches at once

Rick de Graaff (Utrecht University) & Inge Genee (University of Lethbridge)

Inuit languages are often claimed to have a large variety of words for snow. Dutch, however, has lots of words for manmade waterways, as well as a lot of phrases and expressions related to water. Learning a language also implies learning the culture related to that language, that is, the culture as expressed through language. During this lightning talk you will experience foreign culture and language integrated learning (CuLIL) through Dutch vocabulary and expressions related to water. We will address why and how foreign language education needs a firm cultural basis. That stands as a pole above water.

5. Is Younger Always Better for Language Acquisition?

Tamara Sorenson-Duncan & Johanne Paradis – University of Alberta

When it comes to learning a second language, it is a common assumption that younger is better. However, this belief has not stood up to empirical investigations of bilingual development. For immigrant and refugee children, early introduction of English can undermine bilingualism by jeopardizing their first language. Furthermore, older children tend to learn a second language more rapidly than their younger peers and not the reverse. As further evidence against this old adage, we will present data from 89 immigrant and refugee children who are at the onset of their schooling in Canada. These data revealed that foreign-born children, as well as older children, have advantages both in their first language (L1) and in English (i.e., achieved higher L1 scores and performed better on an English narrative task). As such, these findings further call into question the push to introduce English as early as possible for preschool-aged newcomer children. Earlier may not always result in the expected benefits for children's English development and indeed may come at a great cost to children's first language skills.

6. Russian language proficiency among children from immigrant families in Saskatchewan

Veronika Makarova (University of Saskatchewan)

The presentation examines Russian language proficiency in the speech of bi/multilingual children from immigrant families in Saskatchewan as compared to the speech proficiency of their monolingual peers in Russia. The results demonstrate that the speech parameters show no significant differences across the groups, with the exception of error rates. However, reading and writing skills as well as cultural knowledge of children in immigrant families in Saskatchewan are behind the skills of their Russian peers. Some parameters affecting heritage language proficiency in immigrant settings are identified.

7. Refillable syllables in child English

Darin Flynn – University of Calgary

Children are notorious for omitting weak syllables in speech, as in computer → 'puter. Massar & Gerken (1998) suggest that each such omission leaves behind a vacated syllable. So for instance, 'puter supposedly begins in an empty syllable, unlike pewter, say. Though abstract, this idea gains support from two sources. On the one hand, when two- to three-year-olds omit syllables, the resulting phrases are between 60 and 90 milliseconds longer than expected (Carter & Gerken 2004). This durational effect doesn't vary consistently according to the length or shape of the syllable that is omitted, which suggests that "the [empty] syllable is what is reflected by children's acoustic traces" (Carter & Gerken 2004:582). On the other hand, empty syllables are certainly unusual. In fact, Inkelas (1999) argues that a constraint "FILL prohibits null syllables" (p. 147). It is striking, therefore, that some three- to four-year-olds opt to fill purported empty syllables using various means, before converging on the adult forms (Bernhardt & Stemberger 1998:463). In particular, I will report on a four-year old who continued to omit weak syllables, but far more frequently refilled the empty syllables in two ways: he used a default syllable—usually duh or uh—or else he copied the consonants at the beginning of the word (reduplication). For instance, he rendered computer as 'puter, but also as duhputer, uhputer, and puhputer. His use of duh was especially productive—I audio-recorded his use of duh in 216 different words, including many long ones. For example, when asked to repeat and learn 'exemplification', he easily obliged but replaced both of its weak syllables ex- and -fi- with duh. The child's refitting of weak syllables is compared with other case studies, notably Smith's (1973) and Gnanadesikan's (2004) younger children who, oddly enough, systematically replaced initial weak syllables with prefixes.

References:

- Bernhardt, Barbara & Joseph Stemberger. 1998. Handbook of phonological development: From the perspective of constraint-based nonlinear phonology. San Diego: Academic Press.
- Carter, Allyson & LouAnn Gerken. 2004. Do children's omissions leave traces? *Journal of Child Language* 31(3). 561-586.
- Gnanadesikan, Amalia. 2004. Markedness and faithfulness constraints in child phonology. In René Kager, Joe Pater & Wim Zonneveld (eds.), *Constraints on phonological acquisition*, 73–108. Cambridge, U.K.: Cambridge University Press.
- Inkelas, Sharon. 1999. Exceptional stress-attracting suffixes in Turkish: representation vs. the grammar. In René Kager, Harry van der Hulst & Wim Zonneveld (eds.), *The Prosody-Morphology Interface*, 134–187. Cambridge: Cambridge University Press.
- Massar, Andrea & LouAnn Gerken. 1998. Abstract output: an optimality-theoretic account of children's omissions from prosodically complex structures. In Pius N.

Tamanji & Kiyomi Kusumoto (eds.), Proceedings of the North East Linguistic Society 28, 253–266. Amherst, MA: GLSA Publications.

Smith, Neilson V. 1973. The acquisition of phonology: A case study. Cambridge: Cambridge University Press.

8. Functional trilingualism in primary education in a multilingual context

Alain Flaubert Takam – University of Lethbridge

Social multilingualism, unlike official bilingualism/multilingualism seems to be more widespread than officially believed. In most countries, the official language/s and tens or hundreds of other languages coexist, many such unofficial languages being endangered at various degrees. What is noticeable is that when language planning does not follow the ecological approach, i.e., when it emphasizes the strengthening of a language rather than the “structured diversity” of all the languages that make up a particular linguistic ecosystem, that can negatively impact the survival of minority languages. This study, which was carried out from the perspective of acquisition planning, was aimed at promoting the progressive acquisition or learning of three languages in elementary or primary school in a bilingual or multilingual context, like that of Canada or Cameroon. The functional trilingualism approach is aimed at acquiring or learning both official languages (English and French) while maintaining and even strengthening one’s home language, if this language is an indigenous language. This approach is thus designed in such a way that, pupils whose home language is neither French nor English, should better learn French and English in their first few years of formal education.

9. The Relationship Between Language and Sensorimotor Control/Motor, Language and Executive Function Development: Can we use one to enhance the others?

Claudia Gonzalez & Robbin Gibb – University of Lethbridge

The two early key indicators of how a child will perform throughout school are language skills and executive function (EF). EF is a blanket term that is considered to include socio-emotional control, inhibition, working memory, and mental flexibility. Our recent research has provided evidence of the interrelationship between hand preference for skilled actions, speech articulation proficiency, and executive function performance in preschoolers. For example we demonstrated that in typically developing right-handed 4-5 year olds, the greater the right-hand use for picking up small objects, the greater the differentiation between the s and the sh sounds. Similarly, we found that the stronger the right-hand preference for grasping, the better the child's reported executive function. These results encouraged us to devise a brief, interactive, and fun motor training program to enhance the performance of language skills and executive function in preschool children (3-5 years of age).

10. A New On-Line Resource for Blackfoot Teachers, Learners and Speakers

Inge Genee – University of Lethbridge

Good resources for teaching and learning indigenous languages are hard to

come by. This includes every type of material that we take for granted for more commonly taught languages like French and Spanish, such as program guides, textbooks, lesson plans, audio and video materials, testing and assessment resources, dictionaries, as well as more specific culturally appropriate materials and methods. The Blackfoot Linguistic Resources and Digital Dictionary Project at the University of Lethbridge aims to fill some of these gaps by collecting linguistic resources for the Blackfoot language and presenting them on-line, in a way that is user-friendly for speakers, learners and teachers. A trial version can be viewed at blackfoot.atlas-ling.ca.

A major component of the site is the Blackfoot Digital Dictionary. This is the first full bilingual Blackfoot-English and English-Blackfoot dictionary. Additional features to enhance its usefulness for teaching and learning are being developed in close collaboration with Blackfoot speakers and learners and include images, audio, and video. Cultural information is being added to many entries: for example, the entries for many plants now include information about medicinal and ceremonial uses, and the definitions of kinship terms will be improved with background information about Blackfoot family structure. The site will also contain grammar notes, lessons, stories and links to other linguistic and pedagogical resources. Some of this can already be seen, but much is still under development. For a trial version of the dictionary see dictionary.blackfoot.atlas-ling.ca.

The project is a central point around which Blackfoot and non-Blackfoot students, teachers and community members can jointly learn about the Blackfoot language.

11. Curriculum-Based Tools for Collaborative Practice in Elementary Schools: Supporting children with developmental language impairment

Melissa Skoczylas – University of Alberta

Children with language impairment may face considerable challenges when faced with typical classroom activities, due to their difficulties with listening, speaking, reading and/or writing. Teachers, Speech-Language Pathologists and other educational professionals are tasked with accommodating individual learner needs to provide “meaningful and relevant learning experiences that include appropriate instructional supports” (Alberta Education, 2016, p. 25). In order to support collaborative practice in meeting diverse learning needs, a set of annotated curricula has been created that specify language skills embedded in curriculum outcomes. The project was completed by students at University of Alberta, in partnership with S-LPs at the Tevie Miller Heritage School Program (TMHSP). The first phase of the project (Hedley, 2012) is comprised of annotated curricula for Kindergarten through Grade 3, identifying vocabulary, basic concepts and other key language skills required to complete outcomes in Math, Social Studies, Science and English Language Arts. In 2016, phase 2 was completed (Currie, Grant, & Sadhra, 2016). The original framework was adapted to the Grade 4 to 6 curricula in the same subject areas. The adapted framework captures the more advanced language and cognitive skills that students require for success in upper elementary. These curriculum tools are now implemented as part of standard practice at TMHSP, and are used to both plan adapted lessons and to identify areas of need for specific students.

References

1. Alberta Education (2016). Guide to education ECS to Grade 12 2016-2017, p.25. Retrieved Oct. 28, 2016 from https://education.alberta.ca/media/3272731/guide_to_ed_2016.pdf
2. Hedley, K. (22). Integrating Language Services and the Alberta Education

Curriculum. (Master's capping project). Retrieved from <https://era.library.ualberta.ca/>

3. Currie, S., Grant, L., & Sadhra, A. (2016). Integrating Language Services and the Alberta Education Curriculum: An extension for grades 4 to 6. (Master's capping project). Retrieved from <https://era.library.ualberta.ca/>

12. Production of Multisyllabic Words in School-aged Children With and Without Protracted Phonological Development

Dr. Glenda J. Mason – University of British Columbia

Studies suggest children with delayed speech sound (phonological) development are at risk for literacy. Definitions of speech delay that include production of multisyllabic words (MSWs) are apparently relevant to this risk. For phonological processes in MSWs, a developmental progression is evident between ages 5 and 7 years. To develop a criterion reference for MSW productions of 5- and 8- to 10-year-olds with typical phonology (TD; n=22), i.e. pre- and post-early literacy, the current study furthered the use of a whole word MSW mismatch tally metric structured on nonlinear organization of phonological units, and parallel interactive language processing theories. Frequencies of MSW Lexical, Structure and Feature mismatches decreased significantly with age (repeated measures comparisons; $p \leq .003$), with moderate and large effect sizes ($\eta^2 p = 0.38, 0.36, 0.79$, respectively). The metric was also evaluated for its ability to differentiate 20 MSW productions of 8- to 10-year-olds with history of phonological delay (n=12) from age-matched TD children (n=24), and developmentally younger TD 5-year-olds (n=62). Structure and Feature mismatch frequencies were significantly higher for age-matched 8- to 10-year-olds with phonological delay than without ($p = .001$), with large effect sizes ($\eta^2 p = 0.43, 0.68$, respectively) and were equivalent to 5-year-olds. Proportions of children correctly classified in their original groupings (discriminant analyses) were highly accurate. The study added evidence to a developmental progression in MSW accuracy, measured on a whole word metric. Lexical influences, however, apparently became less important developmentally. Promising validity and reliability of the metric suggested its utility for future research of MSW phonological development.

13. What Do We Need to Know to Support Early Language and Literacy Development?

Noella Piquette – University of Lethbridge

How can we best support young learners in facilitating a child's language and literacy development? This presentation will provide an overview of a yearlong professional development (PD) model focused on early literacy attainment, reading development, and strategic interventions. The 10 session PD model incorporated evidence based research and practical classroom application via face-to-face delivery, video conferencing, independent extension activities, and professional learning communities (PLC). The researcher created and supported grade level and interschool PLC at the school level, and involved collaboration with 2 school district directors. Every K, gr 1 and gr 2 teacher, regional and school based learning support instructors in this school district were involved in this study, with a total of 150 primary teacher participants. Data incorporated both quantitative data and qualitative components.

The purpose of this presentation is to review the study in which the researcher (1) examined the extent to which professional development training influenced teachers' knowledge of early literacy concepts and (2) examined the extent to which professional development training influenced teachers' beliefs and knowledge of children's literacy development.

Grounded theory was used as the data analysis for the qualitative component in this study. The narrative data was analyzed and examined for categories that emerged naturally; over twenty recurring themes were developed and noted. Axial coding followed as these categories were examined for relationships among them and how they interacted. Three categories surfaced: *Participant Learning, Professional Interaction and Role, Student Support*. A theme of barriers was identified within each of these three which lead to the theory related to the desire for professional development.

The discussion will focus on what was learned about teaching language and literacy to primary grade students as well as the level of perceived competence for the teachers. Reflections on teacher education and policies related to emergent literacy and language will be touched upon.

14. Infants Track Statistical Regularities In Speech

Stephanie L. Archer, Suzanne Curtin – University of Calgary

Research in infant speech perception has yielded some important insights into how humans learn language early in development. Given the findings over decades of experimental research, we have learned that infants are keen data gatherers. From the time they are born, they are bombarded with various types of speech from many different sources. Not only do infants hear speech directed to them (e.g., parents), but also from other sources (e.g., parent's speech to each other). Among this medley of speech, infants must begin learning the patterns and regularities that make up their native language. There is strong evidence that infants possess the ability to track patterns in their native language and these patterns are used as cues to determine language structure and, importantly, learn words.

In my lightning talk, I will discuss some findings within the field of infant speech perception as well as some of the methodologies used. I will also include two studies from my own research. In the first study, we examined whether infants were sensitive to the frequency of speech sound combinations at the beginning of words (Archer & Curtin, 2011). That is, are infants aware that "pl", as in "plant", is more frequent in English than "dr", as in "drive"? In the second study, we extended this question to include whether infants use these speech sound combinations to find words in running speech (Archer & Curtin, 2016). Together, the findings of both studies show that infants do track the frequency of speech sound combinations at the beginning of words and this information is useful to them. There are more words of English beginning with "pl", for example, than "dr" and this knowledge helps infants find words in speech.

8:00 pm – 9:00 pm
AH 100

Mix and Mingle
Refreshments provided

Saturday, November 26th, 2016

9:30 am – 10:30 am

Breakfast

AH 100

Administrative Meeting for Next CLARA (for interested parties only)

10:30 am – 11:30 am
AH 100

Keynote Address: Building Bridges in Bilingual Education: European Perspectives on Content and Language Integrated Learning

Rick De Graaff - Utrecht University

As a result of the 'M+2' (mother tongue plus two other languages) educational policy, in many European countries, forms of bilingual education have been introduced. The past two decades show a variety of pedagogies to facilitate a communicative and functional approach to foreign language learning. In bilingual education, a substantial part of the curriculum is taught in a foreign language, thus offering more opportunities for exposure and interaction within the curriculum. Content and language integrated learning (CLIL) is used as a guiding principle to support both subject matter and language learning. The presentation will address several CLIL practices in Europe, and discuss their similarities and differences with immersion education in Canada. We will discover common ground for teaching and research in related yet different educational settings.

11:45 am – 12:45 pm
Markin Hall Atrium

Lunch and Poster Session

12:45 pm – 2:15 pm
AH 118

Roundtable Session 2

Chair: Noella Piquette

Children and Sarcasm: Developing an Appreciation for Ironic Intent

Penny M Pexman – University of Calgary

One of the challenges children face in learning to navigate the social world is created by the fact that people often speak indirectly, for example, with sarcasm. We have examined when typically-developing children begin to appreciate sarcastic speech, and the factors that are related to their appreciation. Our results suggest that children's appreciation of sarcastic language develops over a fairly long developmental window, and is related to their empathy and social experiences. We have also used eyegaze and reaction time measures in the visual world paradigm to assess the processing involved in children's understanding of sarcastic speech. Our processing data are consistent with predictions derived from a parallel constraint-satisfaction account of figurative language comprehension.

Early Speech Preferences in Children Later Diagnosed with Autism Spectrum Disorder and Language Delays

Suzanne Curtin – University of Calgary

Early biases for language include a preference for speech, and the ability to process rhythmical patterns in speech. We argue that these preferences help to support social-communication and linguistic development. Indeed, it has been found that children diagnosed with Autism Spectrum Disorder (ASD) process speech differently than non-speech sounds, don't show a preference for IDS, and individuals with autism often display disordered use of rhythmical

information. In this talk, I will present results from our longitudinal study exploring whether infants at risk for ASD because they have an older sibling with ASD (SIBS-A) demonstrate differential early preferences for speech, and native language rhythm compared to infant siblings of typically developing children (SIBS-TD). I will also discuss the extent to which these preferences are related language and social-communicative development. So far we have found that infants at heightened risk of ASD are not on par with their typically developing peers in their preferences for speech and rhythm, and this may underlie deficits in later language and social development.

Words are not enough: Preschooler’s integration of perspective and emotion informs their referential understanding.

Susan Graham –University of Calgary

Language is but one element of effective communication. The very same words or sentences can be interpreted differently depending upon the the intentions of the speaker. To illustrate, the intended meaning of the utterance “School starts tomorrow” can vary markedly, depending on how it is spoken (with an excited vs. a dejected tone of voice). This example highlights a critical aspect of successful language understanding, namely that listeners must accurately recognize the intentions that accompany language use to understand the meaning of an utterance. In this presentation, I will review recent research from my lab that examines the developmental emergence of preschoolers’ sensitivity to a communicative partner’s perspective. I will focus particularly on preschoolers’ tendency to use cues both within the communicative context (i.e., a speaker’s visual access to information) and within the speech signal itself (i.e., emotional prosody) to make on-line inferences about communicative intent. Our results demonstrate that preschoolers’ ability to use visual and emotional cues of perspective to guide language interpretation is not uniform across tasks, is sometimes related to theory of mind and executive function skills, and at certain points of development, is only revealed by implicit measures of language processing.

2:30 pm – 4:00 pm
AH 177

Workshop: R Programming and Graphics

Fangfang Li – University of Lethbridge

R is a freely available software for statistical computing and graphics. Compared to other statistical software, R is well suited for manipulation and processing of large datasets and is noted for its flexibility in statistical functions and the high-quality, publication-ready graphics it generates. During the workshop, I will introduce 1) the R environment, basic data types and plots, 2) how to perform basic statistical procedures using R, and 3) how to produce publication quality graphics. The tutorial aims to set a solid foundation for participants to understand the R environment and its functionality so that they are able to self-learn further usage of R after the conference.

4:15 pm – 5:30 pm
AH 100

Workshop: Helping Young Children Communicate

Daryl Graham, SLP, Michelle MacKinnon, Directory of Students Services, Holy Spirit School Division

In this workshop, Darryl Graham (registered speech pathologist in our division) and I will offer hands-on training on the use of the Hanen practice for parents,

early childhood educators, speech pathologists, and other professionals who work with children. The Hanen practice offers strategies of encouraging communicative actions and literacy development for a wide range of child populations, whether they are normal-developing, late talkers, autistic, or with other developmental conditions. The workshop will also offer a host of educational tips and resources that will enrich parents and teachers' knowledge of early childhood development and enable better futures for children.

5:45 pm – 8:00 pm
Markin Hall Atrium

Closing Ceremony and Banquet
Announcement of student poster awards
