Organisers:
Nicolas Ruytenbeek
Fanny Stercq
Alma Veenstra
Isabelle Lorge

Program book

Utterance Interpretation and Cognitive Models (UICM)V:

The impact of bilingualism on cognitive and linguistic development

24 and 25th of September
Université Libre de Bruxelles
Welcome to the fifth edition of the Utterance Interpretation and Cognitive Models (UICM) conference series. These conferences series, first started by Mikhail Kissine and Philippe De Brabanter (Université Libre de Bruxelles) have successively looked into issues related to the semantics/pragmatics interface (1st edition), syntax and evolutionary linguistics (2d edition), the developmental and cognitive determinants of utterance interpretation (3d edition), and finally implicit and non-literal meanings (4th edition). This year, the focus will be on bilingualism and its influence on cognitive and linguistic development. With the hope that this issue, like the previous ones, will foster interesting discussions and broaden the research horizons related to this topic, we wish you an excellent conference.

Venue:
Université Libre de Bruxelles (campus Solbosch), building S (Institut de Sociologie, full address: avenue Jeanne 44, 1050 Brussels), 15th floor, Salle Henri Janne

Website: uicm5.ulb.ac.be
E-mail address: uicm5.brussels@gmail.com
Conference dinner:
« Le Crabe Fantôme »
Av. du Bois de la Cambre 17c
1170 Brussels (Watermael-Boitsfort)

To walk there from the ULB, take Avenue Franklin Roosevelt, turn left at the 2nd traffic lights after the Université Libre de Bruxelles (to your left). Cross Avenue du Pesage (tramlines) and go straight on. Go past the Auberge de Boendael and the Delhaize and after 300m you will see the Crabe Fantôme your left-hand side.
From the city centre you can take the 95 bus direction Wiener (from the Grand-Place or the Bourse) and stop at Arcades.
**Day One (Thursday 24th of September)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30</td>
<td>Opening of the conference</td>
</tr>
<tr>
<td>10:00</td>
<td>TON DIJKSTRA, <em>New trends in bilingualism: Extending BIA+ to sentence processing</em></td>
</tr>
<tr>
<td>11:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>12:00</td>
<td>Evy Woumans, <em>Effect of second language acquisition on cognitive development in preschool children</em></td>
</tr>
<tr>
<td>12:30</td>
<td>Haifa Alatawi, <em>Bilingual children’s semantic-pragmatic comprehension of quantifiers</em></td>
</tr>
<tr>
<td>13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00</td>
<td>ANTONELLA SORACE, <em>Linguistic and cognitive effects of bilingualism on pronominal use</em></td>
</tr>
<tr>
<td>15:30</td>
<td>Poster session and drinks</td>
</tr>
<tr>
<td>16:30</td>
<td>SUE FLETCHER-WATSON, <em>Bilingualism in Autism: hindrance or help?</em></td>
</tr>
<tr>
<td>19:30</td>
<td>Conference dinner</td>
</tr>
</tbody>
</table>

**Day Two (Friday 25th of September)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td>Coffee</td>
</tr>
<tr>
<td>10:00</td>
<td>NAPOLEON KATSOS, <em>Pragmatics in the interfaces</em></td>
</tr>
<tr>
<td>11:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>12:00</td>
<td>Katarzyna Jankowiak, Ryszard Naskrecki and Karolina Rataj, <em>Bilingual metaphoric language comprehension: An ERP study</em></td>
</tr>
<tr>
<td>12:30</td>
<td>Evelyn Bosma, Elma Blom and Arjen Versloot, <em>Language balance and cognitive advantages in Frisian-Dutch bilingual children</em></td>
</tr>
<tr>
<td>13:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00</td>
<td>ISTVAN KECSKES, <em>Indirect reporting in bilingual language processing</em></td>
</tr>
<tr>
<td>15:30</td>
<td>Tatyana Levari and Jesse Snedeker, <em>Ambiguity resolution in online sentence comprehension in monolingual and bilingual children</em></td>
</tr>
<tr>
<td>16:00</td>
<td>Closing remarks</td>
</tr>
<tr>
<td>17:00</td>
<td>City sightseeing tour</td>
</tr>
</tbody>
</table>
Participants

Keynote speakers

TON DIJKSTRA
(Donders Institute/Radboud University)

New trends in bilingualism: Extending BIA+ to sentence processing and word learning

The BIA+ model (Dijkstra & Van Heuven, 2002) has provided a useful theoretical framework for understanding bilingual word recognition. Question is whether it can be extended to account for currently ‘hot’ research topics, like how bilinguals process words in sentences and how they acquire words of a new language? After characterizing the BIA+ model, I will first review studies in the domain of bilingual sentence processing. Special attention will be paid to two recent empirical studies, involving RT and EEG measurements. In these, Dutch-English bilinguals processed Dutch or English cognate and non-cognate words following high- and low-constraint sentences in Dutch or English. Next, I will consider how beginning adult second language learners process words with respect to meaning and affect. A longitudinal semantic and affective priming study is described in which German students processed Dutch words preceded by German words. For both bilingual sentence processing and second language word learning, I will consider what adaptations must be made to the BIA+ model to do justice to the available findings.

NAPOLEON KATSOS
(University of Cambridge)

Pragmatics in the interfaces

A good 'pragmatic' listener should be able - among other things - to draw inferences from the speaker’s utterance based on informativeness and relevance. But what linguistic and cognitive skills underpins this ability? In this presentation I will report data from a set of ongoing studies with typically- and atypically-developing children and adults. A number of hypotheses are put to the test, including whether pragmatic competence is correlated with core language skill (vocabulary and grammar), Theory of Mind, executive functions, bilingualism, and personality traits. I discuss the implications of this work for models of pragmatic processing.
Indirect reporting in bilingual language processing

This paper aims to investigate the ways indirect reports are formulated by bilingual speakers whose L1 is English (9 subjects) and whose L1 is not English (12 subjects) based on a small corpus consisting of the language productions of 21 speakers. Subjects were asked to report the utterances of other people that represented three categories: statement, question and request. The analysis attempts to answer the following questions: 1) How much of the semantic core is preserved in the report?, 2) In what ways do reporters try to express the pragmatic content they assume the original utterance has?, 3) What factors may affect the ability and preference of non-native speakers to do things differently from native speakers? It is argued and demonstrated that emergent situational salience plays a decisive role in what speakers actually report from the original message, and how they shape the reported message. Both groups made an attempt to preserve the minimal propositional content of the original utterance which was most salient for them. However, the analysis shows that there is a difference in how the two groups of subjects treated pragmatic enrichment. While the indirect reports produced by bilingual subjects whose L1 is English are a reflections of a pragmatics-based top-down approach to the original utterance, the indirect reports made by bilingual subjects whose L1 is other than English reflect more like a semantics-based bottom-up approach to the original utterance which is enriched pragmatically by the reporter either based on what the message conveys or in the reporter’s own way.

Linguistic and cognitive effects of bilingualism on pronominal use

Reference tracking requires the language user to both infer correct pronoun-referent mappings and dynamically update the discourse model following a change of referent status. Early and late bilingual speakers of languages that allow a choice of pronominal forms inconsistently extend the scope of the marked pronoun, both in production and in comprehension; in late bilinguals, these effects are attested in both the native and the second language, suggesting a convergence between L2 acquisition and L1 attrition. In contrast, linguistic structures that are less dependent on the integration of unpredictable contextual information are more stable in bilingual use. I will explore some possible causes for these patterns, suggesting that becoming bilingual affects specific aspects of non-linguistic attentional control involved in the encoding of anaphoric relations This in turn leads to the selective effects attested in research.
Bilingualism in Autism: hindrance or help?

Autism spectrum disorder is associated with intellectual disability, language delays and atypicalities and impairments in cognitive domains including theory of mind and executive function. Parents and practitioners often believe that raising a child with autism bilingually may negatively impact on these areas of difficulty, and therefore choose a monolingual upbringing. However, this choice also carries risks, as speaking the native language of close family and the local community is an important component of interpersonal relationships. Furthermore, bilingualism in typical development is sometimes associated with enhancements in exactly those cognitive domains which present an area of difficulty to an autistic child. In this talk I will review the limited evidence on bilingualism and autism, and consider what cognitive models of autism and bilingualism can add to this discussion. Considering cognitive, developmental, cultural and societal factors I will attempt to define whether parents of children with autism should or should not make the decision to raise their child bilingually.
Arabic and English. Data are currently being collected from monolingual children, preliminary results from Arabic monolinguals (n=10) suggest poorer pragmatic performance than that of their bilingual counterparts. We speculate that the Arabic monolinguals’ poor pragmatic performance may be due to some combination of the following: poorer semantic competence with quantifiers, delayed acquisition of number words (compared with English monolinguals), or the assumption that quantifier words should be available at the same time as number word meanings [12]. To test this assumption, the study includes further tasks on number and quantifier word representations [13], [14].

References

Evelyn Bosma1,3, Elma Blom2, & Arjen Versloot3
(1Fryske Akademy, 2Utrecht University, 3University of Amsterdam)

Language balance and cognitive advantages in Frisian-Dutch bilingual children

Previous research has shown that bilingual children outperform monolingual children on executive functioning (EF) tasks that require selective attention and inhibition (Engel de Abreu, Cruz-Santos, Tourinho, Martin, & Bialystok, 2012; Martin-Rhee & Bialystok, 2008) and working memory (Blom, Küntay, Messer, Verhagen, & Leseman, 2014; Morales, Calvo, & Bialystok, 2013). In various studies (Bialystok & Barac, 2012; Blom et al., 2014; Carlson & Meltzoff, 2008; Poarch & Van Hell, 2012) it has been suggested that bilingual EF advantages are moderated by how proficient a bilingual is in both languages.

The aim of the current study was twofold: (1) to replicate bilingual cognitive EF advantages in a new population, bilingual Frisian-Dutch children aged 5 and 6; (2) to investigate the role of balance by comparing two groups that differ in balance of Frisian and Dutch: balanced Frisian-Dutch bilingual children and Dutch-dominant bilingual children. The groups were matched on age, SES, IQ and Dutch language abilities.

Four ANOVAs were conducted (see Table 1). The balanced group outperformed the Dutch-dominant group on selective attention. They also outperformed the Dutch-dominant children on verbal working memory, but application of a Bonferroni correction yielded a non-significant outcome. Interference inhibition and visuospatial working memory did not differ between the two groups. The results of this highly constrained study confirm that bilingualism enhances children’s EF development, although some variation was observed between the different EF tasks. Furthermore, they show that the bilingual cognitive advantages are related to language balance.
Table 1. Descriptive statistics for cognitive task measures by language group

<table>
<thead>
<tr>
<th>Measure</th>
<th>Dutch-dominant bilinguals (n = 30)</th>
<th>Balanced bilinguals (n = 30)</th>
<th>F(1,58)</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selective attention</td>
<td>11.97 (7.74)</td>
<td>7.90 (3.97)</td>
<td>6.594</td>
<td>.013</td>
<td>.102</td>
</tr>
<tr>
<td>Interference inhibition</td>
<td>164 (227)</td>
<td>183 (317)</td>
<td>0.069</td>
<td>.793</td>
<td>.001</td>
</tr>
<tr>
<td>Verbal working memory</td>
<td>12.50 (2.78)</td>
<td>13.93 (2.57)</td>
<td>4.303</td>
<td>.042</td>
<td>.069</td>
</tr>
<tr>
<td>Visuospatial working memory</td>
<td>13.63 (4.58)</td>
<td>13.73 (3.86)</td>
<td>0.008</td>
<td>.927</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

1 On the selective attention task, lower scores indicate better performance. On the other tasks, higher scores indicate better performance.

References


Katarzyna Jankowiak, Ryszard Naskrecki & Karolina Rataj (Adam Mickiewicz University Poznan)

**Bilingual metaphoric language comprehension: An ERP study**

ERP experiments on semantic processing in bilinguals conducted so far have mostly focused on the N400 component, which reflects cognitive operations engaged in lexical access during language comprehension. Results reported by Newman et al. (2012) and Moreno & Kutas (2005) have shown an attenuated or delayed N400 effect to non-native language (L2) compared to the native (L1) tongue. They interpreted the reduction in the N400 amplitude to L2 as reflecting a less automatic lexical access in L2, and correlated the N400 latency shift with language dominance and L2 proficiency level. Although research into bilingual language processing has rarely investigated later ERP components, some studies have shown an attenuated LPC (late positive component) when processing both semantically and syntactically incorrect sentences in L2 (Proverbio et al., 2002; Moreno et al., 2010).

Little attention has so far been devoted to examining the N400 and LPC components during metaphoric language processing in the bilingual context. ERP research into monolingual figurative language interpretation has frequently found the graded N400 effect with the most negative amplitudes to anomalous, less negative to novel metaphoric, then conventional metaphoric, and finally literal utterances, which seems to reflect the difficulty of lexical access (Lai et al., 2009). In later time windows, more inconsistent results have been observed. While some studies have shown a more pronounced LPC effect to anomalous than metaphors (Arzouan et al., 2007), other experiments have found the opposite effect (de Graauwe et al., 2010). Furthermore, some researchers observed the LNC (late negative component) in response to both novel meanings and anomalous utterances (Zhao et al., 2011; Rutter et al., 2012). Such findings were attributed to the continuation of the N400 effect, and indicated extended cognitive effort involved in meaning reanalyses, as well as additional working memory operations engaged in meaning interpretation. Our experiment aimed at investigating how proficient late bilingual speakers of Polish (L1) process metaphoric meanings in English (L2). The participants were asked to perform a...
semantic decision task to Polish and English verb-noun word dyads, which consisted of novel metaphoric (e.g., to taste privilege), conventional metaphoric (e.g., to extend privilege), literal (e.g., to abuse privilege) and anomalous (e.g., to drag privilege) utterances. Event-related potentials were time-locked to the onset of the second word of a word pair. ERP analyses conducted on correct responses revealed a main effect of language within the 360-420 ms time window ($p = .01$), with significantly reduced N400 amplitudes to L2 compared to L1 word dyads observed over centro-parietal electrodes. In line with previous research, this effect suggests less automatic lexical expectancy, and less efficient lexical access in L2 compared to L1, even when bilinguals are at high level of proficiency in their non-native language. Furthermore, a main effect of utterance type was observed within the 440-500 ms time window ($p = .031$), showing an increasing trend from literal utterances ($\text{Mamplitude} = .579, \ SE = .164$), to conventional metaphors ($\text{Mamplitude} = .517, \ SE = .198$), novel metaphors ($\text{Mamplitude} = .450, \ SE = .185$), and finally to anomalous word pairs ($\text{Mamplitude} = .255, \ SE = .206$).

Post hoc tests revealed that anomalous word pairs evoked a more pronounced N400 effect as compared to both literal utterances ($p = .004$) and conventional metaphors ($p = .042$). These results indicate that although generally reduced in L2, the N400 amplitudes to anomalous and metaphoric utterances reveal the same graded effect in both languages.

Within a later time window (640-780 ms), an interaction was found between language and left vs. midline vs. right electrode position ($p = .028$), with an attenuated LPC effect to L2 compared to L1 utterances observed over centro-parietal and parietal electrodes. Furthermore, an interaction between utterance type and anterior vs. posterior electrode position was found within the 700-800 ms time window ($p < .000$). Post hoc analyses revealed that both novel metaphors and anomalous utterances evoked a more robust LNC effect as compared to conventional metaphors and literal meanings over fronto-central electrodes. A sustained negativity following novel metaphors and anomalous word dyads suggests that high cognitive effort engaged in their interpretation might have been prolonged to later time windows, beyond the N400 effect.

References


Tatyana Levari & Jesse Snedeker  
(Harvard University)

**Ambiguity resolution in online sentence comprehension in monolingual and bilingual children**

Monolingual and bilingual children differ in their language learning environments. Unlike monolinguals, bilinguals split their exposure between two languages, resulting in less experience with each. Bilinguals also have a greater need to monitor language use, possibly leading to a bilingual executive functioning (EF) advantage. In the current study we investigate how these differences affect the development of online sentence comprehension.

Children through age 10 often fail to use top-down information to guide sentence parsing, and subsequently fail to revise their interpretations following inconsistent information. One prominent hypothesis is that these abilities develop with improvements in domain-general executive functioning [1]. An alternative possibility is that the developmental changes are driven by cumulative language experience over time. Although 5-year olds have acquired the relevant linguistic structures, they continue to gain processing fluency [2], which may be necessary for successful performance.

In the current study we evaluated these hypotheses by giving monolingual and bilingual children (ages 5-7) an EF battery, measures of language proficiency (vocabulary and receptive grammar), and a test of syntactic ambiguity resolution, adapted from Trueswell et al (1999) [3]. Participants heard ambiguous and unambiguous sentences (Ambiguity Condition) e.g. “put the frog [that’s] on the napkin in the box” while looking at a display containing relevant images, including either 1 or 2 referents for the first noun (Reference Condition, see Figure 1).

Preliminary results (n=37; 20 monolingual; 17 bilingual matched for age, nonverbal IQ and SES) confirm that monolinguals show higher scores on receptive vocabulary (p<0.05) and grammar (p=0.05). However, we found no bilingual EF advantage in any of the four EF tasks. Gaze data demonstrates that bilingual children make better use of contextual information. Specifically, in the 2-Referent Ambiguous condition, bilinguals, but not monolinguals, interpret the ambiguous phrase, *on the napkin*, as a modifier of the object, *frog*. Specifically, upon hearing the noun (*frog*), bilinguals look significantly more to the target animal (*frog on the napkin*), while monolinguals look equally at both the target and non-target animals (p<0.05). Despite gaze patterns consistent with better use of contextual information by bilinguals, monolingual and bilingual participants do not differ in their actions, producing similar numbers of garden-path errors.

Bilingual children show better use of top-down information, despite weaker English language skills. However, the bilingual’s advantage in sentence comprehension is unlikely to be due to differences in EF, since both groups performed equally on all EF measures. We suggest that bilingual children, over the course of language acquisition, may need to rely more on contextual information making them more aware of how language is influenced by context.

**Figures:**

Figure 1. Example display in A) 1-Referent Condition and B) 2-Referent Condition

**References**

Evy Woumans (Ghent University)

Effect of second language acquisition on cognitive development in preschool children

Bilingualism is generally considered to positively influence cognitive control. Bilinguals exhibit enhanced control over their monolingual peers in various executive control tasks. This control advantage has been found for bilinguals in different stages of life, even for children (e.g. Bialystok, Martin, & Viswanathan, 2005). It has been suggested that bilingual children develop their cognitive control skills sooner than their monolingual peers. The purpose of the present study was to determine how second language acquisition through bilingual education contributes to the development of cognitive control.

A longitudinal field study was conducted in the Walloon Region of Belgium with 27 French---speaking five-year-old children enrolled in the first year of a French---Dutch immersion programme and 27 French---speaking 5---year---old children enrolled in a traditional monolingual programme. The children were tested at the beginning (T0) and at the end (T1) of the school year. The test battery included measures of executive skills (Simon task), fluid intelligence (Raven's Coloured Progressive Matrices), semantic verbal fluency in French, and socioeconomic status (SES). Both groups were matched for all these measures at baseline (T0).

After the second moment of testing (T1), results revealed that both groups improved significantly on speed and accuracy in the Simon tasks. Furthermore, they were able to produce more words in the verbal fluency task and they performed significantly better on the intelligence test. When comparing the progress of both groups over time, we found that monolingual children and immersion children improved similarly on verbal fluency and on executive control. However, only children attending bilingual kindergarten improved significantly on intelligence, indicating that cognitive practice gained from acquiring a second language may improve general cognitive abilities assessed by intelligence tests, also outside the verbal domain.

References


Posters

Kyriakos Antoniou & Napoleon Katsos (University of Cambridge)

Does bi-dialectalism confer an advantage on children’s executive control skills?

A considerable amount of research has reported superior bilingual performance in tasks which are considered to tap executive control functioning (e.g. Bialystok et al., 2009). In this study we aimed to investigate whether bi-dialectalism has a similar effect on children’s executive control (EC) performance. We use the term bi-dialectalism to describe the linguistic status of children in Cyprus who typically grow up speaking two different varieties of the same language: Cypriot-Greek (CG) and Standard Modern Greek (SMG). The linguistic profile of bi-dialectal children as speakers of two minimally distant and genetically related varieties, offers a unique opportunity to address one of the pending questions in the literature on the cognitive effects of bilingualism — namely, whether close typological proximity between the languages spoken by bilinguals modulates these outcomes in any way. 44 bi-dialectal children (21 boys and 23 girls; ages 6;3–9, mean age 7;6, SD 0;9 years), 22 bilinguals (13 boys and 9 girls; ages 6;4–9, mean age 7;7, SD 0;9 years), and 25 monolinguals (15 boys and 10 girls; ages 6;2–9, mean age 7;4, SD 0;9 years) were matched for age out of a larger sample of 140 children. They were administered the following tests:

(1) the Backward Digit Span and the Corsi blocks tasks for working memory, (2) the Simon and a Stop-Signal task for inhibition, (3) the Color-Shape task for task-switching, (4) an IQ test, and (5) an expressive vocabulary test and a language comprehension test as measures of language proficiency. Children’s scores in the Family Affluence Scale, and parental levels of education were taken as measures of socioeconomic status (SES). Seventeen of the bi-dialectal children and all monolingual children were also given a receptive vocabulary test.

A principal component analysis on the six indicators of EC revealed two distinct factors which we interpreted as representing Working Memory and Inhibition. Composite scores were created from measures that were conceptually and statistically related (i.e. a single score was computed for Working Memory, Inhibition, Language Proficiency, and SES). A second, more reliable, Language Proficiency composite score was further calculated for those children who also took the receptive vocabulary test.
In terms of the background measures, the three groups did not statistically differ in age (F(2, 88)=0.843, p>.05), or gender (F(2, 88)=0.631, p>.05). Nevertheless, there were significant differences in (1) SES (F(2, 85)=7.52, p<.05) in that bi-dialectal children were of a lower SES than bilinguals (p<.05), (2) IQ (F(2, 88)=4.823, p<.05), in that bilinguals were better than monolinguals (p<.05), and (3) Language Proficiency (F(2, 88)=6.57, p<.05), in that monolinguals out-performed bilinguals (p<.05). All background variables which significantly correlated with the two EC measures and/or for which significant differences were found between the three groups, were entered as covariates in the following analyses.

A 2x3 (EC: WM versus inhibition by Group: bilinguals versus bi-dialectals versus monolinguals) ANCOVA with EC as a within-subjects factor, Group as a between-subjects factor and IQ, Language Proficiency, age, and SES as covariates showed a significant effect of Group (F(2, 80)=3.646, p<.05), indicating higher overall EC performance for bilinguals relative to monolinguals (p<.05). There were no significant differences between the other groups in this analysis. However, a similar analysis as above but with the second, more reliable, Language Proficiency score as a covariate, indeed, revealed a bi-dialectal advantage over monolinguals in overall EC performance.

These results demonstrate that similar EC advantages as previously reported for ‘true’ bilinguals can be found in bi-dialectal children, even though the bi-dialectal effect is weaker than that of bilingualism. Hence, minimal typological distance between the varieties spoken by a child suffices to give rise to EC advantages. Finally, they show that the emergence of EC advantages in bilinguals is moderated by the level of their language proficiency.

Sabrina Durante (Université Libre de Bruxelles)

The Role of Intonation in Irony Comprehension in French native speakers and Italian-French late bilinguals

This study aimed at examining the role of intonation in irony comprehension in French native speakers and Italian-French late bilinguals. We investigated if the so-called "ironic tone of voice" represents a sufficient cue in detecting irony (as showed in previous studies) on the one hand, and on the other, if the two groups rely differently on prosodic cues in irony processing and identification. In order to respond to these questions, we tested the two groups in an auditory discrimination task, whose items were selected from spontaneous speech and were distributed in three categories — ironic sentences with lexical information, ironic sentences without lexical information and non ironic sentences. The experiment consisted in two steps: in the first one, items were content-filtered and participants could only rely on prosodic cues; in the second step, the same items were presented but this time they were not content-filtered, so that prosodic and lexical information were both available. Results suggested that the ironic tone of voice does not represent a sufficient cue in detecting irony and that there was not a significant difference between the two groups. However, it is interesting to note that participants showed an important sensitivity to the prosodic information of ironic sentences with lexical information, which triggers irony identification when presented with verbal content. Moreover, a difference between the two groups has been observed, concerning their ability to integrate simultaneously prosodic and lexical cues and the degree of ironic meaning they perceived. Precisely, contrary to native participants, it seems that late bilinguals focuses only on lexical information during the second step of the experiment, ignoring prosodic cues. Then, late bilinguals showed to evaluate irony to a lesser extent than French native speakers, and this can be due to a difference in the perception of intonational meaning. This work can be considered as a contribution in the study of prosodic and intonational acquisition of a second language, and it allows to shed the light on the different strategies that late bilinguals operate during irony processing and understanding.

References
Francesca Foppolo  
(Università degli Studi di Milano-Bicocca)

Executive functions in monolinguals in the process of becoming bilinguals

There’s an ongoing debate on the advantage of bilingualism on the development of pragmatic abilities and executive functions in children (Bialystok & Poarch, 2014; Paap & Greenberg, 2013). Many studies by Bialystok and colleagues (cf. Bialystok, Craik and Luk for a recent overview) show that bilingual children outperform their monolingual peers on different tasks, in particular those involving attentive and control abilities. Other studies showed that bilinguals outperform monolinguals in tasks tapping their pragmatic abilities (Siegal, Iozzi, & Surian, 2009). Our study. In this paper, we present the results of an experimental study on 24 Italian children aged 4 and 5 that have been early exposed to English. All children in our sample (except from 2) were born in Italy, lived in an Italian monolingual family and had been attending an Italian-English bilingual school since the age of 3. They are exposed to the English language exclusively at school. Children were split in two classes: 6 of them (ranging in age between 4, 6 and 5,3) were enrolled in the Transition class and had been exposed to English for two years at the time of testing; the remaining 18 (age range: 5,1-6,4) were enrolled in the Reception class and had been exposed to English for three years at the time of testing. We administered three tasks in two separate sessions: a test for pragmatic competence (the Scalar Implicature Truth-Value-Judgment Task (TVJT), developed by Foppolo, Guasti, and Chierchia, 2012 and already tested on 5 year-old monolingual Italian children that will serve as our control group); a test for inhibitory control (The Frog Test, Marzocchi, Re, and Cornoldi, 2010), standardized on Italian monolinguals from age 5 to 11; the ambiguous figure task (AFT) to test for selective attention and perspective shifting, modeled after Bialystok & Shapero, 2005. In the TVJT children were shown a video of 12 short stories in which a puppet described what had happened in each story at the end. The child’s task was to evaluate the puppet’s description as appropriate or not. In one of the critical same-condition, for example, there were five Smurfs that could either go on a trip by boat or by car. In the end, all the Smurfs went on a trip by boat and the puppet described the outcome of the story by using the underinformative (logically true) sentence “Some of the Smurfs went on a boat” instead of the more pragmatically appropriate description “All the Smurfs went on a boat” in which the most informative scalar alternative in the scale <some, all> is used. In the Frog Test, children were asked to attend to sound instructions to make a frog jump along a 20 step ladder.

In particular, they were instructed to make the frog jump ahead when a go-sound was played, and NOT to make the frog jump when the no-go sound was played. The two sounds were identical except that the no-go sound terminated with a “D’oh!” The idea is that the child should wait until the end of the sound before starting an action, something that should be easier for those subjects that have a high inhibitory control ability. In the ABT, children were shown four classical ambiguous figures: two figure-ground figures (vases/face, woman/sax) and two content-meaning figures (man/rat, duck/rabbit). They were asked to point to the figures that they could see in each image, being formerly informed that each image contained two separate figures that could be detected by shifting perspective (the classical old lady/young lady figure was given as a practice trial). The child was given a score from 0 to 5 (depending on the autonomy with which she could see both images (successive tips in identifying the second image were given to the child, including disambiguated versions of the classical figures). The procedure was identical to that described in Bialystok and Shapero, 2005. Results: In the test for pragmatic competence, we found that children in our sample rejected underinformative some-sentences 92% of the times, performing better than their Italian monolinguals peers: as shown in Foppolo, Guasti, Chierchia (2012), monolingual 5 year old Italian children tested with the same materials rejected the underinformative some-sentences 72,5% of the times (Foppolo, Guasti, Chierchia, 2012: Experiment 6). We performed a logistic mixed model (Jaeger, 2008) on children’s performance in which we analyzed the likelihood of providing a pragmatic response (i.e. rejecting the underinformative some-sentence) considering two fixed variables: the participants’ Age (4,5, and 6) and the Class (Transition vs. Reception), that reflects the amount of exposure to the second language (2 vs. 3 years). The analysis show that children that had 3 years of exposure (i.e. participants in the Reception class) were significantly more likely to give pragmatic responses than children that had only 2 years of exposure (Estimate=3.4556, Std. Err.=1.1671, \(z=2.961, \ p=0.00307\)). In the same model, the contribution of Age was not significant (\(p=0.18764\)). Although preliminary, especially due to the unequal numbers between ages and classes, we believe that these results are interesting and offer a first step for further investigation.

In the test for inhibitory control standardized for Italian children between age 5 and 11 (Marzocchi et al., 2010), 9 of the children in our sample obtained a score above 80th percentile; 7 a score between 50th and 80th percentile and only 5 scored below 30th percentile (3 children were excluded). In particular, the mean score of the 5 year old children was 8,75 in Transition and 11,72 in Reception, scores that are significantly higher than the mean score for their monolingual Italian peers(6,23). As in the TVJT, the children who had more years of exposure to the second language performed better than those with less years of exposure to L2 in this task. Finally, in the AFT our children performed quite poorly,
compared to the results obtained by Bialystok and Shapero on 6 year old bilinguals. However, this data is not conclusive because we don't have a control group of Italian monolinguals yet and the age of our participants is younger than that of the children tested in previous studies. Our results seem in line with the hypothesis of an advantage on pragmatic abilities and executive functions in bilingual children. Beyond the existing literature, we also show that this advantage is also revealed in a population of children that are born monolinguals but are early exposed to a second language (from age 3 on). Preliminary results suggest, moreover, that this advantage seems proportional to the amount of exposure to the second language.

References

Kirsten Van den Heuij¹, Ryanne Francot², Elma Blom² & Leonie Cornips¹
(¹Maastricht University/Meertens Institute Amsterdam, ²Utrecht University)

Does dialect obstruct the acquisition of Dutch vocabulary by young children?

In this presentation we will focus on children growing up in a bidialectal area in the Dutch province of Limburg. In acquisition research, these children would generally be classified as either monolingual (exposed to Dutch or dialect) or bilingual, or rather as bidialectal (L1 or child L2; exposed to both varieties which are typologically closely related). We aim to investigate the justification of such a classification (cf. Cornips 2014). This aim is relevant since children in Limburg, unlike children in bilingual expatriate families, grow up in families whose language choice patterns are reflected in the surrounding wider communities, and who reveal no ‘one parent, one language’ setting. The selection of varieties or linguistic forms is context-dependent, relying e.g. on particular interlocutors, topics, and activities (cf. Smith et al. 2013). Further, the speech repertoire in Limburg is of the so-called intermediate type in which speakers can change their way of speaking without an abrupt point of transition between dialect and standard (Auer 2005, Cornips 2013) and with producing ‘mixed’ forms (Giebers 1989). Moreover, recent sociolinguistic research interested in processes of globalization and their socio-cultural consequences questions the concept of a language as a discrete object. Parallel to this sociolinguistic thinking, acquisition researchers begin to realise that the bilingual experience constitutes of a continuum with the terms bilingual and monolingual as representing their endpoints (Hornberger 2003, Blom, 2010, Luk & Bialystok 2013). Although simple dichotomies are sufficient for some research purposes, they do not reflect the complex concept of bilingual experience (Grosjean 1998). Similarly, Baker (2011) stresses that using strict, simple, distinctions between monolingual and bilingual children leads to arbitrary cut-off points and consequently a weak foundation for conducting research (see also Gertken et al. 2014). Therefore, we will address two specific questions (i) the extent of bidialectism, namely whether a high vocabulary score on Dutch also reveals a high vocabulary score on dialect and (ii) how to develop a gradient, elaborate structure of bidialectism (Gertken et al. 2014) and related methodological challenges. These questions will be answered by measuring the acquisition of Dutch and dialect vocabulary of 128 children ranging from 4;6 through 9;4 years in Limburg. The children’s receptive relative vocabulary size in Dutch was measured with the standardised Peabody Picture Vocabulary Test-III-NL (PPVT) (Schlichting 2005). Children’s expressive vocabulary in Limburgish was measured with a picture description task, the Limburg Word Task,
developed for the purpose of this study. This test contains 30 test items and has no cognates between dialect and Dutch. The individual results of both the Dutch and Limburgish vocabulary tasks were compared in order to find out the extent of bidialectism of each child. The results of the dialect production task per child reveal an elaborate continuum of variation per vocabulary item and per child. None of the children produces only dialect or Dutch vocabulary. Most items show realisations that vary between the ‘target’ vocabulary for Dutch and dialect at all possible levels (lexical, phonological and morphological).

References


Isabelle Lorge (University of Cambridge)

Exploring the communicative skills of bilinguals: a study of listener-directed speech features

Recent evidence seems to indicate that bilinguals have increased communicative abilities, being better able to make use of alternative and combined communicative tools, to perceive the needs of their interlocutor and empathise with them (Genesee, Tucker & Lambert, 1975; Ben Zeev, 1977; Goetz, 2003; Greenberg, Bellana & Bialystok, 2013; Yow & Markman, 2014; Dewaele & Wei, 2012). Our study examines bilingual and monolingual adults’ productive use of two types of listener-directed speech (or speech adapted to a particular category of interlocutors): child-directed speech and foreigner-directed speech. 13 monolinguals and 17 bilinguals ranging from 20 to 35 years old were asked to explain a cooking recipe to a child, a non-native and a native adult control. The results of our study showed that participants used different tools to facilitate processing when addressing different types of listeners: “simplifying” processes such as pitch modifications and synonyms, which carry certain affective and hierarchical assumptions, were particularly used when addressing the child compared to the adult native control, whereas “clarifying” processes such as increasing the amount of global information, using more modifiers, more repetitions and more precisely targeted vowels, were mostly used when addressing the non-native adult. Moreover, bilinguals tended to follow this strategy even more, taking particular care to use the relevant facilitating processes with each type of interlocutor (i.e., to not use simplification for the non-native, and to use clarification to a greater extent for the non-native, whereas monolinguals tended to treat both listeners in the same way). In that, it seems that bilinguals were indeed more sensitive to the particular needs of their interlocutor, since they took into account the affective needs of the child and the possibility for the non-native to be offended by a particular type of speech.

References


Marie Philippart (Université Libre de Bruxelles)

The development of socio-pragmatic skills of young bilingual children

The aim of this dissertation was to analyse and compare the development of socio-pragmatic skills of young bilingual and monolingual children matched for age and socio-economic status. Our first objective was to test the hypothesis that bilingual children develop the ability to take someone else’s perspective earlier and therefore, process second labels for a same referent, in this case synonyms, more quickly than monolingual children. Then, another objective was to evaluate the nature of referential pacts in bilingual and monolingual children; that is, to determine whether children indeed process less well second labels when they are produced by a partner with whom children already named the referents, as it had been demonstrated by Matthews and her colleagues (2010). Thirty-five children, eighteen bilinguals and seventeen monolinguals aged three to five and with different socio-economic status, performed a referential communication task adapted from the experimental paradigm of Matthews et al. (2010). This task involved a first phase during which the conversational partner assigned referential terms to familiar objects. During the second phase, the orginal partner or a new partner, depending on the condition of the experiment, named the same objects using the same referential terms or synonyms. Our results didn’t show a bilingual advantage in the processing of synonyms and question the existence of a specific effect of the conversational partner’s identity on the processing of referential terms, previously demonstrated by Metzing and Brennan (2003) and Matthews et al. (2010). Therefore, our results challenge the conception of linguistic precedents as partner-specific referential pacts (Brennan and Clark, 1996; Metzing and Brennan, 2003; Matthews et al., 2010) and are consistent with Barr and Keysar’s approach to referential pacts (Barr and Keysar, 2001), according to which referential terms are used because they convey an accessible perspective easily applicable to the referent.

Alma Veenstra¹, Kyriakos Antoniou², Napoleon Katso: & Mikhail Kissine¹
(¹Université Libre de Bruxelles, ²University of Cambridge)

Cognitive and Linguistic Development in Bilinguals and Bi-dialectals

Studies have shown that children who speak more than one language often show a cognitive advantage: they outperform their monolingual peers on several tasks measuring executive functions [1][2][3]. In contrast to this cognitive advantage, a linguistic disadvantage has been reported as well. In particular with regard to vocabulary, bilingual children perform worse compared to their monolingual peers [4][5].

The aim of this project is twofold: First, we investigate whether there are areas in linguistics that may NOT be disadvantaged. Most language delays are related to vocabulary, whereas less is known about pragmatic skills and grammatical encoding skills. In particular, we investigate childrens’ understanding of implicatures, manner, relevance, metaphors, irony, and contrast [6]. In addition, we assess their production of subject-verb agreement and pronouns to make attraction errors (e.g., the key to the cabinets are missing, [7][8]).

Second, we wish to extend this line of research to bi-dialectalism. Many speakers speak a dialect in addition to the standard language. Are the reported (dis-)advantages limited to bilinguals, or can they be found in bi-dialectal speakers as well? In other words, how typologically distinct do the two languages have to be to find a “bilingual advantage”? To answer these questions, we systematically assess executive functions in bilinguals, monolinguals, and bi-dialectals.

We have developed a test battery of cognitive tasks to assess attention, working memory, inhibition, switching, and theory of mind. In addition, we assess pragmatic language skills and grammatical encoding skills. Three groups of 11/12-year-old children are currently being tested: 1) a monolingual group of 45 children who speak Dutch at home and in school, 2) a bilingual group of 45 children who speak French at home and Dutch in school, and 3) a bi-dialectal group of 45 children who speak West-Flemish at home and Dutch in school. Data collection is ongoing and we hope to be able to present the first results very soon.

References


