Effects of apperception as pedagogical approach for Korean heritage language instruction: A pilot study
Hi-Sun Kim, Harvard University

The notion of apperception refers to the mental process where new information is brought into connection with an existing system of information and thus results in giving a new understanding and meaning. Ever since the seventeenth century the idea of apperception had been discussed in philosophy and psychology but it was applied to education theory for the first time in the nineteenth century by one of the founders of the scientific study of learning and pedagogy the German philosopher Johann Herbart. In SLA the discussion of apperception enters from the perspective of language processing and acquisition in the late 1980s and the 1990s as a response to Krashen's ideas on comprehensible input and monitor theory by which it sparked theoretical debates and research on the mechanisms of implicit & explicit knowledge and attention in language learning & acquisition which resulted in other theories such as the noticing hypothesis. Furthermore in the proposal on the stages of language processing by Gass (1988) apperception is the first stage which is "the process of understanding by which newly observed qualities of an object are related to past experiences; the selection of what we might call noticed (apperceived) material." (p. 201). In other words apperception involves noticing a form due to the process of consciously relating it to one's prior knowledge which has been stored in one's experience. Hence while perception is often implicit peripheral and unnoticed apperception involves a process that triggers noticing to the input as they connect it to one's prior knowledge or experience. In apperception then prior knowledge or experience becomes one of the key factors that determine whether apperceived force will select input for further processing. From this viewpoint understanding and identifying the student's prior linguistic and cultural experience becomes pivotal in being able to draw interest and the level of attention necessary for learning to occur. For heritage language learners who bring in prior language background experience to class application of apperception as a pedagogical approach may then be extremely valuable and important in developing an appropriate HL curriculum and instruction. In other words in teaching heritage learners the teacher should fully acquaint oneself with the understanding of the language knowledge and process that are clearly different from those of the non-heritage learners and make full use of what they already know. Hence in an accelerated heritage-track Korean language class with apperception as the main pedagogical tool a pretest post-test and delayed post-test over two semesters is analyzed to discuss the linguistic profile of Korean heritage learners and aspects of acquisition and stabilization. Spoken (interview / picture description) and written data (short question essays) are transcribed coded and analyzed for complexity and accuracy. Furthermore error distribution is analyzed with regards to the type of errors shown and their frequency. Lastly data will be compared to those of non-HL learners to compare and contrast the development of linguistic profiles upon language instruction.
Polish Heritage Speaker Interpretations of Overt Pronouns
Ewelina Barski, The College at Brockport SUNY

Studies looking at the language of heritage speakers are interested in the stability of language prior to the critical period and how grammar develops under reduced input conditions (Benmamoun et al. 2010). In this study the aim is to investigate the impact of reduced input on a component within the Null-Subject Parameter - the Overt Pronoun Constraint (OPC) (Montalbetti 1984) - by focusing on the mental representation of the OPC in Polish heritage speakers. The goal in this study is to probe into the interpretations that bilingual heritage speakers assign to overt pronouns in the subordinate clause with quantified and wh-word antecedents. The OPC restricts the possible antecedents that an overt pronoun can have. Specifically, it states the restrictions on this pronoun when it has a quantified expression (someone, no one) or a wh-word (who, which) as its antecedent.

Following Montalbetti (1984), I assume that all quantifiers will be treated equally. Moreover, following a generative framework, it is assumed that that the Null Subject Parameter is set early in the grammars of these null-subject heritage languages (Chomsky, 1981; Jaeggli, 1982; Rizzi, 1982), and thus Polish heritage speakers will demonstrate understanding of these interpretative restrictions.

20 Polish monolingual and 20 heritage speakers participated in the experiment. Participants were asked to complete a sentence selection task (SST) and a picture matching task (PMT). Both tasks tested the interpretation of the implicit knowledge of the OPC with quantified antecedents.

Results for the PMT show that heritage speakers did not differentiate between bound and unbound readings with the presence of an overt pronoun in the subordinate clause and a quantified antecedent. Similar results are found with the SST: with quantified antecedents heritage participants did not differentiate between null and overt pronouns. When comparing heritage speakers to monolinguals, there is no significant difference between the null and overt choices with quantified antecedents but there is a significant difference between the null and overt subject choice with wh-word antecedents. This suggests that heritage speakers have difficulty with the interpretation of the overt pronoun in the subordinate clause.

References:

The central question in the field of heritage language (HL) bilingualism is the role of input that children receive in their HL especially if they were born after the family had already immigrated to the U.S. Input is defined as linguistic material offered to the child by her environment (Hart & Risley 1995). Reduced quantity and restructuring of the HL language of parents have been hypothesized as the main cause of deficits resulting in incomplete HL acquisition by children (Grüter & Paradis 2015; Montrul 2015). Assessing input to a child whether monolingual or bilingual is usually done through 30-min to 1-hour recordings over a short period of several weeks in a laboratory setting as the parent interacts with the child. This method offers a restricted view of the input as it does not allow us to capture the dynamic nature of language environment. Recently Language Environment Analysis (LENATM) system has revolutionized the field of language acquisition by recording dense input from adults to the child across multiple hours days and even years by sampling broadly across the contexts and within and outside the home (Marchman et al. 2016). The child who wears a LENA digital recording device is recorded unobtrusively throughout the day for up to 16 hours and the software automatically segments audio stream into meaningful speech units; in particular it measures input in the form of adult word count (AWC). Although LENA was designed with English in mind its recent evaluations for monolingual children in Spanish (Weislerder & Fernald 2013) Chinese (Gikerson et al. 2015) and French (Canault et al. 2016) have found strong positive correlations between the LENA and human coders for AWC (e.g. r = 0.8 0.72. and 0.64 respectively). In this study we present the results of the first 6 months of a 1-year longitudinal study of a bilingual HL Russian-English-speaking 2-year-old child Uliyana. We have been recording Uliyana for one full day once a week for 50 weeks until she turns 3 (May 2017). The research question is How does the amount or quantity of exposure the bilingual HL Russian-English child receives in her two languages impact her development in those languages? The recordings span different contexts (parents other adults nursery teachers) take place at home as well as at the nursery during shopping and at the playground. The sheer amount of data precludes us from manual coding and requires us to rely on the AWC produced automatically by the LENA algorithms. However we face a serious challenge: the speech in our recordings is in two languages (i.e. Russian and English) and there is no LENA evaluation for Russian. Thus to (1) assess whether the input in the HL Russian is reduced and (2) describe its restructuring if any we need to first evaluate accuracy of LENAâ€™s AWC for Russian and bilingual (Oller 2010) input.

Results. For our initial evaluation of accuracy of the LENA system for AWC we compared an early 1-hour recording (June; child's age: 2;0) with a later 1-hour recording (October child's age: 2;4) chosen as two representative samples by the LENA algorithm. We split each recording into 12 5-min sections and compared the AWC produced by the LENA automatic algorithms with manual transcription by a trained linguist. Fig. 1 shows that LENA has provided significantly lower estimates for AWC than the human coder for both recordings (earlier: t(11) = -2.65 p = 0.022; later: t(11) = 2.80 p = 0.017). Correlational analyses also revealed inconsistencies between the two recordings: for the earlier one the correlation between LENA AWC and human count was strong (r = 0.95 p < .001) whereas for the later one there was none (r = 0.35 p = 0.27). We hypothesize that the main reason why the LENA algorithms do not estimate correctly AWC in Russian has to do with its reliance on short bisyllabic sequences of CVCV characteristic of English (Fig. 5) but not of Russian (Fig. 4). As far as the inconsistencies are concerned we argue that they are due to noise.
that affects recordings in natural circumstances. If the signal variation is \( \pm 2 \) or more dB its maximum variance can reach 18% (LENA technical report Ford et al. 2008). These results caution against the reliance on the LENA automatic algorithms as a primary tool for quantitative assessment of input in HL Russian. They suggest that additional controls (i.e. thresholds for signal variance) should be implemented in the LENA software for randomized choice of representative recordings that are used for estimates of the amount of input.

**Comprehension of Passive Clauses by L2 Learners and Heritage Speakers of Spanish**

*Noelia Sanchez-Walker, University of Illinois Urbana-Champaign*

This ongoing study investigates aural and reading comprehension of Spanish passive clauses in second language (L2) learners and heritage speakers of Spanish. Passivization of an active sentence leaves the logical relation between the elements of the sentence intact but shifts the focus to the patient of the action by reorganizing the thematic roles and grammatical relations.

The focus of this study is the passive clause with auxiliary verbs ser and estar:

1. \( \text{La casa estaba edificada.} \)  
   Adjectival/ Stative Passive  
   The house was (estar.IMPERFECT) built.
   The house was built

2. \( \text{La casa era edificada (por la Compañía).} \)  
   Verbal/Eventive Passive  
   The house was (ser.IMPERFECT) built (by the Company).
   The house was being built (by the Company)

These two types of passive clauses bring the action to the fore by removing the agent as in (1) or by removing or displacing it to form a truncated or short passive as in (2). Stative passives do not carry an implicit agent. They cannot have a displaced agent because that will render them ungrammatical see (3).

1. \( \text{*La casa estaba edificada por la Compañía.} \)
   The house was (estar.IMPERFECT) built by the company.
   The house was built by the compañía

The difference between ser and estar is aspectual (Bruhn De Garavito & Valenzuela 2008): estar has a perfective interpretation whereas ser has both imperfective or perfective interpretations. When both copulas are in the imperfect tense the two types of passives differ on the time when the action is taking place. When a stative passive is expressed with estar in the imperfect tense as in (1) the sentence refers to a finished action. When the eventive passive is expressed with ser in the imperfect tense as in (2) the sentence represents an ongoing action. Bruhn de Garavito and Valenzuela point out that to understand these two passives L2 learners have to access the semantic interpretation of the copulas. They need to know that ser is not characterized by imperfectivity or perfectivity because its aspect depends on the tense in which it is used; and that estar unlike ser is characterized by perfectivity. Comprehension of these clauses depends not only on knowing the tenses of the copulas but also on knowing the change in meaning in the passive clause according to the copula used which is why it is considered a structure that involves a syntax/semantics interface. It has been suggested that structures involving interfaces are harder to acquire than structures that do not involve interface (Sorace 2011). Focusing on the comprehension of these structures will therefore tell us more about how interfaces are affected in L2 and heritage language acquisition. Results from an Aural and Written Picture Matching task and Grammaticality Judgment Task will be discussed.
Vowel-zero alternation in Heritage Polish
Paulina Lyskawa, University of Maryland

Vowel-zero alternation in Slavic or jers is a classic phonological problem that remains unsolved. Despite the popular assumption that alternations are cognitively difficult for a learner languages exhibit such patterns in many domains. I explore behavior of Polish heritage speakers with respect to the vowel-zero alternation. This novel empirical data may help us understand whether a speaker with a limited input can nevertheless learn the apparent complex pattern in a native-like fashion. I will present results of a pilot study which show that Polish heritage speakers do not adhere to the native-like pattern. They develop a unique pattern namely overextend the vowel-zero alternation. I will discuss how this particular shape may help us inform about the theoretical analysis of the jers.

Differential Object Marking in Romanian as a Heritage Language in the United States
Silvina Montrul, University of Illinois at Urbana Champaign, and Nicoletta Bateman, CSU San Marcos

Object Marking (DOM) is overt morphological marking of direct objects that are prominent and salient on semantic/pragmatic scales (Aissen 2003). Usually animate definite and/or specific objects are overtly marked with a clitic preposition postposition or agreement depending on the language. Many languages mark DOM (Spanish Romanian Hindi Turkish Farsi Hebrew); others don’t (English French German Japanese). Interestingly DOM is apparently acquired easily and mastered early (before age 3:00) by monolinguals (Rodríguez-Mondñoñedo 2008; Avram & Ticio 2015) is subject to incomplete acquisition in bilingualism and 2LA and to L1 attrition. Studies of Spanish and Hindi as heritage languages have shown that DOM is vulnerable to erosion in heritage speakers whose dominant language is non-DOM. Montrul Bhatt & Girju (2015) showed that heritage speakers of Romanian accepted ungrammatical DOM omissions in a bimodal acceptability judgment task. This study investigates whether DOM is omitted in oral production by Romanian heritage speakers and adult Romanian immigrants to the United States. Romanian DOM is marked with the preposition pe and is regulated by animacy definiteness specificity and topicality (Farkas 1978 Dobrovie-Sorin 1994 among others). Pe-marking mostly combined with clitic doubling only applies to human direct objects when definite specific or topicalised. Pe-marked definite direct objects without clitic doubling are marked in present day Romanian (Von Heusinger & Onea 2008). Based on previous studies showing DOM vulnerability in heritage speakers exposed to non-DOM languages we hypothesized that Romanian DOM is vulnerable to erosion in heritage speakers in the USA. Regarding age effects in language attrition (Montrul 2008) we asked whether age of onset of bilingualism affects degree of DOM omission in heritage speakers. We hypothesized that simultaneous bilinguals will show more error rates than sequential bilinguals and than Romanian immigrants with age of exposure to English in adulthood. Participants: two groups of native speakers tested in Bucharest Romania: older
speakers (N = 21 mean age 40.4); younger speakers (N = 31 mean age 22.7); a group of 35 Romanian immigrants (mean age 39) who arrived to the USA after age 18 (LoR 4-20 years); a group of 27 heritage speakers of Romanian (mean age 22.4) (N =12 sequential bilinguals (AoA 7-14 years) and N =19 simultaneous bilinguals (half immigrated before age 5 half born in the USA). They completed a language background questionnaire a written proficiency test an oral narrative task and a picture description task. The oral tasks were audiorecorded transcribed coded and analyzed for correct and incorrect uses of DOM and clitics. Results showed that DOM is vulnerable to erosion in heritage speakers of Romanian in the USA as was found with Hindi (Montrul, Bhatt and Bhatia 2012) and Spanish heritage speakers (Montrul & Sánchez-Walker 2013). Age of onset of bilingualism affects the degree of DOM omission: simultaneous bilinguals are more affected than sequential bilinguals. However unlike Spanish-speaking immigrants (Montrul & Sánchez-Walker 2013) the adult Romanian immigrants did not show attrition (Montrul 2008).

**Lexical access of Spanish-speaking families in the US: An exploratory study.**

*Adrian Bello-Uriarte, University of Illinois at Urbana Champaign*

The present exploratory study investigates L1 incomplete acquisition of lexical elements of second generation Spanish-English early sequential bilinguals (Montrul, 2008:18) compared to their first generation Spanish-English late bilingual counterparts. The first generation is comprised by immigrant mothers who came from Mexico to the United States more than 20 years ago and are late bilinguals. The second generation is comprised by the oldest first daughter of each mother with mean age of 20. Lexical diversity (LD) (McCarthy & Jarvis, 2010) and lexical sophistication (Laufer & Nation, 1995) measures were used to analyze informal speech and to compare lexical production of these speakers (Schmid, 2011; Schmid & Jarvis, 2014). In general, the mothers exhibited a significantly larger LD in their Spanish than their daughters. This finding suggests that late bilinguals have a larger repertoire of lexical elements than bilinguals for whom Spanish is their weaker language. Additionally, mothers and daughters did not show any significant difference regarding the amount of low-frequency words, although the mothers produced more total low-frequency words than their daughters. This study adds to previous studies (e.g. Fairclough, 2015) and provides information about how L1 language disuse along with majority language use may provoke differences in lexical access across generations.

**The acquisition of Mandarin by heritage speakers and second language learners**

*Chung-yu Chen, University of Illinois at Urbana-Champaign*

Previous studies have shown that heritage speakers (HSs) have an advantage over second language learners (L2ers) in phonology and core aspects of syntax (e.g., grammar that develops before age three), but resemble L2ers in lexicon, syntax-discourse, semantics and morphology (see Montrul 2012). However, very little is known about heritage Mandarin (compared to e.g., heritage Spanish, Montrul 2002, 2012). This proposed dissertation examines whether proficiency-matched Mandarin HSs have selective advantage over L2ers in different linguistic domains. I plan to examine the acquisition of tone (sandhi), aspect marking, relative clauses (RCs), and long-distance (LD) reflexives by Mandarin HSs and L2ers. These phenomena/structures are chosen because each represents a subdomain in linguistics, i.e., phonology, morphology, syntax, and syntax-discourse interface. The participants are Mandarin
HSs who grew up in the U.S. and native English speakers who learned L2-Mandarin as adults. The two groups will be matched in age and proficiency.

Mandarin is a tonal language with four lexical tones. While previous studies documented the early acquisition of tones (tone errors are rare beyond age two), tone sandhi is not acquired until age three (Huang 2006). The third tone sandhi is that a third tone (i.e., low-rising tone) followed by another third tone becomes a second tone (i.e., high-rising tone), e.g., the Mandarin greeting ‘Nǐ hǎo’, meaning ‘you good’, is actually pronounced as ‘Nǐ hǎo’ in natural speech. Existing studies have not reported the acquisition of tone sandhi by HSs and L2ers in a comparative manner.

Unlike English, Mandarin only has aspect (like progressive -ing), but not tense morphology (like past tense -ed). Aspect markers could not be freely combined with different lexical aspect. For example, the progressive marker zai– marks unbounded events in progress and is incompatible with achievement verbs and Resultative verb compounds (RVCs; e.g., eat-full), e.g., ‘I am falling’ is ungrammatical in Mandarin (but grammatical in English). While Chinese children start using aspect markers at age three and fully master the usage by age five (e.g., Li & Bowerman 1998), HSs and L2ers often failed to reject zai– with achievements and RVCs, possibly due to difficulty with imperfective (as compared to perfective) or English transfer of progressive –ing (e.g., Jin & Hendriks 2005). Previous studies with HSs have not fully investigated the acquisition of aspect markers.

The next target structure is RCs, in the domain of syntax. Unlike head-initial English RCs, (e.g., ‘the dog [that chased the cat]’), Mandarin RCs are head-final (e.g., ‘[chase cat de] dog’) (‘de’ is the RC marker). There is a general lack of comparison between HSs and L2ers on Mandarin RCs. This experiment will also contribute to the debate on whether Mandarin has a unique object-relative advantage or a universal subject-relative advantage. Inconsistent results from previous L1- and L2-Mandarin studies are possibly due to the rare syntactic properties of Mandarin (SVO order with head-final RCs) and surface similarities between ORCs ([SV de]O) and main SVO sentences.

The last target structure is Mandarin LD reflexives at the syntax-discourse interface. Unlike English, Mandarin has two types of reflexives, taziji (himself/herself) and ziji (self). In ‘John thinks Peter likes himself’, while himself and taziji both require local antecedents (Peter), ziji allows both local and LD antecedents (John). Previous studies have shown that children under age eight predominantly chose local antecedents for ziji (Chien & Lust 2006). My previous study (Chen 2016) shows similar pattern with HSs and L2ers, possibly due to English dominant language transfer, the ease of processing local antecedents, or difficulty with the syntax-discourse interface.

A tone discrimination task will be used, with additional elicited production task to elicit tone sandhi. A Grammaticality Judgement Task (GJT) is used to test the grammaticality of aspect marking; a Truth Value Judgement Task (TVJT) with pictures will be used to test RCs and binding. To minimize the literacy issue, the tasks will be accompanied with Romanization (Pinyin).

What kind of knowledge does explicit instruction lead to? Using different outcomes measure to test heritage language knowledge

Sara Fernandez Cuenca, University of Illinois at Urbana-Champaign
The question of explicit and implicit knowledge has proven to be a crucial matter in second language acquisition (SLA) (Ellis 2005; Bowles; 2011; DeKeyser 2003; Hulstijn 2005; Paradis 2004; Ullman 2001). Whereas native speakers usually make use of implicit knowledge when engaged in language comprehension and production L2 learners very often rely on explicit knowledge particularly in the early stages of second language learning. One particular understudied question surrounds the role of language instruction in developing explicit vs. implicit knowledge. So far only a few studies using online and offline methods have investigated the impact of various types of instruction on the development of explicit and implicit L2 knowledge (Sonbull and Schmitt 2012; Loewen and Erlam 2006; White and Ranta 2006; Li 2010 Morgan-Short et al. 2012). These studies only tested learning gains made by L2 learners; nevertheless there is still a need to investigate the effects of instruction on a more recent growing student population: heritage speakers (Montrul and Bowles 2008 2010; Potowski et al. 2009). The study proposed here aims to contribute to the above-mentioned literature by investigating the overall learning gains as well as learning of explicit and implicit knowledge made by heritage learners (HLs) who were exposed to explicit or implicit instruction on the Spanish past subjunctive. A group of HLs completed a pre - post- and delayed posttest that consisted of an untimed acceptability judgment task (AJT) intended to tap explicit knowledge and an elicited imitation task (EIT) intended to tap implicit knowledge (Ellis 2005; Bowles 2011; Yan et al. 2005). Between sessions 1 and 2 participants received either explicit or implicit instruction which consisted of a processing instruction (PI) treatment on the past subjunctive in existential clauses in the explicit instruction group and input flood (using the same materials from the PI treatment) in the implicit instruction group. Preliminary results based on accuracy data suggest that explicit and implicit instruction do not lead to similar gains. Only HL participants in the explicit group improved over time whereas participants in the implicit group did not show substantial gains when compared to the control group. These findings are consistent with previous research suggesting that explicit instruction is necessary for the acquisition of the Spanish subjunctive (Potowski et al 2009). Furthermore preliminary results suggest that explicit instruction led not only to explicit knowledge (as shown by gains on the untimed AJT) but also to implicit knowledge (as shown by gains on the elicited imitation task).