Welcome to

Ling 307
Language Acquisition
• Child / First language acquisition

• 18 months - 3/4 years old

• Acquisition happens in a predictable manner
  • womb - few first months: prosody & phonology + turn taking
  • 1 year: one-word utterances
  • 2 years: two-word utterances + exponential growth in vocabulary
  • 3 years: Syntactic & morphological development
  • 5-6 years: Syntax & pragmatics are more developing
  • At 4 syntax is acquired, at 5 or 6 most other basics of language are acquired.

• Later ages: variability & choice (complex linguistic phenomena)
• Bilingual acquisition/ multilingual acquisition:

• The process of learning two or more languages relatively simultaneously during early childhood – that is, before the age of four.

• Bi/multilingualism:

  • how the two (or more) languages are represented in the brain?

  • how bilingual speakers switch and alternate between their two (or more) languages, depending on a range of communicative needs and desires.
• **SLA**: investigates the human capacity to learn languages once the first language – in the case of monolingual children – or the first languages – in the case of bilingual or multilingual children – have been learned and are established.

• **SLA vs. Bilingualism:**

  1. SLA often favours the study of late-starting acquirers, whereas bilingualism favours the study of people who had a very early start with their languages.

  2. Bilingualism researchers tend to focus on the products of bilingualism as deployed in already mature bilingual capabilities of children or adults, whereas SLA researchers tend to focus on the pathways towards becoming competent in more languages than one.

  3. Bilingual research typically maintains a focus on all the languages of an individual, whereas SLA traditionally orients strongly towards the second language, to the point that the first language may be abstracted out of the research picture.
• mother tongue = first language = L1
• additional language = second language = L2
• Simultaneous acquisition (bilingualism); sequentially (second language acquisition)
• SLA as a field is interested in understanding the acquisition of second languages in both naturalistic and instructed contexts.

• **Naturalistic learners? Instructed learners? A mixture.**

• Contextual distinctions: second vs. foreign vs. heritage language learning contexts.
The Case of Multilingualism
• **69** languages in Kenya (Kiswahil & English)

• **Philippines:** children learn one language before learning English & Tagalog at school (Galang, 1988)

• **Grosjean** estimated that half of the world’s children grow up in multilingual environments (Grosjean, 1982).
Factors affecting language acquisition:

1. Age
   - Simultaneous
   - Sequential

2. Type & Amount of Input

3. The Situation
   - Balanced Bilinguals
One System or Two?
• Are the bilingual child’s two languages learnt via two distinct and separate systems or is there a single representation incorporating both languages?

• **Unitary Language Hypothesis** (Volterra and Taeschner (1978): (English-German) (Italian-German)

1. **Stage one of development**: Children had only **one language system**, which included words from both languages. Children had very few translation **equivalent word**; When they did have similar words, they tended to use them for different meanings.
   
   • Lisa (1;10): there: lá (couldn’t see) - da (visible)

2. **Stage two**: Children became capable of distinguishing between the words of the two languages (i.e. they had **two lexical systems**). they still seemed to apply the same syntactic rules to both languages (**one syntax system**)
   
   • Lisa: Giulia Buch - Giulia giamma (Giulia's book/pyjamas)

3. **Stage three**: Children started to use **two separate lexicons and two separate systems of grammar**.
Language Mixing: an evidence for the Unitary Language Hypothesis?
• Mama ich will prendere ja? (‘Mummy, I want to take, yes?’) is a mixture of German and Italian

• Typical for Bilingual development

• The amount of language mixing reduced as the children aged, which is consistent with a developmental progression from an initial unitary system to two separate systems.

Table 7.1
Types of language mixing described in Genesee (1989)

<table>
<thead>
<tr>
<th>Type of language mixing</th>
<th>Example</th>
<th>Explanation of mixing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical/phrasal mixing</td>
<td><em>Putzen Zähne con jabón</em> ‘Brushing teeth with soap’</td>
<td>The first two words are German and last two are Spanish.</td>
</tr>
<tr>
<td>Phonological mixing</td>
<td><em>Kats</em> <em>cat</em></td>
<td>A mixture of Swedish <em>katt</em> (cat) mixed with Estonian <em>kass</em> (cat)</td>
</tr>
<tr>
<td>Morphological mixing</td>
<td><em>pfeifing</em> ‘whistling’</td>
<td>German word combined with the English progressive ending (-ing)</td>
</tr>
<tr>
<td>Syntactic mixing</td>
<td><em>A house pink</em></td>
<td>English phrase with French word order</td>
</tr>
<tr>
<td>Pragmatic mixing</td>
<td><em>Laisse les barrettes, touche pas les barrettes, Papa. Me’s gonna put it back in the bag so no one’s gonna took it.</em></td>
<td>Child switches from French to English to elicit parental attention and emphasize that her father must not take away the hair slides.</td>
</tr>
</tbody>
</table>
• **Is bilingualism disadvantageous?**

  • “It is one thing to notice that children appear to use languages interchangeably in the early stages, but it is another to argue that this behavior indicates a lack of differentiation in children’s minds” (Bialystok, 2001, p. 108).

• Against the Unitary Language Hypothesis:

  1. Children had limited words and needed to borrow! (the gap-filling hypothesis; see Deuchar & Quay, 2000)

  2. Mixing happens in adult acquisition!

  3. Children mix languages because they hear adults mix languages.
Two language systems: implications for bilingual development
If we accept that children can separate language from an early age, then **How much do the two language systems interact with each other?** Two possible explanations:

1. **Autonomous systems theory** (also called the differentiation hypothesis by Meisel, 2001, or the separate development hypothesis by De Houwer, 1990)

   - The two languages **develop in near-complete isolation**, with one having very little influence on the other, so the children learn the phonology, lexicon and grammar of each language independently.

2. **Interdependent systems theory**

   - The child’s two language systems **interact**, so that developments in one affect subsequent developments in the other (i.e. there is *cross-linguistic influence* or *transfer*).

   - e.g. *bilingual bootstrapping* where the acquisition of a syntactic rule in language A makes it easier for the child to acquire that rule in language B; Other possibilities are that the *rules from the dominant language will be used instead of those from the weaker language for a time.*
Learning the grammar of two languages: separate or interdependent?
• **Study:** Paradis and Genesee (1996) — *Supports the Autonomous Development View*

• **Subjects:** English and French bilingual children aged between two and three years of age.

• They tested whether French–English bilinguals develop the correct use of inflection in English earlier than monolinguals as a result of cross-linguistic influence of their knowledge of the French inflectional system.

• **Findings:**

  1. At each of the three stages of development, the children used more inflected verbs in French than in English. In other words, the children's ability to produce inflected verbs in French did not help them learn inflected verbs in English any earlier.

  2. The children used negatives differently in their two languages; there was no evidence that they placed negators after the verb in English as well as in French.

  3. There was no evidence of transfer in the children's use of pronouns. Pronouns like *il* and *elle* occurred only with inflected verbs in the children's French utterances but the English equivalent (*he/she*) occurred with both inflected and non-inflected verbs in their English utterances.

• **Conclusion:** there was no evidence for cross-linguistic influence. Instead, “the acquisition of finiteness, negation and pronominal subjects in these bilingual children follows the same patterns as those of monolinguals” (Paradis & Genesee, 1996, p. 19).
• Supporting Cross-Linguistic Influence: (interdependent systems theory)

• **Study:** (Hulk & Müller, 2000; Müller & Hulk, 2001).

• They suggested that cross-linguistic influence is most likely to occur under two conditions:

  1. Cross-linguistic influence will occur in the parts of language which are also difficult for monolingual children (so-called *vulnerable areas* of grammar).

  2. Cross-linguistic influence is most likely to occur in parts of the grammar where the structures of the two languages partially overlap.
The other condition that would make cross-linguistic influence “probable” (Hulk & Müller, 2000, p. 2) ... would be partial structural overlap between the two languages with respect to the structure of interest. If the child’s grammatical analysis of a structure X in language A is potentially ambiguous and lends itself to analysis 1 and analysis 2, and the same structure X can only match analysis 1 in language B, then the prediction is that there will be unidirectional influence from language B to language A. The overlapping analysis 1 will be selected by bilingual children more often than by monolinguals.

Serratrice (2013, p. 7)
• An alternative way to study cross-linguistic influence is to study very different languages that have very different grammatical rules.

• **Study:** Yip & Matthews (2000, 2007)

• They studied the speech produced by bilingual Cantonese–English children (age 2)

• **Reported:** there was “strong evidence for interaction between the two developing grammatical systems”

• e.g. (This on the what? You go to the what?)

• The rate at which Timmy produced these errors was much higher than the rate at which monolingual children produce them (67 per cent vs. 1.6 per cent; Yip & Matthews, 2000).
Learning the sounds of two languages: separate or interdependent?
• (Mehler, Dubpoux, Nazi, & Dehaene-Lamertz, 1996)

• “because multilingual environments are the norm rather than the exception, infants must have the capacity very early in life to distinguish one language from another. Without such a capacity, infants might acquire linguistic systems that amalgamate properties of different languages. The ensuing confusion would be overpowering” (Mehler et al., 1996, p. 101).”
Bilingual children, however, will often hear two languages in the womb. Do they recognize both languages and, perhaps more importantly, can they distinguish between these two languages?

**Study:** Byers-Heinlein, Burns & Werker (2010) tested this with the newborn infants of bilingual English–Tagalog mothers.

**Method:** When the infants were between 0 and 5 days old, a high-amplitude sucking procedure was used to test whether they could discriminate between the two languages. In this method, sentences are played to infants whenever they suck harder on a pacifier (dummy) than normal. The researchers found:

- **(study 1)** Monolingual English children much preferred to listen to English language; they sucked harder on the pacifier when this produced a string of English speech than when it resulted in a string of Tagalog speech. However, the bilingual English–Tagalog children showed no preference; they sucked equally hard in response to both stimuli, which indicated that both languages were equally familiar to them.

- **(study 2):** the researchers also demonstrated that the newborns could discriminate between their two languages. They played one language continuously to the bilingual infants until the rate of sucking declined. Then they played the other language to the infants. In response, the infants’ rate of sucking increased, indicating that they had perceived the change in the language. In other words, despite being familiar with both languages (study 1), the infants were still able to discriminate between them (study 2).
Predicators of Successful Bilingualism
• **Study:** Oller and Eilers (2002) have reported that children who are educated in English but who speak another language at home tend to enter school with English skills well below those of monolingual children.

• Bilingualism is considered a risk factor for poor academic achievement in the US, although this is largely due to the fact that many bilingual children in the US come from disadvantaged backgrounds (Office of National Statistics, 2002).
Why are there individual differences in how well bilingual learners acquire language?

Three factors:

1. Age of Acquisition
2. Amount and Type of input
3. Attitudes to Bilingualism
• **Age of Acquisition:**

• **Our Focus:** The effect of age of acquisition on children who start to learn their second language early on in life, albeit not from birth.
• **View 1:** Children who are exposed to two languages in childhood can achieve native-like competence in both languages, even if they have not been exposed to both from birth.

• **Evidence 1:** Brain imaging studies seem to demonstrate that the brains of early learners and learners who are bilingual from birth show similar patterns of activation in syntactic tasks, but that the brains of late learners demonstrate different patterns of activation (Dehaene et al., 1997; Pallier et al., 2003).

• **Evidence 2** (a survey of the literature): Ortega concludes from the literature that “by and large, learners who begin acquiring the L2 [second language] before a certain age, which these studies locate to be around puberty, will tend to exhibit intuitions that are very close to those of native speakers of that language” (Ortega, 2009, p. 19).

• **Challenging:** Newborns are sensitive to many speech sound patterns, but lose the ability to distinguish sound patterns that do not occur in their native language very early in life (Werker & Tees, 1984).
• **Study:** Spanish–Catalan bilingual speakers who had learnt Catalan before the age of four years were significantly better at distinguishing between the two sounds (galleda & galleda) than those who had learnt Catalan after age four, despite the fact that all were fluent Catalan speakers.
• **Case:** International Adoptees

• **Who?** They are children adopted by a family who live in a different country and speak a different language.

• **What?** De Geer (1992) suggests that they are learning a second first language.

• **Study:** Glennen and Masters (2002) reported that Chinese children who are adopted into English families before the age of 12 months develop English in the same way as monolingual English children exposed to English from birth... The researchers concluded that early delays may disappear after sufficient exposure, especially if the children are exposed to language-rich environments (Roberts, Krakow & Pollock, 2003)
• **Effect of the Input:**

  Bilingual children must hear much less of each language than monolingual children, because the speech that they hear is distributed across two languages, yet they seem to reach the major language milestones at about the same age as monolingual children.

• **Supporting Study:** Bilingual children produce their first word, their first two-word combination and achieve a 50-word vocabulary at about the same age as monolingual children, even when one of their languages is a sign language (Petitto et al., 2001; Petitto & Kovelman, 2003).
• The rate at which bilingual children learn vocabulary in each of their languages is influenced by the language that they hear, particularly the language that they hear in the home

• **Study** (Pearson, Fernández, Lewedeg & Oller, 1997):

• **Tool & Age:** the researchers used the MacArthur- Bates Communicative Development Inventory (CDI) to collect information on the vocabulary development of 25 bilingual English–Spanish children aged between eight and 30 months of age.

• **Reported:** The proportion of time spent in a Spanish-speaking environment (as opposed to an English one) was positively correlated with the proportion of the children’s vocabulary that was Spanish (as opposed to English).

• **Conclusion:** “the number of words learnt in each language is, to a large extent, proportional to the amount of time spent with speakers of the language” (Pearson et al., 1997, p. 51).
• Effect of Type of Input

• Hoff and Place (2012) found that the rate of vocabulary development (though not grammar development) was predicted by the number of different speakers the child heard and the percentage of the input that was provided by native speakers.

• Children learn a language more successfully when they hear that language spoken by native speakers (DeHouwer, 2007).

• Hoff et al. (2011) found that bilingual children were slower at developing English than monolingual children. However, they also found that the bilingual children were identical to the monolingual children when they considered both languages together.
Effect of Attitude, Beliefs & Behaviors:

De Houwer suggested that the decisions that bilingual parents make are critical in their children’s language development and that these decisions relied on the parents’ *impact belief*, the belief that they as a parent can have an impact on their children’s language development.

1899 families — a quarter spoke both languages
Effect of Bilingualism on Cognitive Development
Bilingual and monolingual speakers may develop different patterns of cognitive skills due to the different language environments they experience.

**Control of Attention:**

- Bilingual speakers activate both language systems even when they are only conversing in one language (Brysbaert, 1998; Francis, 1999; Gollan & Kroll, 2001; Smith, 1997).

**Central executive**
• **Study:** Martin-Rhee and Bialystok (2008) tested bilingual and monolingual four- and five-year-old children on the Simon task (Simon, 1969).

• **Finding:** Martin-Rhee and Bialystok found that bilinguals responded faster than monolinguals because they were quicker at resolving the conflict between the two possible responses.

• **Conclusion:** Bilinguals are better at selectively attending to conflicting cues because “they must constantly control attention between two active and competing language systems” (Martin-Rhee & Bialystok, 2008, p. 91).
• **Metalinguistic Awareness:**

• Metalinguistic awareness refers to *the ability to reflect on and think about the nature of language and its functions.*

• **Controversy:** the evidence for enhanced metalinguistic awareness in bilingual children is mixed because *most studies report advanced capacities in some tasks but not others* (Ben-Zeev, 1977; Bialystok, 1986a, 1986b; Galambos & Goldin-Meadow, 1990).
• **Study:** work on phonological awareness (*awareness of the sound system of a language*) has produced contradictory results. Bruck and Genesee (1995) reported that bilingual children showed better performance on an onset-rime segmentation task at age five years (separating words into the onset and rime; *swift* into *sw* and *ift*) although the advantage disappeared a year later. However, monolingual five-year-olds were better than bilinguals on a phoneme-counting task (e.g. identifying that the word *run* has three phonemes).
• **Study:** Bialystok, Majumder & Martin (2003) found that Spanish–English, but not Chinese–English bilinguals, were better at a phoneme segmentation task. However, they also reported no difference between groups on a phoneme substitution task.

• **The Bottomline:** Mixed results suggest that the pattern of performance may not be straightforward. It is probably the case that other factors are equally influential in these tasks; factors such as the child’s age, her ability in her two languages, the task she is performing and even perhaps the nature of the two languages she is learning.
• Language Proficiency and Fluency:

• There seems to be evidence that **bilinguals are disadvantaged compared to monolinguals in some tasks**. In particular, studies have shown that **bilinguals may have more difficulty accessing words from memory**.

• **Study**: bilinguals tend to be slower at rapid picture naming tasks and tend to experience more ‘tip of the tongue’ phenomena, which happen when a speaker just cannot bring the right word to mind (Gollan & Kroll, 2001; Gollan & Silverberg, 2001).

• **Semantic tasks vs. Lexical tasks vs. Proper name tasks**

• Resisting competition!
The Role of the Native Language in SLA
(Chapter 4, Gass & Salinker)
“individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native language and culture to the foreign language and culture—both productively when attempting to speak the language and to act in the culture, and receptively when attempting to grasp and understand the language and the culture as practiced by natives.”

R. Lado, Linguistics Across Cultures (1957), p.2
Behaviourism

Linguistic background

Bloomfield's book: "Language", 1933: Language in behaviourism

Language is speech. Why?

(a) children without cognitive impairment learn to speak before they learn to write

(b) many societies have no written language, although all societies have oral language

peaking consists of mimicking and analogising

We establish a set of habits
Bloomfield divides a situation into three parts:

1. Practical events before the act of speech (e.g., hungry feeling, sight of apple).
2. Speech event (making sound with larynx, tongue, and lips).
3. Hearer’s response (Jack’s leaping over the fence, fetching the apple, placing it in Jill’s hand).

speech is the practical reaction (response) to some stimulus.

Suppose that Jack and Jill are walking down a lane. Jill is hungry. She sees an apple in a tree. She makes a sound with her larynx, tongue and lips. Jack vaults the fence, climbs the tree, takes the apple, brings it to Jill and places it in her hand. Jill eats the apple.

(Bloomfield, 1933, pp. 22–23)
Bloomfieldian description of how language acquisition takes place.

1. da da —> imperfect repetition —> habit (babbling)

2. a pairing of this stimulus with the response of a native speaker.

3. Having the use of a word

4. The absence of the stimulus somehow creates another stimulus which generates the same response. (asking, wanting)

5. Bloomfield posits that correct performance yields better results
The learning of task A will affect the subsequent learning of task B.

Sleight (1911)

Non-significant
(4-1) Mangia bene il bambino?
    eats well the baby
   “Does the baby eat well?”

(4-2) Eats well the baby?
Learning in Behaviourism

“Learning is a cumulative process. The more knowledge and skills an individual acquires, the more likely it becomes that his new learning will be shaped by his past experiences and activities. An adult rarely, if ever, learns anything completely new; however unfamiliar the task that confronts him, the information and habits he has built up in the past will be his point of departure. Thus transfer of training from old to new situations is part and parcel of most, if not all, learning. In this sense the study of transfer is coextensive with the investigation of learning.”

(Postman, 1971, p. 1019)
Before any of the questions of how to teach a foreign language must come the much more important preliminary work of finding the special problems arising out of any effort to develop a new set of language habits against a background of different native language habits . . .

Learning a second language, therefore, constitutes a very different task from learning the first language. The basic problems arise not out of any essential difficulty in the features of the new language themselves but primarily out of the special “set” created by the first language habits.

(Fries, 1957)
Contrastive analysis is a way of comparing languages in order to determine potential errors for the ultimate purpose of isolating what needs to be learned and what does not need to be learned in a second-language-learning situation.

**How?** one does a structure-by-structure comparison of the sound system, morphological system, syntactic system, and even the cultural system of two languages for the purpose of discovering similarities and differences.

**Goal:** The ultimate goal is to predict areas that will be either easy or difficult for learners.
Since even languages as closely related as German and English differ significantly in the form, meaning, and distribution of their grammatical structures, and since the learner tends to transfer the habits of his native language structure to the foreign language, we have here the major source of difficulty or ease in learning the structure of a foreign language. Those structures that are similar will be easy to learn because they will be transferred and may function satisfactorily in the foreign language. Those structures that are different will be difficult because when transferred they will not function satisfactorily in the foreign language and will therefore have to be changed.

(Lado, 1957, p. 59)
The pedagogical materials that resulted from contrastive analyses were based on a number of assumptions:

Language is habit and that language learning involves the establishment of a new set of habits.

The major source of error in the production and/or reception of a second language is the native language.

One can account for errors by considering differences between the L1 and the L2. The greater the differences, the more errors will occur.

What one has to do in learning a second language is learn the differences. Similarities can be safely ignored as no new learning is involved. In other words, what is dissimilar between two languages is what must be learned.

Difficulty and ease in learning is determined respectively by differences and similarities between the two languages in contrast.
CAH

Priori Strong Predictive

Posteriori Weak Explanatory

Error Analysis

Emphasis on Learners
Criticism Against CA

- Predictions made were not found in actual learner production
- In the 1960s, language is in terms of structured rules instead of habits; Learning was seen not as imitation but as active rule formation.
• He comed yesterday. (imposing regularity)

• Duškova (1984): Czech speakers learning English and Russian; those learning English did not transfer bound morphemes, whereas the Czech learners of Russian did.
• Zobl (1980): Data from French speakers learning English and English Speakers learning French

(4-7) Je les vois.
I them see
“I see them.”

(4-8) By French learners of English
I see them. (produced)
*I them see. (not produced)

(4-9) By English learners of French (Ervin-Tripp, 1974, p. 119; Selinker, Swain, and Dumas, 1975, p. 145). None of these is possible in French.

a. Je vois elle.
I see her.
b. Le chien a mangé les.
The dog has eaten them.
c. Il veut les encore.
He wants them still.

Are the ‘habits’ the driving force?
Kellerman (1987): (concept of difficulty in CA)

"But in that moment it was 6:00"

Is ‘in’ correct?

Yes, but is it “it was 6:00” or “it had been 6:00”
Comparing two languages isn’t as straightforward as we think!

Stockwell, Bowen, & Martin (1965): Established a **Hierarchy of Difficulty** (of learning)

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiation</td>
<td>English L1, Italian L2: <em>to know</em> versus <em>sapere/conoscere</em></td>
</tr>
<tr>
<td>New category</td>
<td>Japanese L1, English L2: article system</td>
</tr>
<tr>
<td>Absent category</td>
<td>English L1, Japanese L2: article system</td>
</tr>
<tr>
<td>Coalescing</td>
<td>Italian L1, English L2: the verb <em>to know</em></td>
</tr>
<tr>
<td>Correspondence</td>
<td>English L1, Italian L2: plurality</td>
</tr>
</tbody>
</table>
Necessity of Validating the Results of the Theoretical Comparative Analysis

“The list of problems resulting from the comparison of the foreign language with the native language will be a most significant list for teaching, testing, research, and understanding. Yet it must be considered a list of hypothetical problems until final validation is achieved by checking it against the actual speech of students. This final check will show in some instances that a problem was not adequately analyzed and may be more of a problem than predicted. In this kind of validation we must keep in mind of course that not all the speakers of a language will have exactly the same amount of difficulty with each problem. . . . The problem will nevertheless prove quite stable and predictable for each language background.”

(Lado, 1957)