

Second Language Acquisition

LG 376 — Semester 2, 2021 (Jan-May 2022)

CLASS 7: LINGUISTIC ENVIRONMENT

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Outline

- Recap
- More on the environment
- Usage-based linguistics (UBL)
 - Key concepts of UBL
 - Counting things in UBL: frequencies
- Study synopsis: Frequency effects in L1 & L2
- Looking ahead: Week 9

The word "Recap" is centered within a light blue rounded rectangle with a thin black border. The rectangle is slightly offset to the right and bottom, creating a layered effect. The text "Recap" is in a bold, sans-serif font with a pink-to-red gradient.

Recap

Setting the scene...

Majority of research on the topic: **cognitive-interactionist** perspectives

- internal-individual factors (cognition) reciprocally interact with external-environmental factors (environment)
- The two affect processes and outcomes of L2 learning



Krashen's Monitor Model



5 interlocking hypotheses:

- 'Acquisition' is not the same as 'learning'
- Learned knowledge is used only as a monitor/editor
- Acquisition follows a 'natural order'
- Acquisition is based on access to **comprehensible input**
- The 'affective filter': stress and negative affect interfere with acquisition

Interaction and negotiation for meaning



Michael Long's Interaction Hypothesis:

- Input becomes comprehensible through **modified interaction**

Modified interaction during **negotiation for meaning** includes:

- Comprehension checks
- Clarification requests
- Self-repetition or paraphrase
- Feedback to let learner know when communication fails

Output and syntactic processing



Swain's Output Hypothesis: output promotes...

- noticing of gaps in linguistic knowledge
- metalinguistic awareness
- hypothesis testing
 - Pushed output groups are found to produce more language and more complete information

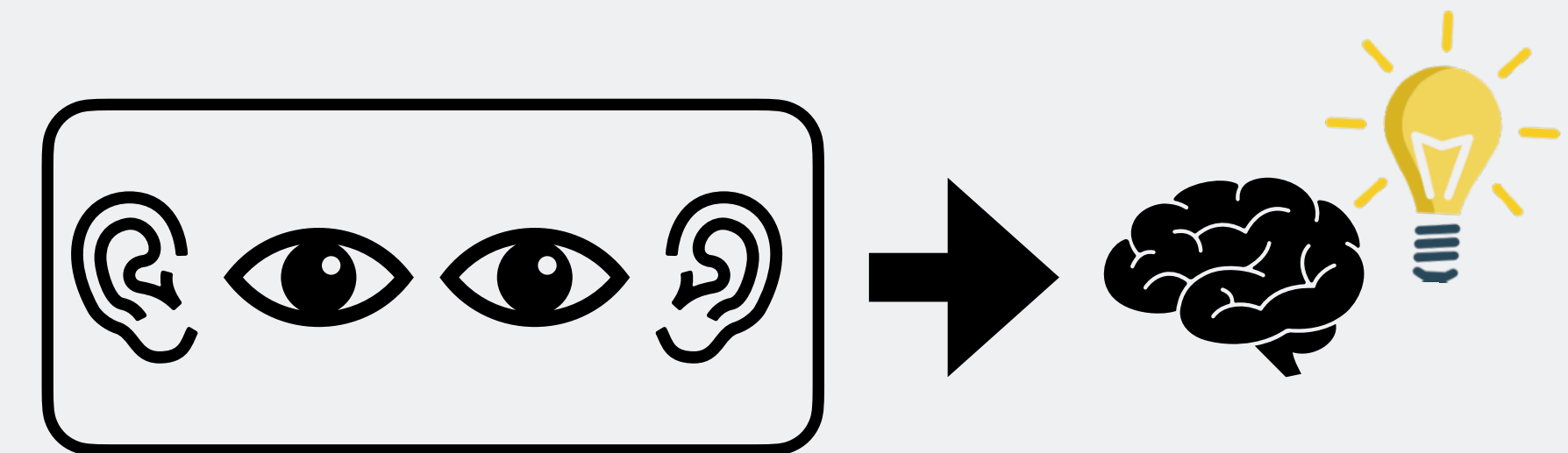
More on the environment

Noticing as a moderator



- Negotiated interaction and pushed output are key, but...
 - Learning will likely depend on learners' **noticing**

- **Noticing Hypothesis**



- Learners need to notice relevant linguistic materials in the environment
 - Noticing → learning (to some degree)
 - Analysis → (more) understanding

Noticing as a moderator



- Instances of noticing:
 - Internally → learners direct attention to language code
 - Externally → lesson by a teacher, question/reaction from interlocutor
- Noticing can:
 - allow learners to locate gaps between their utterances and interlocutors'
 - discover holes in their own production

Discussion

Whole class

Question:

- Evaluate the general environment in Thailand in relation to the four environment elements that together contribute to (but don't guarantee) optimal L2 learning:
 - comprehensible input
 - negotiated interaction
 - pushed output
 - attention to the language code

Negotiation of form

- A natural consequence of classroom instruction
- Learners do not only negotiate meaning during interaction but also form

Student 1: He leaped. He freezed.

Student 2: Freezed? Frozen?

Student 1: Freeze, froze, frozen. Froze.

Student 2: He froze?

Student 1: F-R-O-Z-E. Froze.

Negotiation of form

Ria: If they (coughs) if they had if they followed or if they had followed?

Tania: If they

Ria: ...had followed

Tania: Had

Ria: Because it takes a long time....they had followed

Tania: Yeah

S1: Los nombres en el mapa.
¿Es el mapa o la mapa?

S2: El mapa

Usage-based perspectives

Setting the scene...

- More recent work in SLA on language environment → usage-based ling.
 - The term first appeared in Langacker (1987)
 - Approach closely related to: **cognitive linguistics, cognitive grammar, construction grammar, and emergentism**, to name a few

- Key players:



Ronald Langacker



Joan Bybee



Michael Tomasello



Adele Goldberg

Key concepts in usage-based theories

- Language structure and a speaker's knowledge of language is the product of usage (or performance)
 - Usage → **frequencies of (co-)occurrence** of items
 - Knowledge of usage (i.e., frequencies) through a lifetime of experience
- Learning is contingent on available information in the input
- language learning depends on the same set of skills we use to learn other things

Usage patterns = frequencies

- One often takes usage patterns to refer to frequencies of (co-)occurrence
- frequency refers to **type** and **token** frequencies

What are you cooking? Is it the same thing you cooked last week?

Exercise: Identifying types and tokens

Look at the sentence below and count the number of tokens and types:

The city is braced for far worse figures to come in the coming months, unless the Government recovery package produces a startling turn round in optimism. [Source: BNC, CEN]



Exercise: Identifying types and tokens

Look at the sentence below and count the number of tokens and types:

Tokens	Types	Lemmas
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Types and tokens in usage-based linguistics

- Type and token frequencies are counted for a particular construction. For example, a regular past in English:

walked, pushed, greeted, covered, walked, accepted, agreed, admired, added, added, pushed, opened, closed,

Frequency effects...

- We are sensitive to frequencies at every level of language (sounds, words, sentences, etc.)*
- **Frequency effects** evident in both L1 and L2 acquisition
 - More frequent words are learned earlier
 - *Daddy, Mommy, bye, hi, uh-oh, dog, etc.*
 - More frequent words are processed faster
 - *wrong way vs. huge leap*

Frequency effects in L1 & L2

This part of lecture is based on Dr. Sarut Supasiraprapa's presentation.

Background

- Frequency effects for multi-word sequences in L1 and for two-word sequences in L2
- Frequency effects for longer **compositional phrases** in L2 learning?
 - *Don't have to worry* *Don't have to wait*
 - *I don't know why* *I don't know who*
 - *a lot of rain* *a lot of blood*

Background

- Two proposals for frequency effects
 - More frequent phrases are more entrenched in memory than less frequent phrases (i.e., relative quantitative frequency difference)
 - Highly frequent phrases (frequency threshold e.g. > 12 pwm) are stored as chunks while less frequent ones are computed based on grammar (i.e., qualitative difference)
- Effects in L1 in support of 1st proposal, replicable in L2?

Research question

Are adult native English speakers and ESL learners sensitive to frequency of **compositional four-word phrases in recognition** when frequencies of the smaller parts are controlled for?

Experiment 1: Phrasal acceptability judgment

Participants

- 51 adult native English speakers (NSs)
- 52 adult Chinese L1 learners of English
 - Undergraduate or graduate students in the US
 - Length of residence in US = 2-3 years ($M = 2.61$, $SD = 0.56$)
 - Proficient enough to study in an English-speaking environment
 - Average internet-based TOEFL score = 96 ($SD=6.63$)
 - Familiarity with component words

Experiment 1: Phrasal acceptability judgment

Stimuli

- **28 pairs** of phrases from an L1 study (Arnon & Snider, 2010)
 - Switchboard and Fisher corpora of American English telephone conversations (~20 million words)
- Difference only in final word and in phrase frequency (high/low) in each pair

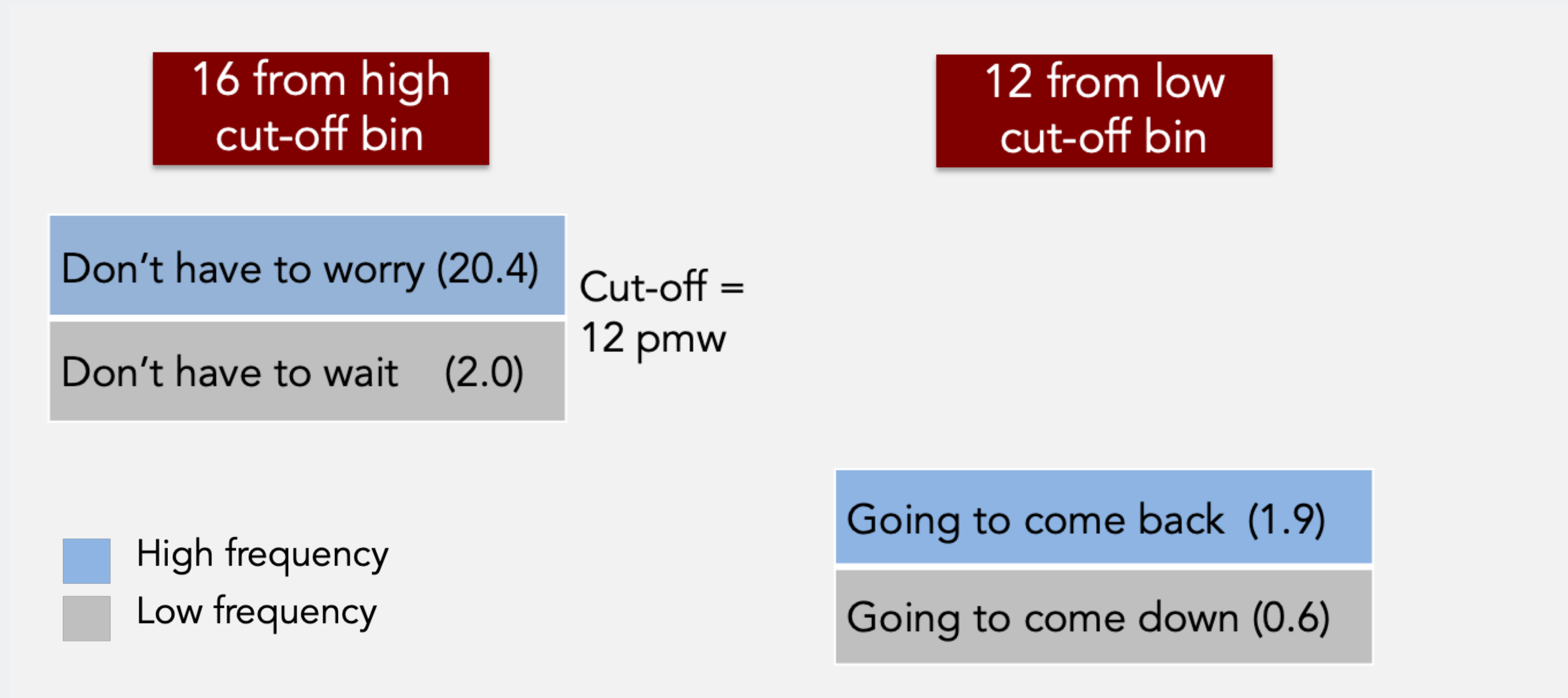
Don't have to **worry** (frequency = 20 pmw)

High frequency

Don't have to **wait** (frequency = 2 pmw)

Low frequency

Experiment 1: Phrasal acceptability judgment



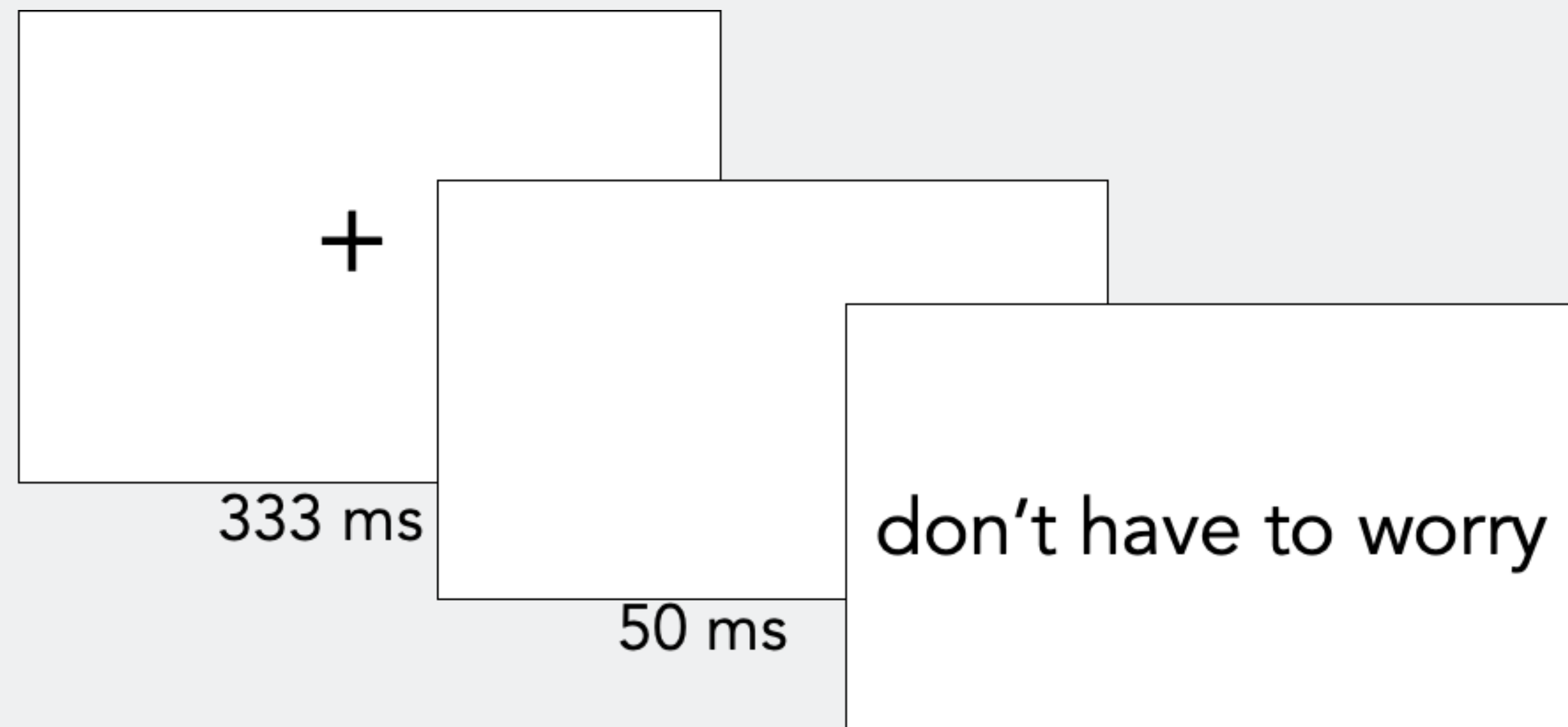
Frequencies of phrases in low cut-off bin generally < 12.0

Experiment 1: Phrasal acceptability judgment

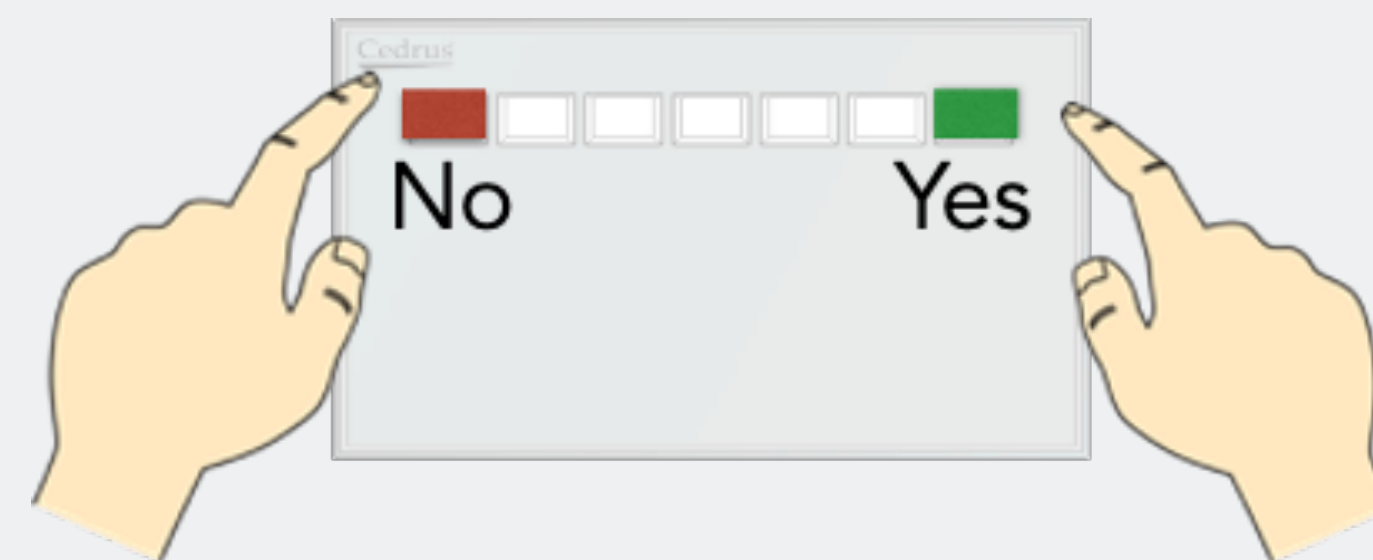
Procedure

- Two phrases from each pair assigned to two different blocks (A, B) + fillers (grammatical or ungrammatical)
- Randomization within each block
- Within-subject, counterbalanced design

Experiment 1: Phrasal acceptability judgment



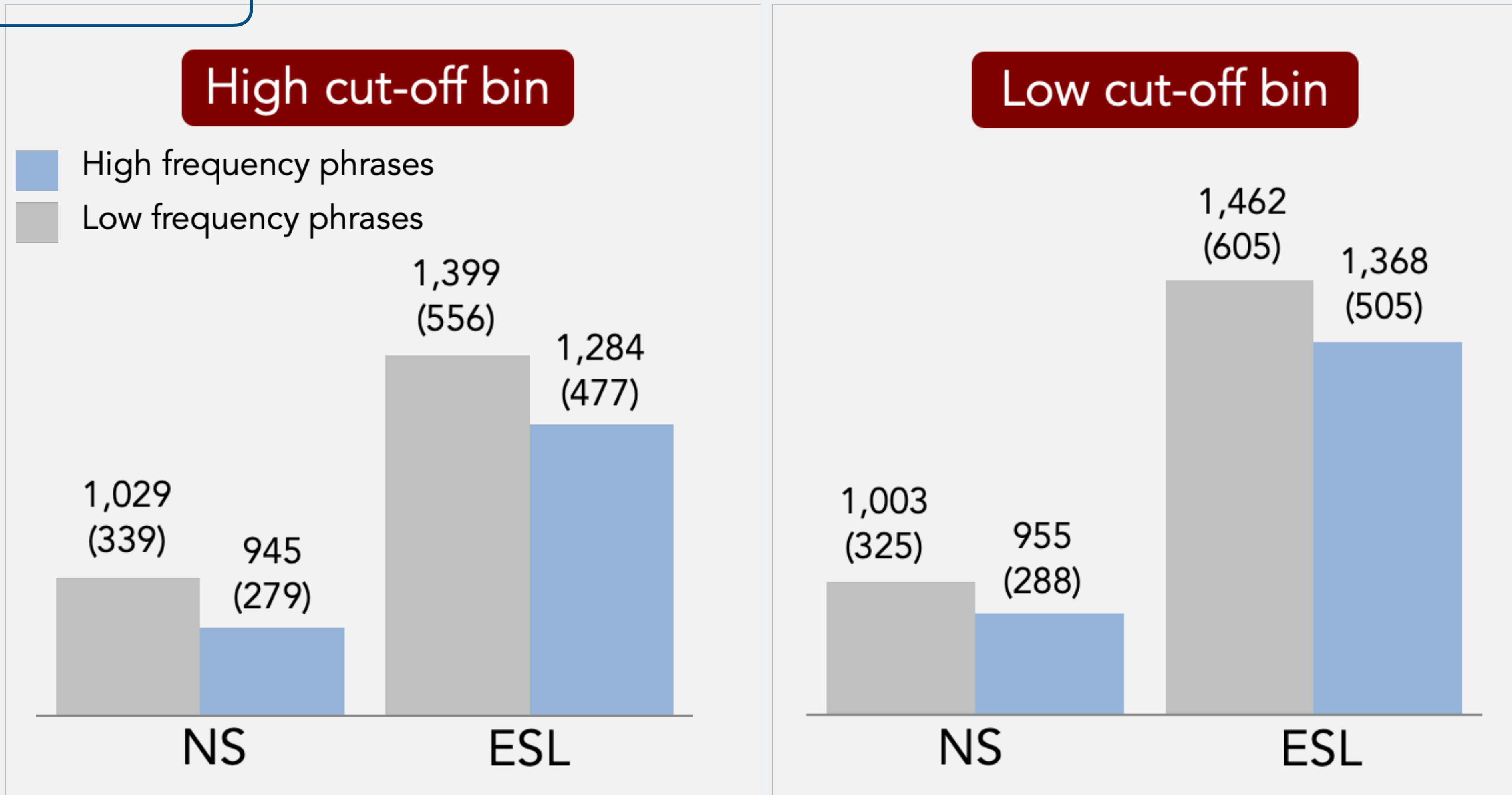
- Possible English phrase?
- As **fast** and as **accurately** as possible



Outcome =
reaction time (RT)

Experiment 1: Phrasal acceptability judgment

Results



Experiment 1: Phrasal acceptability judgment

High cut-off bin

- 9% faster when judging high frequency phrases
- ESL learners 33% slower
- 9% faster in 2nd block
- 10% slower when number of characters increased by one *SD*

$p = .008^{**}$

$ps < .001^{***}$

Low cut-off bin

- 10% faster when judging high frequency phrases
- ESL learners 42% slower
- 12% faster in 2nd block
- 9% slower when number of characters increased by one *SD*

$p = .029^*$

$ps < .001^{***}$

Experiment 1: Phrasal acceptability judgment

Discussion

- Compatible with prediction in usage-based approaches:
 - Extending supporting evidence based on L1 and L2 single words and two-word phrases (e.g., Wolter & Gyllstad, 2013) to longer phrases
 - Accommodation of phrase frequency effects in L1 and L2 acquisition and receptive processing models (e.g., Ellis, 2011)
- Countering the hypothesis that adult L2 learners cannot retain memory about L2 word co-occurrences (Wray, 2002)
 - Similarities between L1 and L2 learning mechanisms (e.g., Ellis, 2011)

After the mid-term break...

- **Topic**: Bilingual input (extra bits) and cognition
 - Check out the website after the mid-term week for more info
 - For now, do your best and good luck! 😊