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SPECIFICITY can matter even when DEFINITENESS can TRANSFER

oral presentation in workshop: 119 Native language influence in second language acquisition

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GOALS OF THE TALK

- Re-examine the nature of SPECIFICITY in L2 acquisition as conceived within the Fluctuation Hypothesis Model.
- We ask: Can SPECIFICITY be regarded as a grammaticalized semantic feature that is parameterizable and transferable like DEFINITENESS ?
- Report the results of a new study on the L2 acquisition of FRENCH articles by English speakers
- Argue that this study provides additional evidence that unlike DEFINITENESS, SPECIFICITY is not a grammaticalized feature and is better understood as a non-transferable pragmatic or processing constraint .
- Deprez et al (2012) Schaefer & Mathewson (2005), Kagan (2009), De Cat (2009,2012. to appear) among others.

Background

Definiteness and specificity: (Ionin et als 2003)

Informal definitions

- **If a DP of the form [D NP] is [+definite], the speaker and the hearer** presuppose the existence of a *unique individual* in the set denoted by the NP. (for formal definitions, see Heim 1991). (common ground)

- **If a DP is the form [D NP] is [+specific],** the **speaker intends to refer** to a *unique individual* in the set denoted by the NP, and considers this individual to possess some noteworthy property.(speaker perspective)

BACKGROUND: IONIN ET ALS

(2004 & following)

DEFINITENESS and SPECIFICITY are

- Universal **semantic** features in Universal Grammar
- Parameterizable, transferrable, accessible by (L2) learners

- SUPPORTING ARGUMENTS
- Crosslinguistic Language distinctions
  - Some languages have specific articles rather than definite ones
  - Ex: Creoles and Samoan vs English
- L2 article acquisition

ARTICLE CHOICE PARAMETER CROSSLINGUISTIC ARGUMENT ENGLISH VS. SAMOAN

	+ definite	- definite
+ Specific	**The**	**a/an**
- Specific		

Definiteness setting in English

	+ Definite	- Definite
+ Specific	**Le**	
- Specific	**Se**	

Specificity setting in Samoan

QUESTIONING THE CROSS-LINGUISTIC ARGUMENTS

- No evidence of Specificity Distinction In French Based Creole

- (Déprez 2011, 2013)
- French Based Creoles Article 'la' distinguished on the basis of:
- Familiarity (Mauritian Creole)
- Sortal vs functional predicates (Martinique, Haitian Creole)

QUESTIONNING THE CROSSLINGUISTIC ARGUMENTS II (Tryzna 2009)

CORRECTED ARTICLE SYSTEM IN SAMOAN

Table 1. Specificity and definiteness interaction in Samoan

Context type	An example of a test sentence (target DP in bold)	The corresponding Samoan DP
1. Non-specific indefinite	I'm looking for a **hat** to go with my new coat.	**se pulou**
2. Specific indefinite	I'm looking for a **hat**. I must have left it here yesterday.	**le pulou**
3. Specific definite	I want to talk to **the winner** of the race. She is a good friend of mine.	**le malo**
4. Non-specific definite	If you want to talk to **the winner**, wait until the end of the race.	**le malo**

Marta Tryzna (2009) Questionning the Validity of the Article Choice Parameter' in Second language acquisition of articles (María del Pilar García Mayo, Roger Hawkins eds)

L2 PREDICTIONS
THE FLUCTUATION MODEL

ARTICLE-LESS LANGUAGES

FLUCTUATION

CONTEXT	[+definite]: target *the*	[-definite]: target *a*
[+specific]	correct use of *the*	**overuse of *the***
[-specific]	**overuse of *a***	correct use of *a*

TRANSFER LANGUAGES

NO FLUCTUATION

- Definiteness Based L1 →
- Definiteness Transfer
- Specificity should not influence article choice : No overuse expected

- Specificity based L1 →
- Specificity Transfer ? (no known cases)

Previous L2 Article Acquisition study with possible TRANSFER

No fluctuation Observed

Transfer confirmed

Snape et al. (2006), Ionin et als (2008), Maria del Pilar Garcia Mayo (2012):

Spanish Adults → English L2

Hawkins et al. 2006, Sarko (2012)

Greek, Arabic, French Adults → English L2

-
- L2 := ALWAYS ENGLISH

Unexpected Fluctuation Observed

Transfer questioned

- Zdorenko and Paradis (2008)
- Child L1 with and without article learners of English
- Guella, Sleeman, Deprez (2008)
- Dutch learners of Arabic
- Deprez, Guella, Sleeman (2011)
- Dutch & Arabic Learners of French

OUR STUDY DESIGN: SUBJECTS 91

- Rutgers Undergraduate Native English speakers learning L2 French
- Both languages are Definiteness based → Possible Definiteness Transfer

- Total Subjects: Analyzed : n = 91

  Low intermediate (131) – 36 subjects

  Intermediate (132) – 42 subjects

  Advanced (200) – 13 subjects

- 149 Subjects: Tested (Eliminated: 58: incomplete , 20 non-native speakers 10 with a dialogue understanding below 4/7 or no answer)

OUR STUDY DESIGN : TASK & STIMULI

- On line forced choice fill in the blank task : 4 choices :. Le, un, de , ---
  Limited to Masculin Singular det : closest similarity to English articles

- 88 Computerized dialogues in French, 24 fillers removed from analysis
- Dialogue understanding: self assessed on a 7 pt scale. Below 4 were eliminated.

	+ DEF	-DEF
+SPEC	16	16
-SPEC	16	16

- Total 63 items :1 item removed because of coding error
  Items were designed by Advanced L2 speakers and corrected by native speakers
- 6 native speakers served as controls and performed according to expectation

FH PREDICTIONS (Ionin et Als 2012)

THE DEFINITENESS PATTERN:

At least 75% correct 'le' use in specific definite contexts & less than 25% 'le' overuse in non-spec indefinite contexts

=

THE FLUCTUATION PATTERN:

At least 75% correct 'le' use in in specific definite contexts

Less than 25% 'le' overuse in non-specific indefinite contexts

---

And ONE of the following

1) no specificity distinction with definites or indefinites OR

2) specificity distinction with definites only OR

3) specificity distinction with indefinites only

Specificity distinction:

More overuse of 'le' with specific indefinites vs non-specific ones

More correct use of 'le' with specific definites vs non-specific ones

- **Definiteness distinction:**

More use of le with specific definites than with non-specific indefinites

NO specificity effects with BOTH

ANALYSIS: REPEATED MEASURE ANOVA

(as in Ionin et Als 2012)

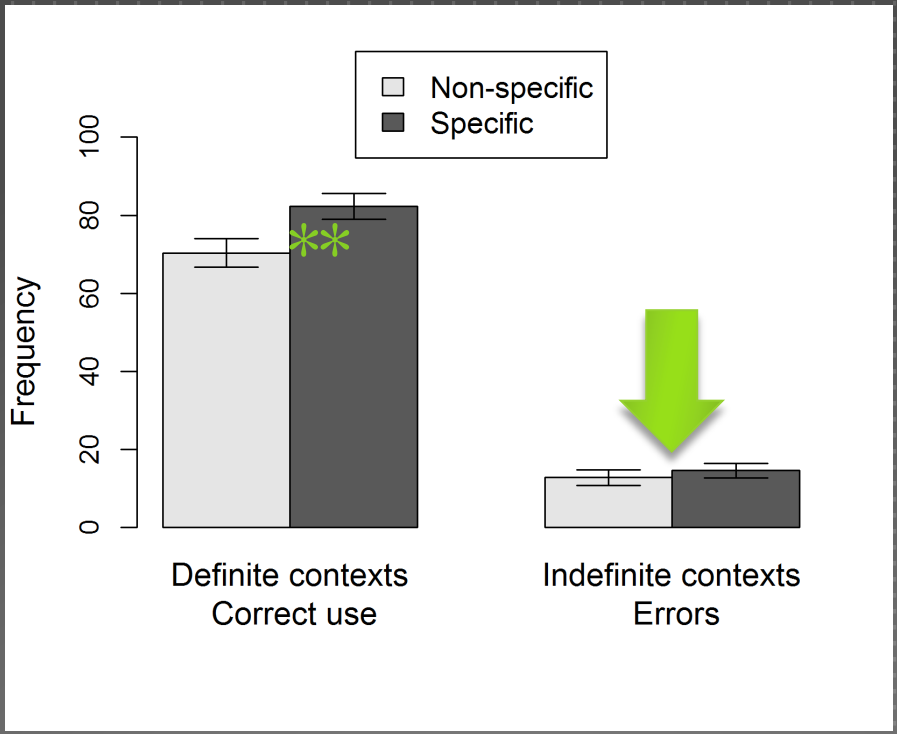
RESULTS

Use of 'le' = definite	
Definiteness	$p < 0.01$ **
Specificity	$p < 0.01$ **
Definiteness x Specificity	$p < 0.01$ **

Use of 'un' = indefinite	
Definiteness	$p < 0.01$ **
Specificity	$p < 0.01$ **
Definiteness x Specificity	$p = 0.239$

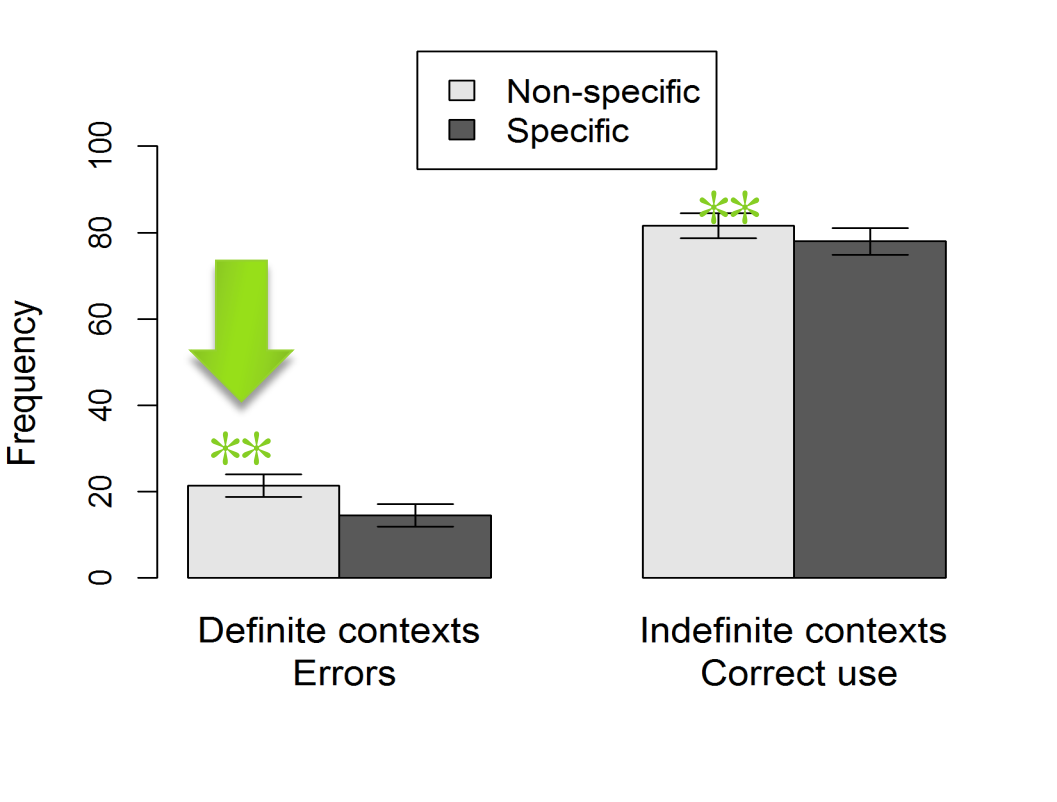
Calculated for each dataset for each subject the percent of use of a determiner in each context :+ def + spec, +def – spec, - def + spec, - def – spec

RESULTS: USE OF 'LE' = DEFINITE ARTICLE



Repeated measure ANOVA. Subjects as a random factor.
Definite contexts: $p < 0.01$
Indefinite contexts: $p = 0.107$

RESULTS : USE OF 'UN' = INDEFINTE ARTICLE



Repeated measure ANOVA. Subjects as a random factor.

Definite contexts: $p < 0.01$

Indefinite contexts: $p < 0.01$.

RESULTS : SUMMARY OF ANALYSIS IONIN STYLE USES OF 'LE' AND 'UN'

	Definite (target 'LE')		Indefinite (target 'UN')	
Specific	82% LE	14% UN	15% LE	78% UN
Non-specific	70% LE	21% UN	13% LE	82% UN

Oversuse
+/- specific
Significantly
different

Oversuse
+/-specific not significantly
different

CHECKING IONIN'S PREDICTIONS

1. Do we have a straightforward Definiteness Pattern ?

- NO: there is overuse of articles in both relevant contexts, and we have
- a main effect of specificity and an interaction between specificity and definiteness
- So, clearly, specificity matters

2. Do we have a fluctuation Pattern?

- YES: since we have

1) More correct use of 'le' with specific than non-specific definites ($p < 0.01$)
2) Overuse of articles in both relevant contexts.

- HOWEVER, the overuse is not 'balanced'. It is only significant for 'un' in non-specific definite contexts
- This Unbalanced Pattern is what Ionin et als (2012) call : **Partial Fluctuation**

INTERIM SUMMARY

- Within a Ionin style analysis, we showed that SPECIFICITY matters in the acquisition of L2 French articles by L1 English leaners.
- There is at least Partial Fluctuation, contrary to the predictions of the FH model in a case of possible transfer.
- On the FH model, this would mean that L2 learners fluctuate between parameter values in spite of their own L1 parameter setting,
- This is a fairly uncomfortable conclusion that invites a different interpretation of specificity

A Different Statistical Analysis: Generalized linear mixed models for binomial data with subjects and items as random factors

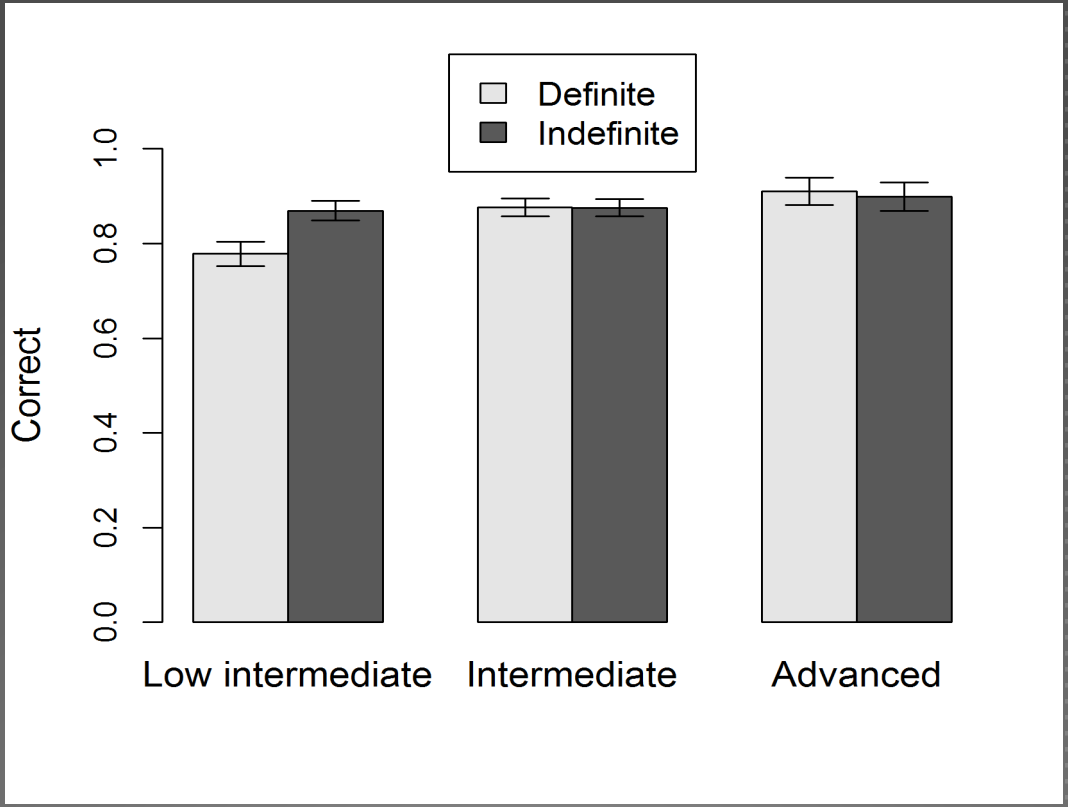
glmer (R software)

- Questions:
- Can we predict whether L2 learners will pick 'le' or 'un' based on the type of context they are dealing with?
- If L2 learners transfer definiteness, then we should see a the main effect of definiteness
- If they use definiteness and specificity, we should see a main effect of definiteness and an interaction between definiteness and specificity

RESULTS : RESPONSE AS DEPENDENT VARIABLE

- Definiteness is a predictor of article choice ($p < 0.01$)
  - When the context is indefinite, speakers use 'un'
  - When the context is definite, speakers use 'le'
- Specificity is not a predictor of article choice ($p = 0.196$)
  - But SPECIFICITY affects the number of L2 errors with indefinites
- The interaction between Specificity x definiteness is not significant $p = 0.463$

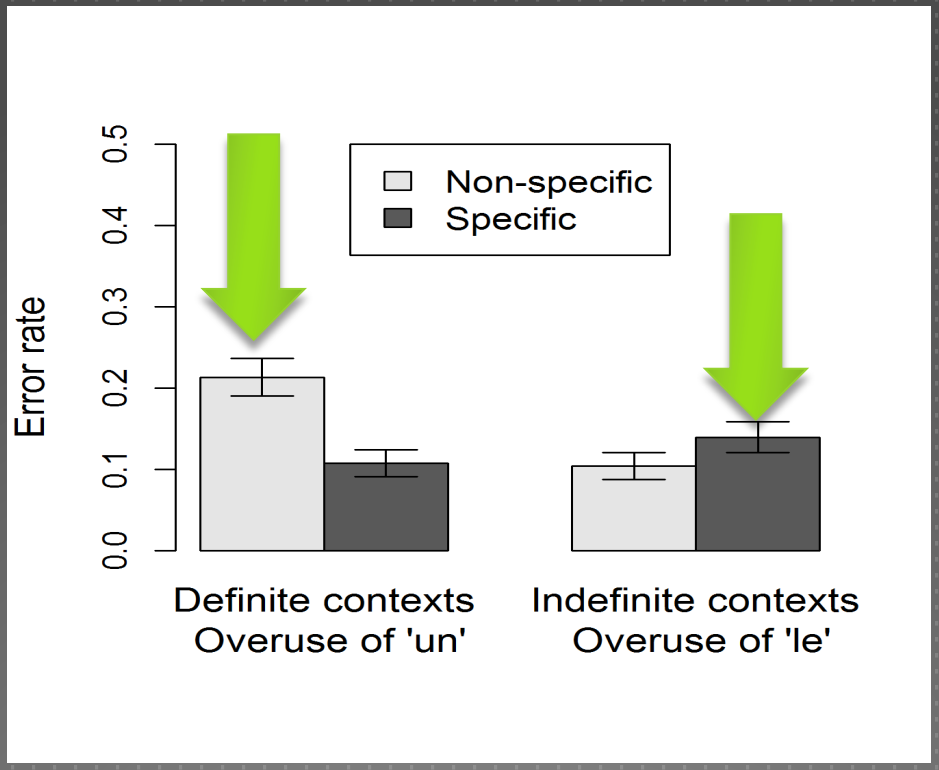
RESULTS: RESPONSE AS A DEPENDENT VARIABLE



Proportion of correct responses			
	131	132	200
definite	78%	88%	91%
indefinite	87%	88%	90%

Definiteness $p < 0.01$
Specificity $p = 0.196$
Definiteness x Specificity $p = 0.463$

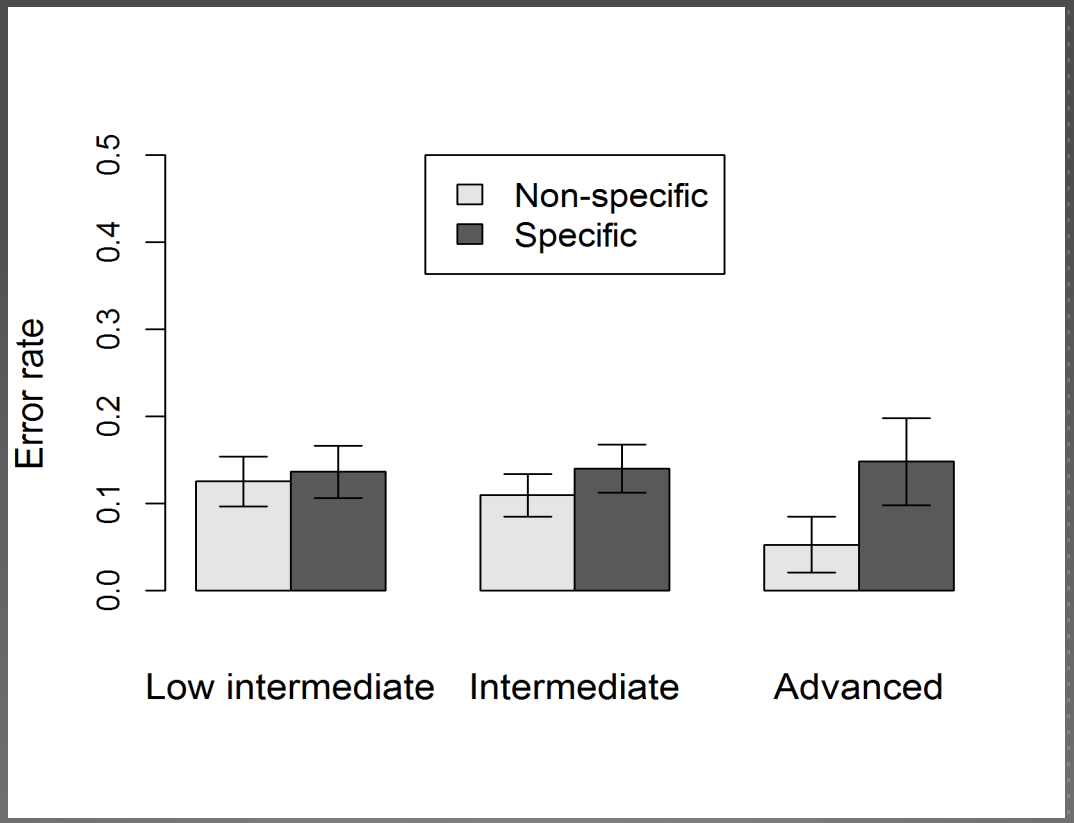
THE ROLE OF SPECIFICITY: ERROR RATE AS A DEPENDENT VARIABLE



Error rate depending on definiteness and specificity		
	non-specific	specific
definite	21%	10%
indefinite	10%	14%

Definiteness p = 0.123
Specificity p = 0.209
Definiteness x specificity p = 0.284

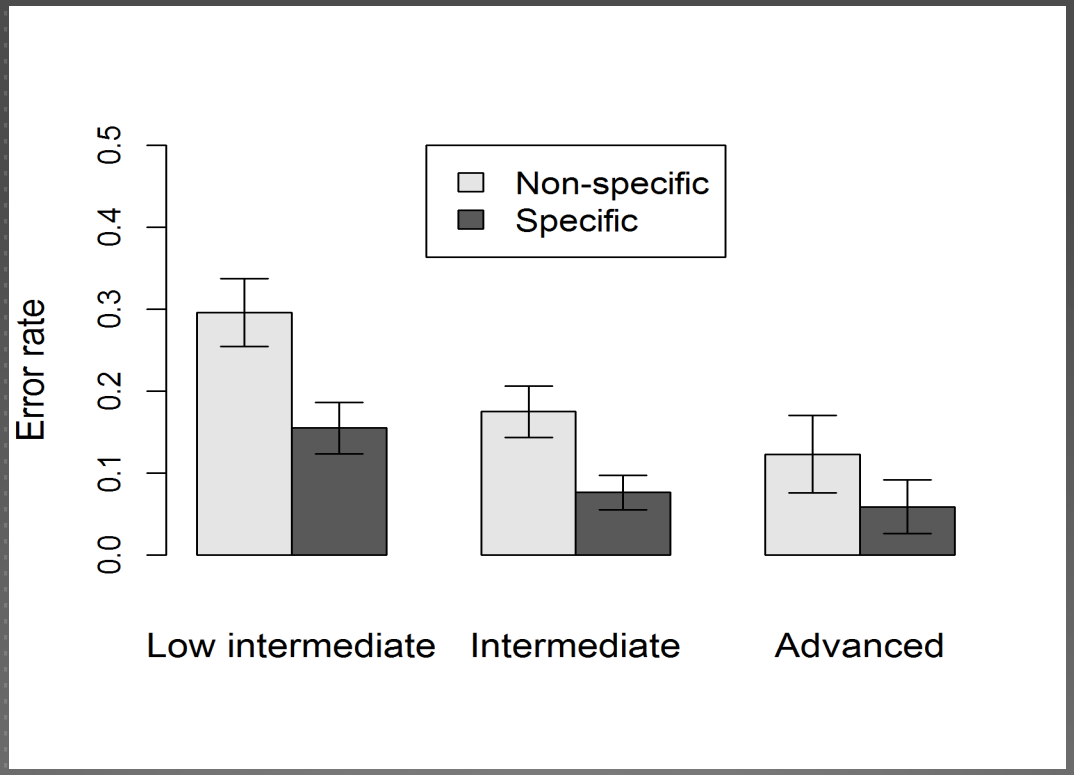
INDEFINITE CONTEXTS: OVERUSE OF 'LE'



Error rate in indefinite contexts.			
	131	132	200
non-specific	13%	11%	5%
specific	14%	14%	15%

Specificity $p < 0.01$
Level $p < 0.05$
Specificity x Level $p < 0.05$

DEFINITE CONTEXTS: OVERUSE OF 'UN'



Error rate in definite contexts			
	131	132	200
non-specific	30%	17%	12%
specific	15%	8%	6%

Specificity $p = 0.243$
Specificity x Proficiency level $p = 0.616$
Level $p < 0.05$

SUMMARIZING

- What have we learned with the mixed model analysis ?
- First our mixed models clearly showed that DEFINITENESS is a clear predictor for article choice: This result reinforces the results of the previous Ionin style analysis, where DEFINITENESS had a main effect.
- This, we argue, suggests that :
- → DEFINITENESS is indeed a grammaticalized semantic feature that can transfer (and perhaps be accessed from UG) for L2 speakers

SUMMARIZING

- The mixed model showed, however, that SPECIFICITY is not a predictor of article choice, in apparent contrast to the Ionin style analysis, where SPECIFICITY had a main effect.
- Yet specificity nonetheless affected the rate of errors that our L2 learners made, and as the error graph showed, the distribution of errors did match partial FLUCTUATION expectations
- But from the mixed model, we better see that SPECIFICITY crucially differ in its effect from DEFINITENESS
- This, we propose, suggests that
- → SPECIFICITY is not a grammaticalized semantic feature that L2 speakers can access from UG
- →since SPECIFICITY affects the errors made by L2 learners even when transfer occurs, it must be an L1 independent constraint

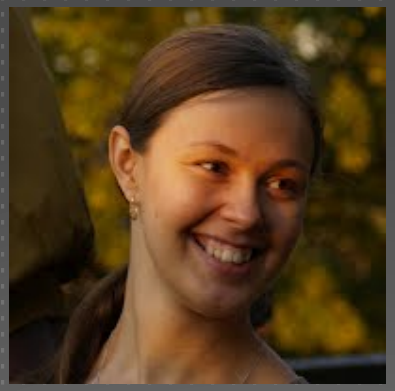
CONCLUSIONS

- SPECIFICITY does not appear to make cross-linguistic distinctions
- SPECIFICITY influences L2 errors even when only pure transfer is expected
- Both arguments go against the idea that SPECIFICITY can be on a par with DEFINITENESS in a parametric model
- While DEFINITENESS could well be a grammaticalized feature, this is doubtful for SPECIFICITY.
- If so, SPECIFICITY in L2 is better regarded as a pragmatic or processing constraint that affects how L2 learners take into account the hearer's perspective (Keysar et als, Deprez et als (2012) De Cat (2012, to appear).
- But confirmation of this view requires testing of another type than the one used in Ionin et als work, which we hope to conduct in the future.

THANK YOU FOR YOUR ATTENTION !

Many Thanks to our first author & collaborator

Asya Achimova



And to the members of CELL (Comparative and Experimental Linguistics Lab)

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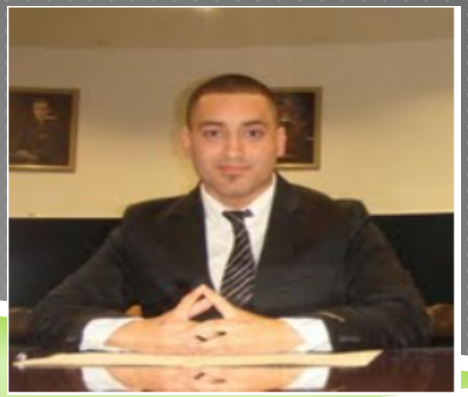
Shirley Huang

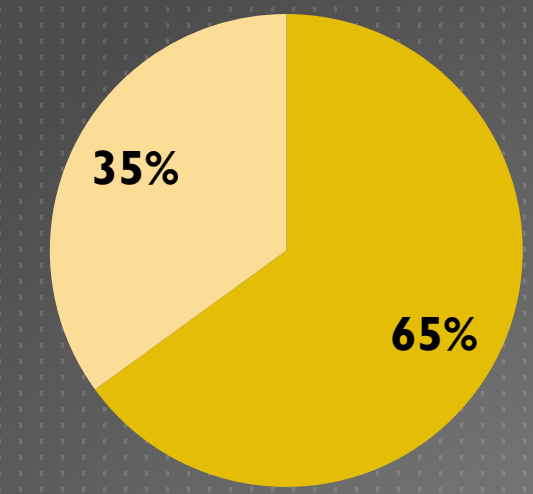
Mike Ortega



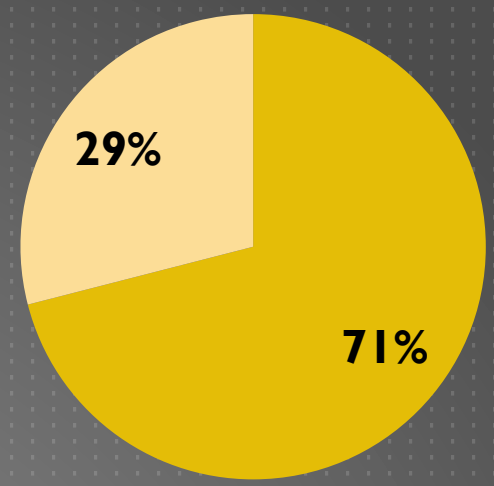
Ankita Patel

SUBJECT ANALYSIS SPECIFICITY EFFECT

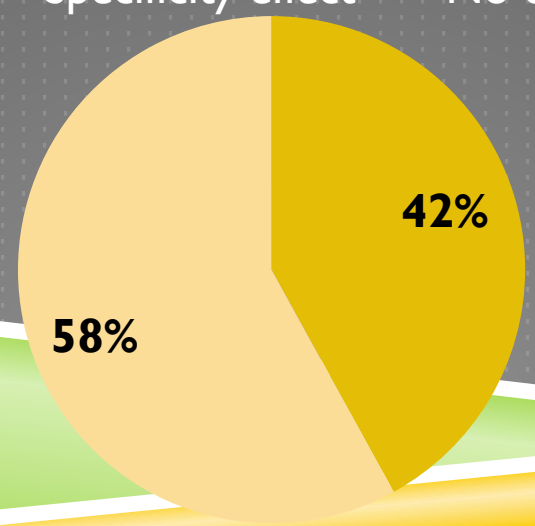
Indefinite contexts
Overuse of 'le'



Definite contexts
Overuse of 'un'



Definite & indefinite contexts



LEVELS + SELF ASSESED COMPETENCY

Question	Average Rating Level 131	Average Rating Level 132
How well would you rate your level of French?	4.78	5.28
How well did you understand the dialogues?	5.06	5.74

DEPREZ, GUELLA, SLEEMAN (2011)

	+ Definite		- Definite	
	incorrect	correct	incorrect	correct
+ Specific	13,04%	86,96%	**68,12%**	31,88%
– Specific	**44,93%**	55,07%	23,19%	76,81%

table 4: article choice in French by Dutch adolescents

+ Definite +/- specific t-test $p < 0.01$
- Definite +/- specific t-test $p < 0,001$).

Dutch learners of French
n= 23 13-15 years old
Beginners (200 h)

	+ Definite		- Definite	
	incorrect	correct	incorrect	correct
+ Specific	22,11%	77,89%	**68,88%**	31,12%
– Specific	**76,66%**	23,34%	26,66%	73,34%

table 6: Results 10 year olds (30 children)

	+ Definite		- Definite	
	incorrect	correct	incorrect	correct
+ Specific	16,66%	83,34%	**31,66%**	68,34%
– Specific	**38,33%**	61,67%	6,66%	93,34%

table 7: Results 12 year olds (20 children)

Arabic learners of French
10 year old: n = 30
12 year old: n =20