THE COUNT-MASS DISTINCTION AND ENGLISH ARTICLES

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J-SLA Autumn Seminar 2018
@ Doshisha University, Japan (28 October, 2018)

OUTLINE

1. **Research on L2 English articles: Semantic contexts (Ionin, Ko, & Wexler, 2004, and others)**

2. **Input frequency and cues (Ogawa, 2015; Zhao & MacWhinney, 2018)**

3. **Persistent difficulty with the count-mass distinction over definiteness (Ogawa, 2014; Akamatsu, 2018)**

4. **Articles with abstract nouns (Hiki, 1990; Lee Amuzie & Spinner, 2013; Ogawa, 2018b)**

5. **Intuition and countability judgment (Yoon, 1993; Butler, 2002; Ogawa, 2018a)**

L2 ARTICLE USE

Common for article-less L1s (Japanese, Chinese, Korean, Polish, Serbian, etc.)

- **Overuse of *the* in indefinite contexts (Ionin, Ko, & Wexler, 2004; Hawkins, et al., 2006:; Tryza, 2009; Snape 2005)**

- **Fluctuation Hypothesis (Ionin, Ko, & Wexler, 2004)**

  - Definiteness [±definite]

  - Specificity [±specific]

  - → Overuse of *the* in [+spec/-def] context

L2 ARTICLE USE

Common for speakers of article L1s / article-less L1s

- **Directionality**: higher accuracy for definite than indefinite articles (Garcia-Mayo, 2009; Hawkins, et al., 2006; Ionin, Zubizarreta, Maldonado, 2008)

- **Noun type difference**: higher accuracy for singular count nouns in definite context than plural count or mass nouns (French & Syrian Arabic for Sarko, 2009; Spanish for Snape, 2008)

L2 ARTICLE USE

L2 learner's task is "to arrive at a linguistic system which account for the L2 input, allowing the learners to understand and speak the second language" (White, 2003, p.15)

OUTLINE

the N   *the Ns*   *a/an N*   *ø Ns*   *ø N*

<Predictions>

- **Directionality**
  → *a/an N, ø N, ø Ns < the N, the Ns*

- **Noun type difference**
  → singular count: a/an *N* < <u>the *N*</u>
  → plural count: *the Ns* < <u>*ø Ns*</u>
  → mass: *the N* < <u>*ø N*</u>

INPUT FREQUENCY (OGAWA, 2015)

- **25 nouns from count, mass, flexible (Taler and Jarema, 2007; Yokokawa, 2006)**

Noun Type	Definite *the*		Indefinite *a/an, ø*		
	sing. / mass	plur.	sing.	plur.	mass
Count	the cat	the cats	a cat	ø cats	N/A
Mass	the butter	N/A	N/A	N/A	ø butter
Flexible	the stone	the stones	a stone	ø stones	ø stone

- **British National Corpus (written & spoken)**

- **NPs (e.g., stone, big stones, the big stones)**

- **BCN data converted for JLEs' input freq.**

		Items			
Count	basket *	button	cousin	elbow *	lamp *
	bell	cabin *	cow	engine	planet
	belt	castle	crowd	fence *	skirt *
	blanket *	cat	daisy *	fist *	sofa *
	bowl	clock	doll *	lake	ticket
Mass	beauty	cotton *	flesh	plastic	soap *
	butter *	cream ***	fruit	rice *	spite
	clay *	damage	honey *	sand	sugar
	cloth *	dirt *	metal	silk	sweat *
	corn *	dust	paint	snow	traffic
Flexible	brick	coal	lamb *	salad *	talent
	cake	crime	lawn *	shadow	taste
	carpet	debt	pipe	shell	virtue
	chicken	fibre	prayer	stone	wire
	cloud	fur *	rope *	string	wonder **

RESULTS:
INPUT FREQUENCY (OGAWA, 2015)

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Noun Type	Definite *the*		Indefinite *a/an, ø*		
	sing. / mass *the N*	plur. *the Ns*	sing. *a/an N*	plur. *ø Ns*	mass *ø N*
Count	**282.42**	**62.54**	**148.94**	**177.61**	
Mass	**43.69**				**100.10**

- **Mass nouns: *the N < ø̲ ̲N̲***

RESULTS: INPUT FREQUENCY (OGAWA, 2015)

Noun Type	Definite *the*		Indefinite *a/an, ø*		
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- **Mass nouns:** *the N < ø N*

- **Count nouns:** *the Ns < a/an N, ø Ns < the N*

  - *singular: a/an N < the N*

  - *plural: the Ns < ø Ns*

DISCUSSION:
INPUT FREQUENCY (OGAWA, 2015)

- **L2 learners may rely on input freq. when contextual information is unclear (e.g., fluctuation, types of definiteness: *anaphoric, associative, cultural*)**

FORM-MEANING MAPPING

the-definite   *the*-singular   *the*-plural   *the*-mass

a-indefinite   *a*-singular

ø-indefinite   *ø*-plural   *ø*-mass

ARTICLE CUES (ZHAO & MACWHINNEY, 2018)

- **38 texts, 3,718 noun phrases**

- **86 article cues: availability & reliability**

e.g., <u>The quality</u> of <u>a mother</u>'s <u>relationship</u> with her toddler could affect that child's <u>weight</u> in <u>adolescence</u>.

1) The quality: singular count w/ post-modifier → the
2) a mother: singular count → a/an
3) relationship, weight: possessive → ø
4) adolescence: non-count → ø

Results:

- **10 cues with the highest availability account for 76.3% of all the tokens**

- **Top 4 cues account for 50.8% of all the tokens**

ARTICLE CUES (ZHAO & MACWHINNEY, 2018)

	Article cue	Example
1	plural → ø	ø books
2	non-count → ø	ø water
3 *	sing. count w/ post-modifiers → the	<u>the</u> man she is dating
4	sing. count → a/an	<u>a</u> Shakespearean drama
5 *	plur. w/ post-modifiers → the	<u>the</u> letters I received today
6	part of → the	I'm returning this coat for a refund. <u>The</u> zipper broke.
7	second mention w/ variation → the	I saw a peacock at the zoo. <u>The</u> bird was beautiful.
8	second mention → the	I saw a peacock. <u>The</u> peacock was beautiful.
9	names of counties, cities, states → ø	ø Hong Kong
10	non-count w/ post-modifiers → the	<u>the</u> wealth of her parents

FEATURE SPECIFICATION (OGAWA, 2014)

Binomial logistic regressions (DV: the, a, ø)

- **Duality (Flexible or Non-flexible)**

- **Plural (Plural or Non-plural)**

- **Mass (Mass or Singular Count)**

- **Definite (Definite or Indefinite)**

- **Specificity (Specific or Non-specific)**

Forced-choice elicitation tasks (the, a, ø; 48 dialogues)

Groups (JLEs)	Overall accuracy
Lower Inter (n=12)	59.65%
Upper Inter (n=15)	68.20%
Lower Adv (n=11)	75.33%
Native (n=15)	89.86%

RESULTS: FEATURE SPECIFICATION (OGAWA, 2014)

The choice of	Sig. factor	Standardized Coefficient β			
		Low Inter.	Upper Inter.	Lower Adv.	Native
the	**Definite**	.191	.315	.445	.554
a/an	**Plural (Non-plur)**	-.458	-.455	N/A	N/A
	Mass (Sing. Count)	-.172	-.154	-.209	-.405
	Definite (Indefinite)	-.138	-.165	-.228	-.431
ø	**Plural**	.370	.374	.399	.468
	Mass	.245	.264	.335	.539
	Definite (Indefinite)	-.119	-.212	-.303	-.447

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3. **Persistent difficulty with the count-mass distinction over definiteness (Ogawa 2014; Akamatsu, 2018)**

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5. Intuition and countability judgment (Yoon, 1993; Butler, 2002; Ogawa, 2018a)

PERSISTENT DIFFICULTY WITH THE COUNT-MASS DISTINCTION

- **Problems with the count-mass distinction (Hiki, 1990; Yoon, 1993; Snape, 2008)**

- **L2 lexicon and linguistic features: [±count] and [±individuated]**

    - **L1 English**: [±count] as features of nouns in mental lexicon (Taler and Jarema, 2007)

    - **L1 Japanese**: [±count] assigned to classifiers, [±individuated] for nouns in lexicon (Ogawa, 2014)

    - **JLEs**: Restructuring of the L2 mental lexicon needed (Ogawa, 2014)

        - [+count] Count nouns
        - [-count] Mass nouns
        - [±count] **Flexible nouns**

PERSISTENT DIFFICULTY WITH THE COUNT-MASS DISTINCTION

Semantic Processing for article use (Ogawa, 2014)

- **an intra-linguistic or lexical level [±count]**

  → **more susceptible to L1 influence**
  more persistent problem

- **an extra-linguistic or contextual level [±definite]**

Effect of explicit instruction (Akamatsu, 2018)

- **Count-mass distinction & Definiteness**

- **Articles for definiteness improved (91~94% accuracy)**

- **Articles for noun-countability a little or no improvement (75% for abstract, 86% for material, 56% for flexible)**

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ARTICLES WITH ABSTRACT NOUNS

Persistent difficulty **with abstract nouns**

- **Low accuracy for both count and noncount uses (Hiki, 1990)**

- **Lower accuracy than concrete nouns (Ogawa, 2008)**

→ **Problem with countability judgment**

e.g., There was a poor boy who had no access to education. One day, a wealthy man appeared and provided him with a good education. The boy completed primary education of good quality and received two types of education, private and public, throughout his life. In the end, he became very rich. He thought getting an education was very important and decided to sponsor educations for needy people.

LEE AMUZIE & SPINNER (2013)

Countability and boundedness (Briton, 1998)

Nouns	Boundedness	Verbs
Mass (water, sand, etc.)	Unbounded	States (live, know, hate, etc.)
		Activity (drive, swim, dance, etc.)
Count (car, table, etc.)	Bounded	Achievement (arrive, die, etc.)

- **50 Korean learners of English (Inter.)**

- **Four types of abstract nouns (12 nouns for each type)**

    1. **State**: safety, love, knowledge, etc.
    2. **Continuous action**: discussion, announcement, etc.
    3. **Non-continuous action**: kick, catch, cut, etc.
    4. **Bounded independent**: story, article, job, etc.

- **A forced-choice elicitation task (a/an or ø)**

LEE AMUZIE & SPINNER (2013)

Prediction: Bounded nouns are more accurately supplied with a/an than unbounded nouns.

	Boundedness	Target answer	Mean accuracy
1. State	unbounded	null	87.83%
2. Continuous action	unbounded	a/an	**70.83%**
3. Non-cont. action	bounded	a/an	**54.18%**
4. Bounded independent	bounded	a/an	88.5%

→ **Derivational morphology (conversion or suffixation)?**

→ **L1 influences (compatibility with a plural morpheme)?**

OGAWA (2018b)

- **JLEs: Lower-inter. (n=21), Upper inter./Adv. (n=25)**

- **A forced-choice elicitation task (Context introduction in Japanese + an English passage)**
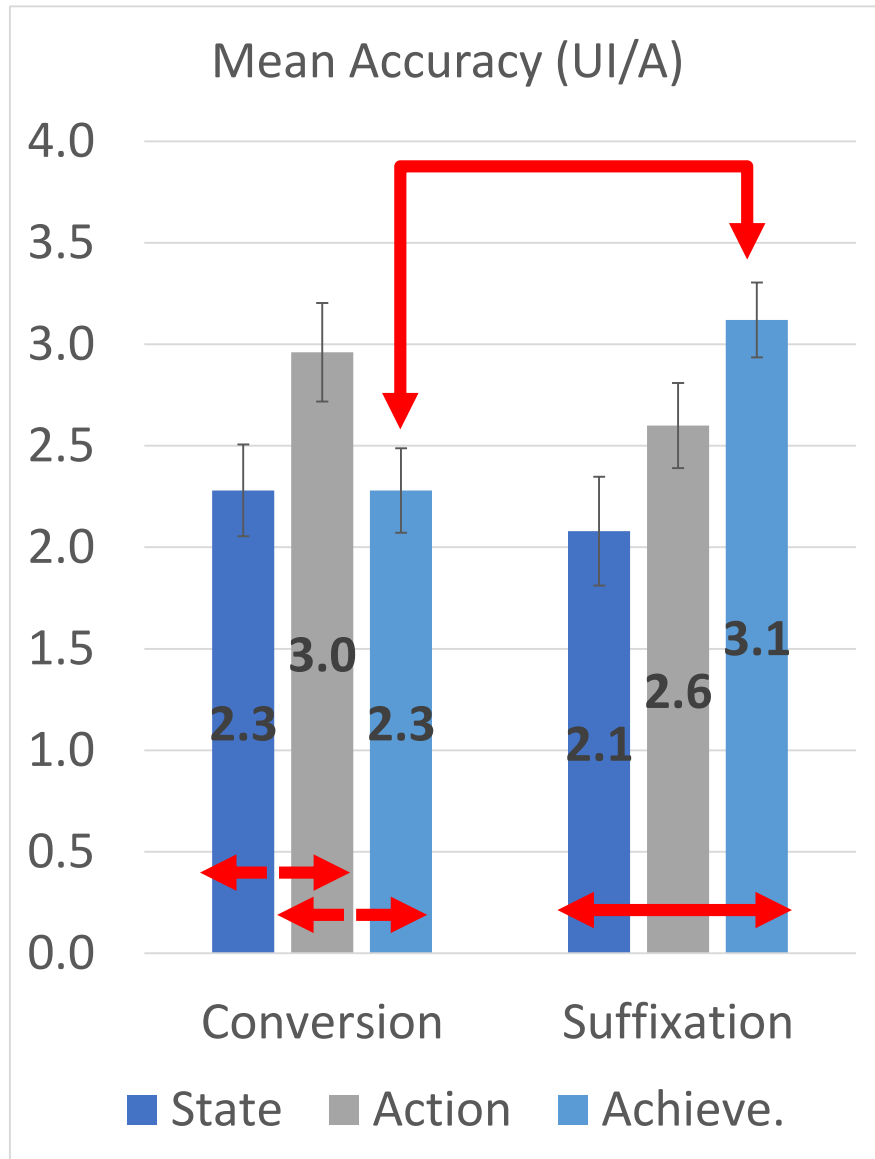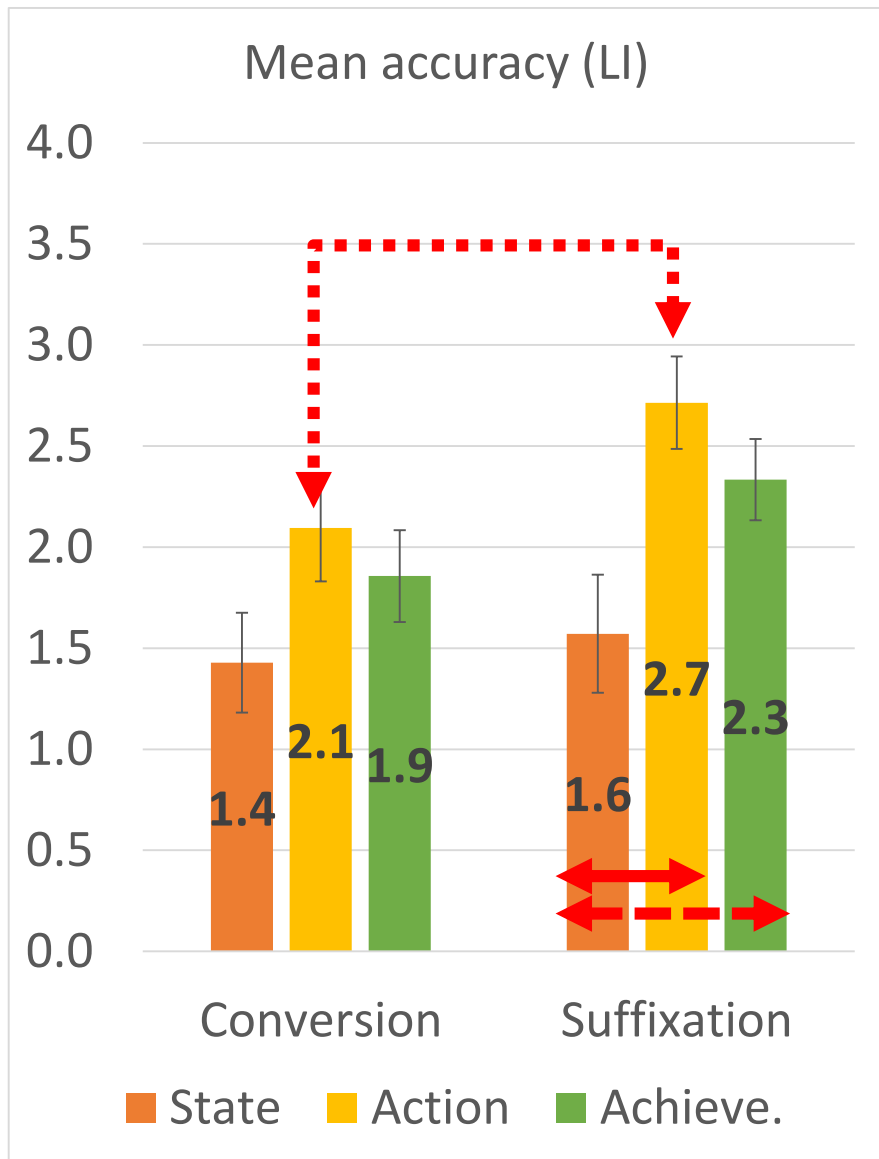
  e.g., とても綺麗な島を観光で訪れて言いました。
      Everything looks so amazing here! Why don't we take（ a / ø ）
      drive around the island?

- **Target answers: a/an (n=24), 24 fillers: the or ø**

Derivation Type	State	Action	Achievement
Conversion	**fear**	**drive**	**promise**
	hope	**fight**	**start**
	respect	**search**	**stop**
	worry	**move**	**win**
Suffixation (-tion)	**confusion**	**calculation**	**registration**
	imagination	**competition**	**application**
	intention	**discussion**	**decision**
	satisfaction	**observation**	**recognition**

RESULTS: OGAWA (2018b)

Mean accuracy (LI) — Conversion: State 1.4, Action 2.1, Achieve. 1.9; Suffixation: State 1.6, Action 2.7, Achieve. 2.3

Mean Accuracy (UI/A) — Conversion: State 2.3, Action 3.0, Achieve. 2.3; Suffixation: State 2.1, Action 2.6, Achieve. 3.1

Legend: State, Action, Achieve.

$p < .01$ (solid) — $p < .05$ (dashed) — $p = .054$ (dotted)

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INTUITION AND COUNTABILITY JUDGMENT

Learners think that it is a fixed notion whether a noun is countable or not, and refer to a static list of countable and uncountable nouns that they have identified through experience (Butler, 2002)

- **Correlation b/w intuitive countability and article choice in L2 learners, but not in Natives (Yoon, 1993)**

→ **Problem: Individual learner tendency not investigated**

INTUITIVE COUNTABILITY JUDGMENT AND ARTICLE CHOICE (OGAWA, 2018a)

- **47 JLEs: Lower-inter. (n=21), Upper inter./Adv. (n=26)**

1. **Intuitive Countability Judgment task**

   - 60 nouns: 30 concrete, 30 abstract (Brinton, 1998; Ikehara et al, 1997)

2. **Forced-Choice Elicitation task (24 target nouns)**

   - Target answers: Indefinite articles (*a/an*)

   - 3 types of nouns (State, Action, Achievement) with 2 derivation types (Conversion, Suffixation)

POSSIBLE PATTERNS

		Article Choice	
		Correct *a/an*	**Incorrect** ϕ
Intuitive Countability	**Count**		
	Noncount		

OVERALL RESULTS

Participants n=47 Items n=24 Total: 1128 (% of Total)	Article Choice			
		Correct *a/an*	Incorrect ϕ	
Intuitive Countability	**Count**	**317** **(28.1%)**	**119** **(10.5%)**	436 [38.7%]
	Noncount	**336** **(29.8%)**	**356** **(31.6%)**	692 [61.3%]
$\chi^2(1) = 64.00, p = .000$		653 [57.9%]	475 [42.1%]	1128

INDIVIDUAL PARTICIPANTS (N=47)
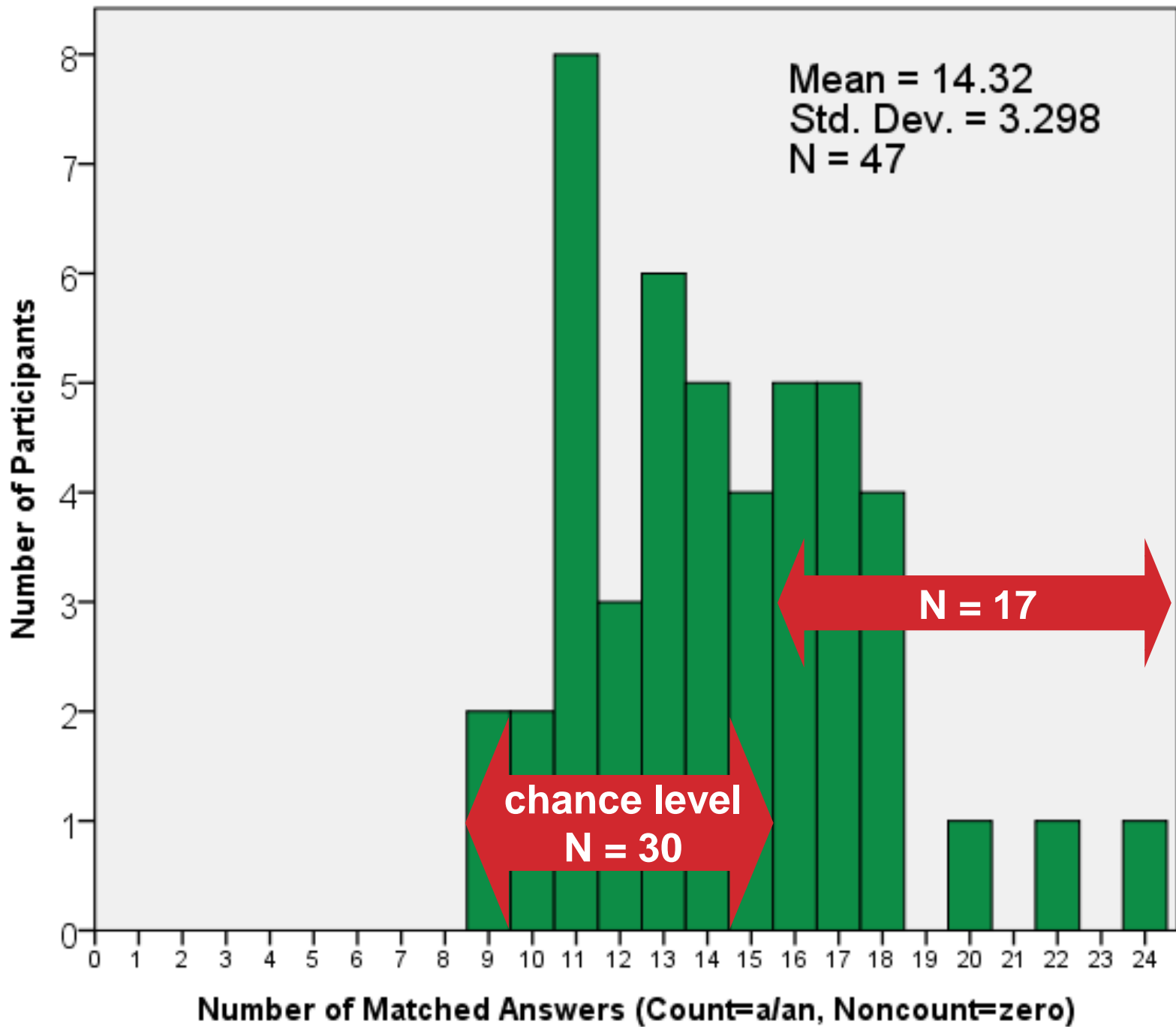
PARTICIPANTS WITH A STRONG LINK B/W IC & ARTICLE CHOICE
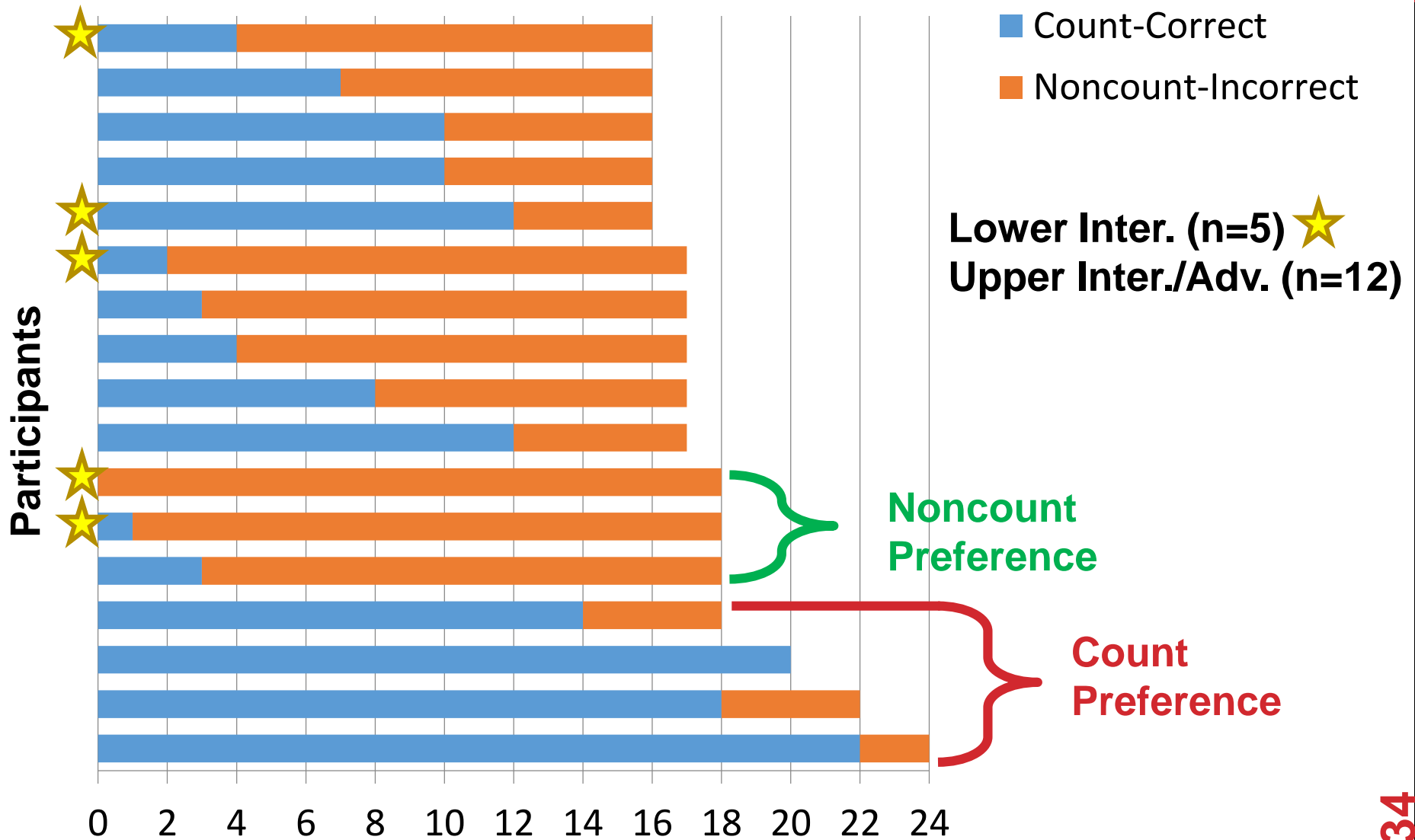
SUMMARY OF FINDINGS

1. Contextual semantics cannot account for some aspects of L2 article use (i.e., noun type difference)

2. Input frequency and article cues serve as a determinant in article choice.

3. The acquisition of the count-mass distinction seems to pose a more persistent and challenging task than definiteness.

4. In countability judgment, lexical semantics (e.g., temporal boundedness) may serve as a determinant only for learners with high proficiency.

5. Some learners, irrespective of proficiency level, rely strongly on intuition in countability judgment of nouns.

CONCLUSION

- **The effect of semantic context can easily be overridden by other factors (e.g., input frequency, plural marking, the count-mass distinction, countability intuition).**

- **Restructuring of properties that are similar in L1 and L2 (e.g., count, mass nouns) seems more difficult than acquiring a grammar which does not have a transferrable property in L1 (e.g., articles).**

SELECTED REFERENCES

Akamatsu, N. (2018). Does cognitive linguistic insights help Japanese learners understand the English article system? *SELT (Studies in English Language Teaching), 41*, 1-20.

Brinton, L. J. (1998). Aspectuality and countability: a cross-categorial analogy. *English Language and Linguistics, 2*(01), 37–63.

Hiki, M. (1990). The judgment of noun countability by Japanese college students: Where is the difficulty? *JACET bulletin* (21), 19–38.

Butler, Y. G. (2002). Second language learners' theories on the use of English articles: An analysis of the metalinguistic knowledge used by Japanese students in acquiring the English article system. *Studies in Second Language Acquisition, 24*(3), 451-480. doi: 10.1017/S0272263102003042

Hawkins, R, Al-Eid, S., Almahboob, I., Athanasopoulos, P., Chaengchenkit, R., Hu, J., . . . Velasco-Zarate, K. (2006). Accounting for English article interpretation by L2 speakers. *EUROSLA Yearbook, 6*(1), 7-25. doi: 10.1075/eurosla.6.04haw

SELECTED REFERENCES

Ikehara, S., Miyazaki, M., Shirai, S., Yokoo, A., Nakaiwa, H., Ogura, K., . . . Hayashi, Y. (1997). *Goi-Taikei ― A Japanese Lexicon* (Vol. 1). Tokyo: Iwanami Shoten.

Ionin, Tania, Ko, Heejeong, & Wexler, Kenneth. (2004). Article semantics in L2 acquisition: The role of specificity. *Language Acquisition, 12*(1), 3-69. doi: 10.1207/s15327817la1201_2

Lee Amuzie, G, & Spinner, P. (2013). Korean EFL Learners' indefinite article use with four types of abstract nouns. *Applied Linguistics, 34*(4), 415–434. doi: 10.1093/applin/ams065

Ogawa, M. (2008). The acquisition of English articles by advanced EFL Japanese learners: Analysis based on noun types. *Language and Information, 3*, 133–151.

Ogawa, M. (2014). *The Role of the Mass-Count Distinction in the Acquisition of English Articles by Speakers of an Article-less First Language* (Unpublished doctoral dissertation). University of Essex, Colchester, Essex.

SELECTED REFERENCES

Ogawa, M. (2015). Input Frequency of Article-Noun Combinations as Another Factor for L2 Article Use. *Ars Linguistica: Linguistic Studies of Shizuoka, 21*, 67-88.

Ogawa, M. (2018a, June). *Intuitive countability judgment and article choice: Do L2 learners rely on intuition to determine noun countability in context?* Paper presented at the 48th Annual Conference of the Chubu English Language Education Society (CELES), Shizuoka, Japan.

Ogawa, M. (2018b, September). *Boundedness based on lexical aspect and L2 countability judgment of English abstract nouns*. Poster presented at the 28th Conference of the European Second Langauge Association (EUROSLA), Münster, Germany.

Taler, V., & Jarema, G. (2007). Lexical access in younger and older adults: The case of the mass/count distinction. *Canadian Journal of Experimental Psychology/Revue canadienne de psychologie expérimentale, 61*(1), 21-34. doi: 10.1037/cjep2007003

SELECTED REFERENCES

Sarko, G. (2009). L2 English article production by Arabic and French speakers. In M. d. P. Garcia-Mayo & R. Hawkins (Eds.), *Second language acquisition of articles: empirical findings and theoretical implications* (Vol. 49, pp. 37-66): John Benjamins Publishing Company.

Yokokawa, H. (2006). *Database for L2 research & pedagogy: English word familiarity for Japanese EFL learners － Letters*. Tokyo: Kuroshio Publisher.

Yoon, K. K. (1993). Challenging prototype descriptions: Perception of noun countability and indefinite vs. zero article use. *International Review of Applied Linguistics in Language Teaching (IRAL), 31*(4), 269–289. doi: 10.1515/iral.1993.31.4.269

Zhao, H. & Macwhinney, B. (2018). The Instructed Learning of Form–Function Mappings in the English Article System. *The Modern Language Journal, 102*(1), 99-119. doi: doi:10.1111/modl.12449