名詞の可算・不可算の習得

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OVERVIEW

1. **Literature Review**
   - Cho & Kawase (2011)
   - Akamatsu (2018)
2. **The Current Research**
3. **Instructions**
   - Cognitive linguistic approach
4. **Results**
   - Effect of instruction
   - Long-term effect
5. **Discussion**
6. **Conclusions**

HOW DO YOU TEACH THE COUNT MASS DISTINCTION?

Count nouns?

Non-count nouns?

I like an apple?

I like apples?

I like apple?

THE COUNT-MASS DISTINCTION

Noun Classification = Common（普通）, Collective（集合）, Proper（固有）, Material（物質）, Abstract（抽象）

- Syntactic view (Bloomfield, 1962; Palmer, 1971),
- Ontological view (Quine, 1960; Cheng, 1973; Bunt, 1985)

e.g., The house is build of brick.
He used bricks to build the house.

Cognitive Linguistics = How to construe the referent

- Conceptual-semantic view: (Bloom, 1990: Jackendoff, 1991)

Boundedness（境界）: Clear perceptual outlines

Individuation（個別性）: Properties that differentiate one from another (Croft & Cruse, 2004; Langacker, 2008, Radden & Dirven, 2007)

LITERATURE REVIEW

- **Cho & Kawase (2011): Boundedness**
  - Cognitive linguistics (Picture drawing) vs. Noun classification
  - 20-30 min instruction, 30-40 min exercises/explanation
  - Pre-test (wk1) → Instruction (wk2) → Post-test (wk10)
  - 20 test item nouns (no control for concrete or abstract)

  Results: Significant gains for CL

- **Akamatsu (2018): Boundedness (Individuation)**
  - Cognitive linguistics (**Image-schema**) vs. Noun classification
  - 4 one-hour lessons (including definiteness), exercises/review
  - Pre-test (wk1) → Instruction (wk2-5) → Post-test (wk5)
  - 8 Material, 8 abstract ,8 flexible (noncount→count) nouns

  Results: No advantage for CL, No improvement with flexible nouns

THE CURRENT RESEARCH

METHODS

- **Participants**

Japanese learners of English (1st-year university students)		Number of participants	average TOEIC score
Experimental	Cognitive Linguistic (CL)	18	514
		23	337
	Noun classification (NC)	24	490
Control		24	496
		25	382

- **Noun types used in tests: Concrete nouns（具象名詞） selected from grammar books, textbooks, high familiarity ratings**
  - **Count**: artificial object, animal, food
  - **Mass**: liquid, natural material, food
  - **Flexible** (count, mass): artificial object, liquid, natural material, food

Count	Mass	Flexible (count/mass)
cat	soup	paper
dog	gasoline	brick
horse	milk	rope
bag	sand	beer
book	gold	tea
picture	silver	coffee
box	rice	stone
house	beef	wood
chair	meat	hair
table	spaghetti	egg
ball	bread	tomato
pen	sugar	apple
banana	butter	chocolate
carrot	salt	cheese
sandwich	salad	cake

	Count	Flexible Count	Flexible Mass	Mass
Pre-test (N=20)	book	paper	tea	milk
	picture	hair	wood	salad
	cat	chocolate	cake	gold
	house	beer	rope	rice
	carrot	tomato	stone	spaghetti
Immediate Post-test (N=20)	pen	tea	brick	soup
	banana	wood	apple	sand
	dog	cake	coffee	bread
	bag	rope	egg	meat
	box	stone	cheese	sugar
Delayed post-test (N=20)	horse	brick	paper	beef
	ball	apple	hair	butter
	chair	coffee	chocolate	gasoline
	table	egg	beer	silver
	sandwich	cheese	tomato	salt

METHODS

Tests

1. Pre-test (wk1)

----- Instruction （3 weeks: Phrase 1, 2, 3）-----

2. Immediate Post-test (wk5)
3. Delayed-Post test (wk11)

Test format

- Question in Japanese (Context setting)
  → A forced-choice elicitation in English

  e.g., 裏庭で何を見たのですか？
  I saw (a cat / cat) in the backyard.
- No difference among the tests ($F(2, 58) = .004$, $p = .996$)

INSTRUCTION

3 sessions, 20-30 minutes per session

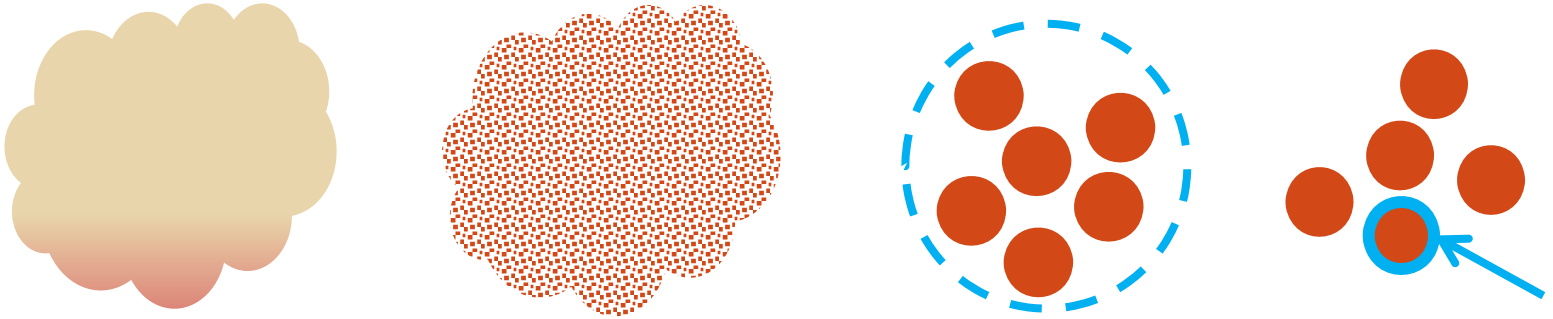
- **Cognitive linguistic (CL) approach**
  - ① The count-mass distinction as conceptualization, **Image-schema**, boundedness & Individuation
  - ② Form-meaning mapping (noun form → meaning), **Flexible nouns**, Exercises
  - ③ Form-meaning mapping (context → noun form), **Individuation**, Exercises
- **Noun classification (NC) approach**
  - ① The count-mass distinction as classification type, 5 types
    Common, *Collective = countable
    Material, *Proper, *Abstract = uncountable
  - ② Form-type mapping, **Formal differences** between countable and uncountable nouns, Exercises
  - ③ Flexible nouns as **Type shift（種類の転用）**(countable ⇔ uncountable), Exercises

INSTRUCTION

COGNITIVE LINGUISTIC APPROACH

PHASE 1

不可算名詞・可算名詞のイメージ



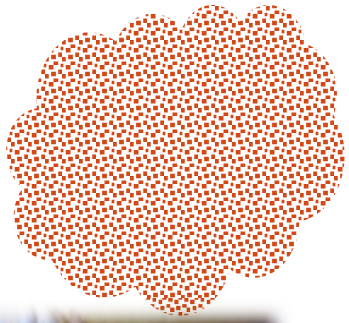
境界線が不明確 ⟷ **境界線**が明確

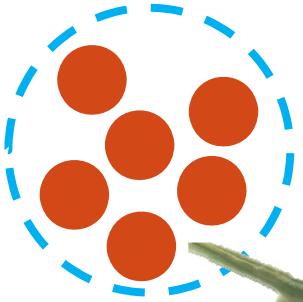
個別性が低い ⟷ **個別性**が高い

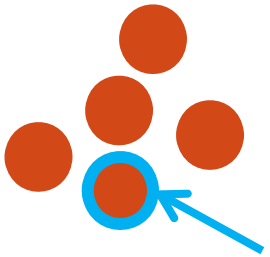
不可算名詞 ⟷ 可算名詞

PHASE 1

不可算名詞・可算名詞のイメージ





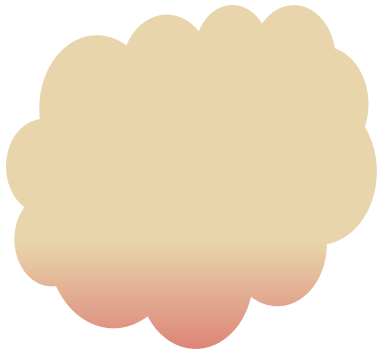
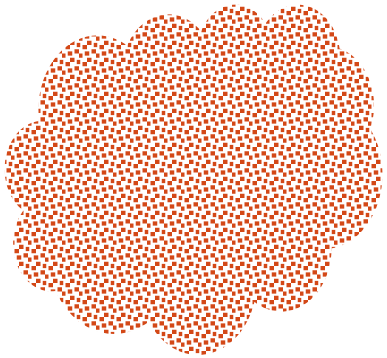
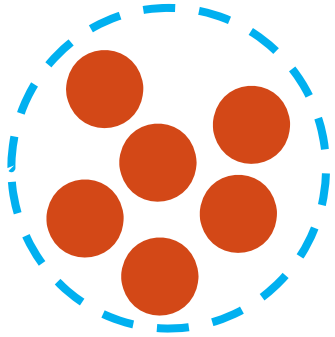
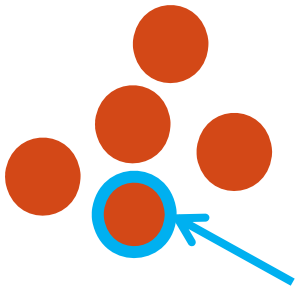


melon

melons / a melon

PHRASE 2

不可算名詞・可算名詞のイメージ

			
不可算名詞		可算名詞 複数形	可算名詞 単数形
melon		melons	a melon

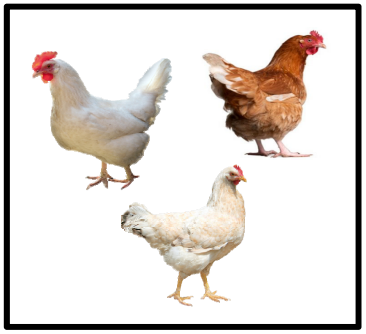
PHASE 2: EXERCISES

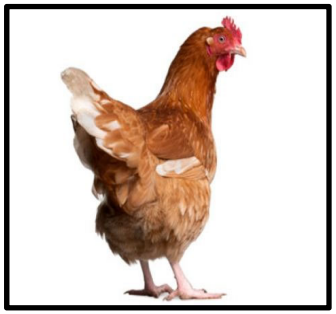
Task: 内容を読んで、単語の形に合う対象の写真を選びましょう。複数当てはまる場合もあります。

e.g., Chickens are running in the garden.

I saw a chicken on the table.

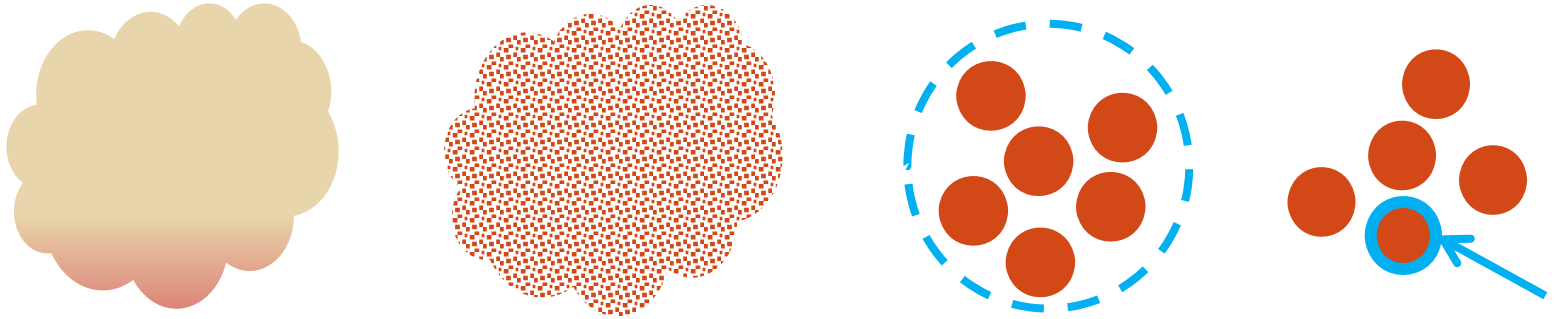
I bought some chicken at the super market.





PHASE 3

不可算名詞・可算名詞のイメージ

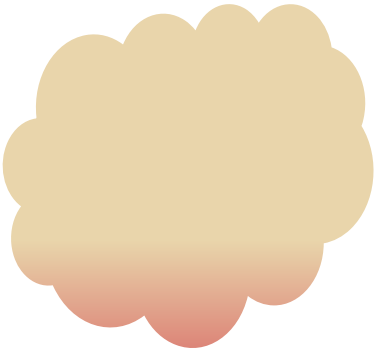
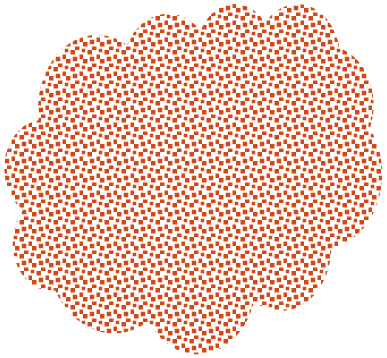
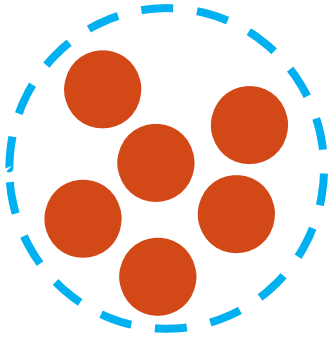
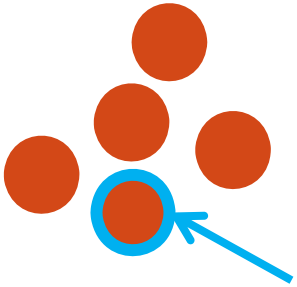


境界線が不明確 ⟷ **境界線**が明確

個別性が低い ⟷ **個別性**が高い

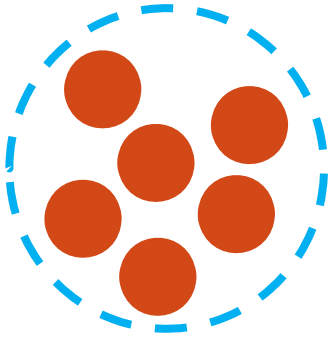
不可算名詞 ⟷ 可算名詞

単語の形から対象をイメージしてみよう

I have two waters.

単語の形から対象をイメージしてみよう



I have two waters.

I have oils.

olive oil

sesame oil

sunflower oil

grapeseed oil

PHASE 3: EXERCISES

Task: 内容を読んで、一番ありえそうな形を選びましょう。

e.g., 今日の昼ごはんにタコが入っていた場合：

I had (octopus / an octopus / octopuses) for lunch today.

たくさんのオリーブオイルがあって、どれを買ったらいいかわからない場合：

The shop has (so much olive oil / so many olive oils), and I don’t know which to buy.

RESULTS

EFFECT OF INSTRUCTION

RESULTS

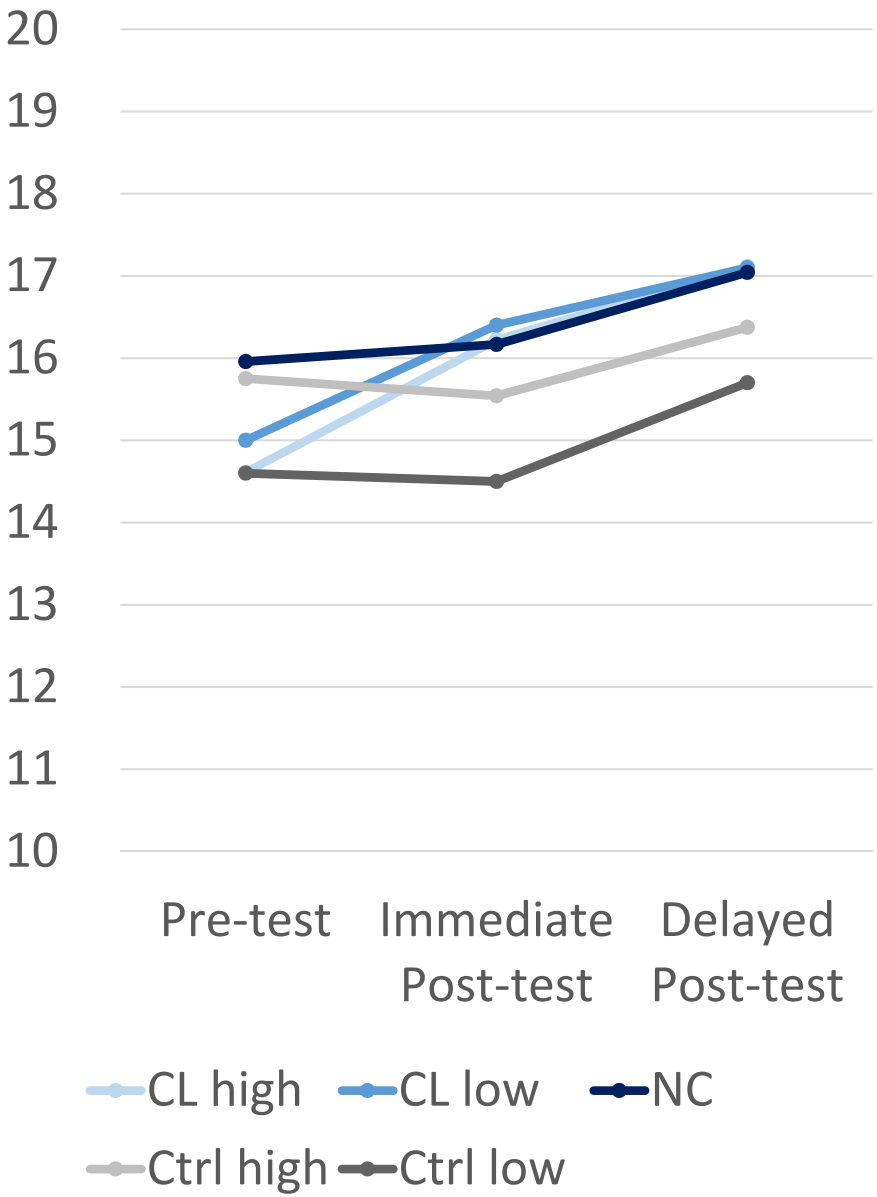


Table 1. Total mean scores (max. 20)

Group	Pre	Immediate-Post	Delayed-Post
CL high	14.6	16.2	17.1
CL low	15.0	16.4	17.1
NC	16.0	16.2	17.0
Ctrl high	15.8	15.5	16.4
Ctrl low	14.6	14.5	15.7

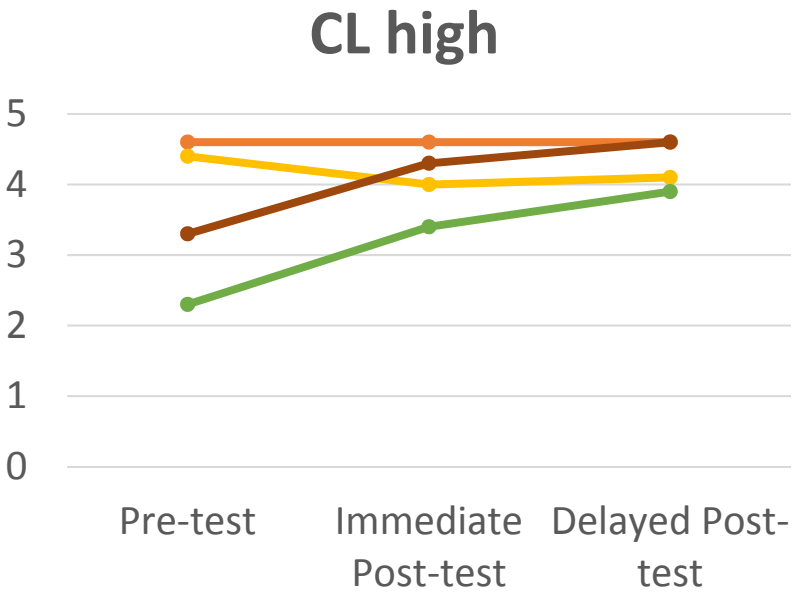
Main effects of

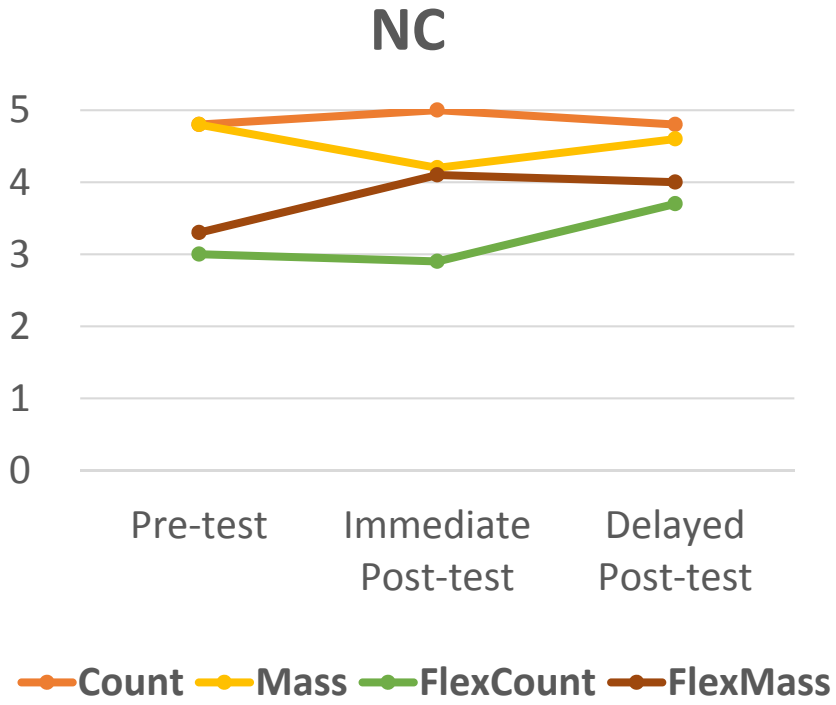
- **Test**
- **Noun type**
- **Group**

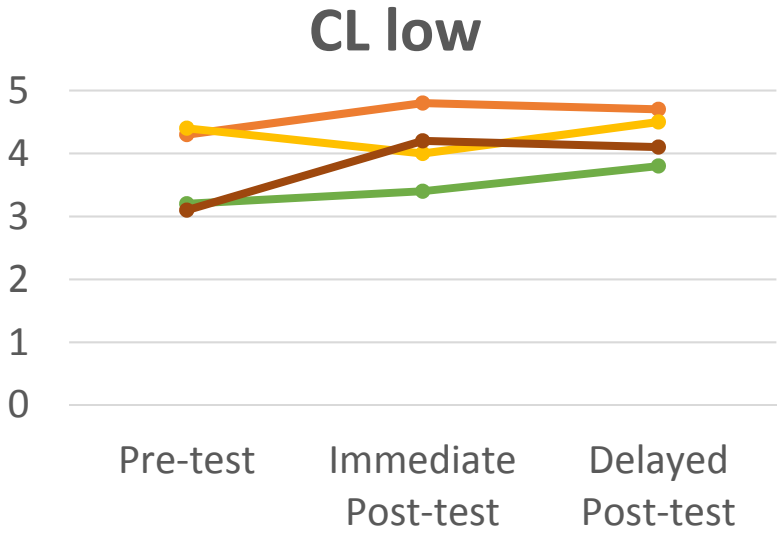
Marginal effect of Interaction

- **Test*Noun type *Group**

RESULTS





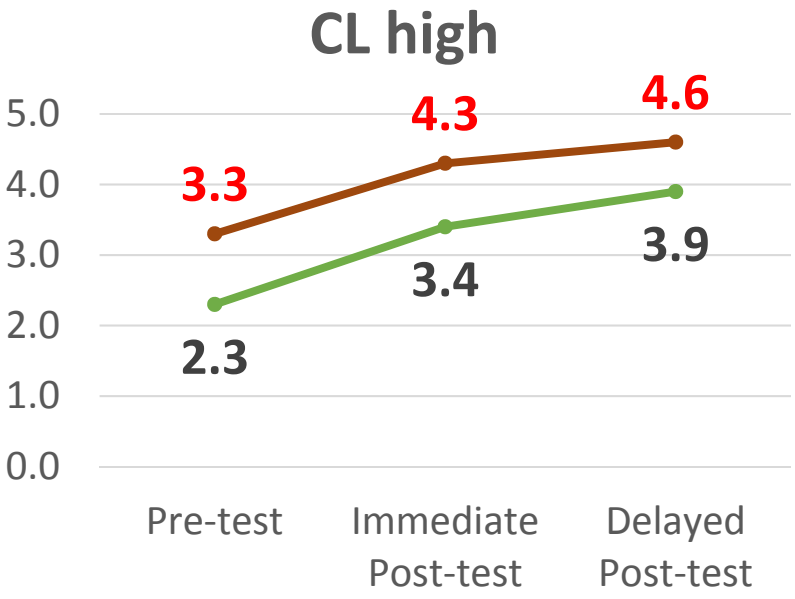


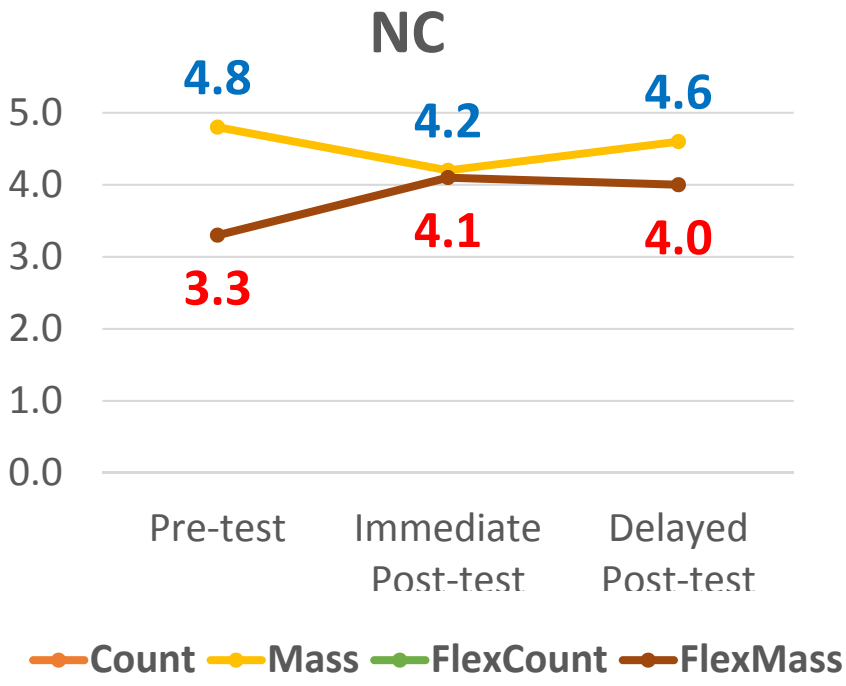
CL high: FlexCount, FlexMass

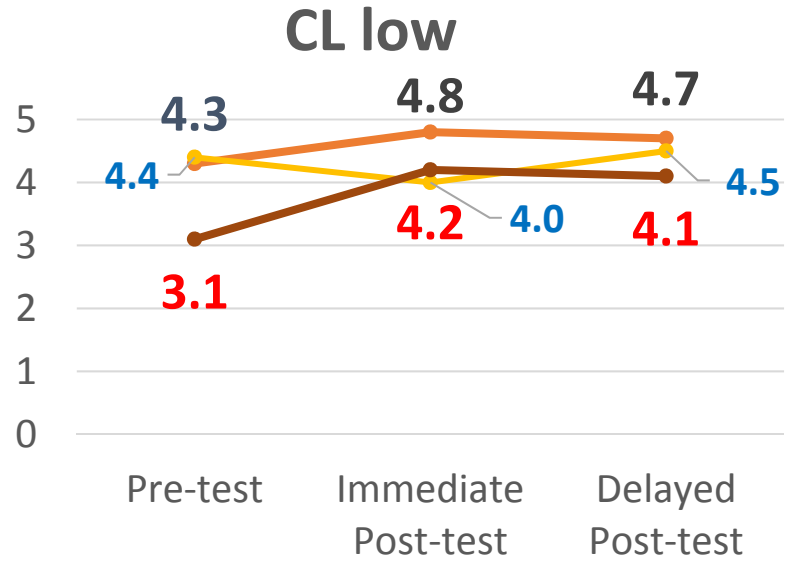
CL low: Count, Mass, FlexMass,

NC: Mass, FlexMass

RESULTS







CL high: FlexCount, FlexMass

CL low: Count, Mass, FlexMass,

NC: Mass, FlexMass

FINDINGS

- **Effect of Cognitive Linguistic instruction with learners at TOEIC 500 level**
  - Flexible nouns used as count ↑
  - Flexible nouns used as mass ↑
- **Effect of Cognitive Linguistic instruction with learners at TOEIC 300 level**
  - Typical count nouns ↑
  - Flexible nouns used as mass ↑
  - Typical mass nouns ↓↑
- **Effect of Noun Classification instruction with learners at TOEIC 500 level**
  - Flexible nouns used as mass ↑
  - Typical mass nouns ↓↑

RESULTS

LONG-TERM EFFECT

METHODS

■ Participants

Japanese learners of English (1st-year university students)		Number of participants
Experimental	Cognitive Linguistic (CL) high	17

■ Procedures

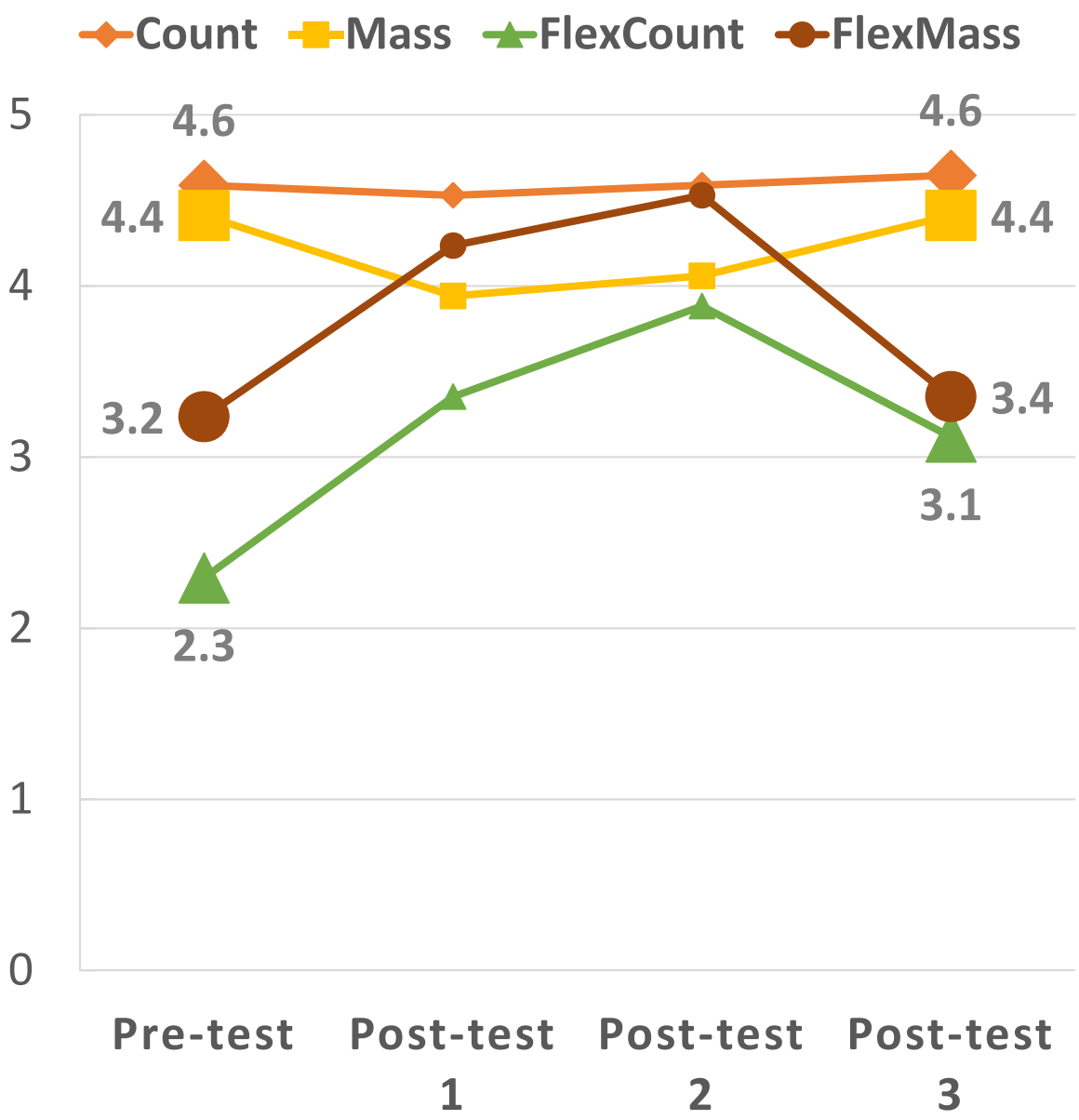
■ **Pre-test** (wk1) → Instruction (wk2, 3, 4)

→ Post-test 1 (1 week after instruction)

→ Post-test 2 (7 weeks after instruction)

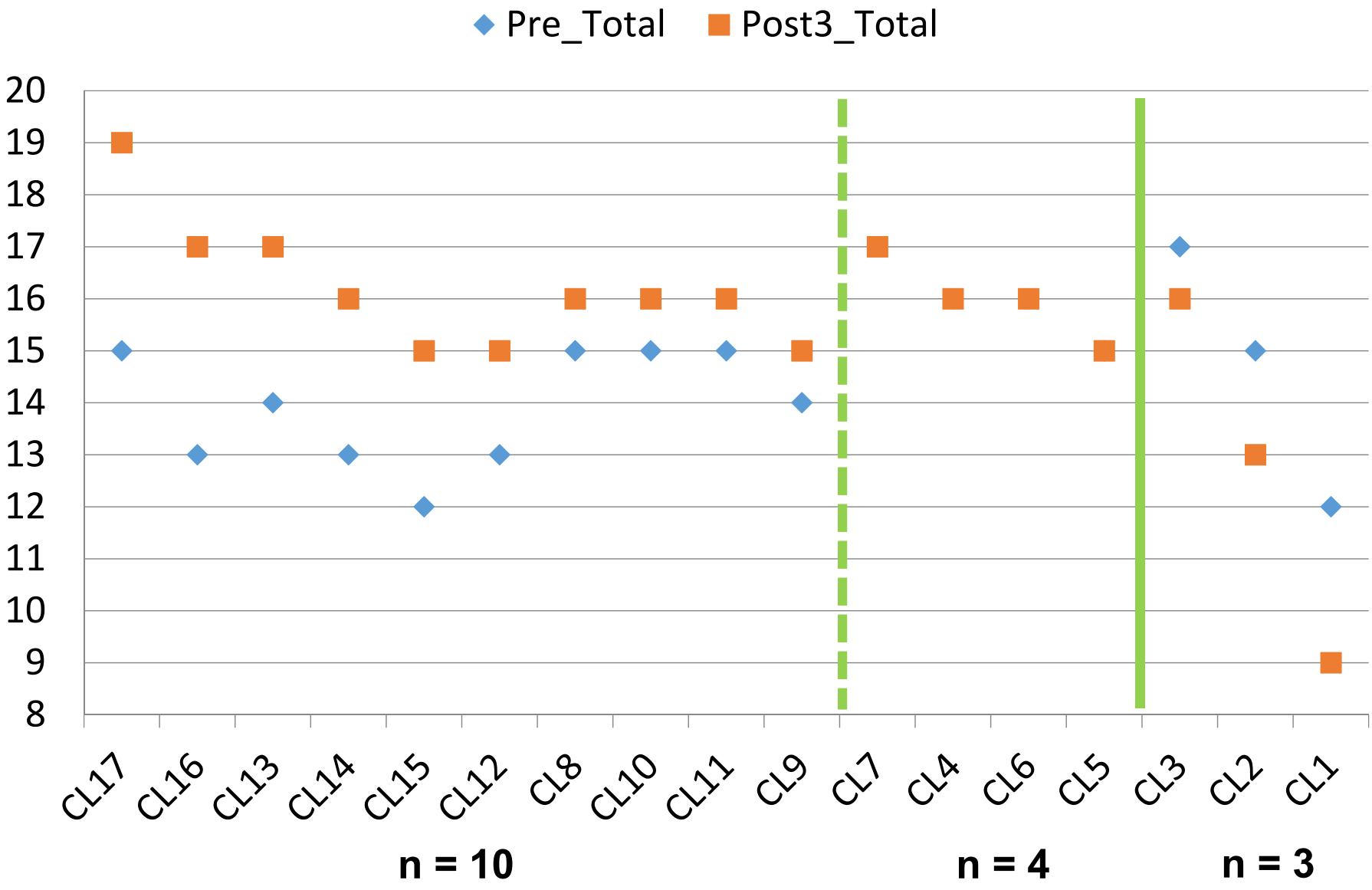
→ **Post test 3** (8 months after instruction)

RESULTS



No significant differences between Pre-test and Post-test 3 of all noun types

INDIVIDUAL RESULTS



DISCUSSION
&
CONCLUSIONS

DISCUSSION

- **Cognitive Linguistic or Noun Classification approach?**
  - Given to the learners at the same proficiency level, only CL improved both uses of flexible nouns.
  - The concepts of **boundedness** and **individuation** are more effective than **type shift**.

- **Why did the effect disappear after 8 months?**
  - Habitual attention to noun forms was not established.
  - Form-meaning mappings were learnt, but not acquired without constant practice.

DISCUSSION

- **When to introduce the instruction?**
  - To those who have already established or are able to pay attention to what (typical) count is.

- **How can we optimize the instruction effect?**
  - Regular practice (every 2 months, etc.)

CONCLUSIONS

- Explicit instruction based on boundedness and individuation is effective to those who are able to pay attention to typical count nouns.
- The count-mass distinction can be learnt by instruction, but the knowledge is difficult to be retained over an extended period.

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Radden, G., & Dirven, R. (2007). *Cognitive English Grammar*: John Benjamins Pub.