

# Accounting for article interpretation in L2 English by L1 Japanese adult and child learners

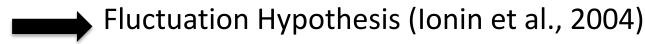
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#### Introduction

DATA: Yamada & Miyamoto (2011)

- Adult and child L1 Japanese learners of L2 English
- The group results
  - 1) adults did not show fluctuation in [-definite, + specific] in L2.
  - 2) children showed fluctuation in [-definite, + specific] in L2.



#### **RESEARCH QUESTION:**

 Did the individual results also show fluctuation in Japanese L2 Children?



In what way can the L2 data be accounted for under *the feature-based model*?

#### Outline

#### 1. Background

Article Choice Parameter (ACP) & the Fluctuation Hypothesis (FH)

- 2. Ionin, Zubizarreta & Philippov (2009)
- 3. Acquisition of English articles by L1 Japanese

Group results from Yamada & Miyamoto (2011)

4. What do the individual data indicate?

Individual results (new observation)

#### 5. Discussion

The DM account (Hawkins et al. 2006)

The Bottleneck Hypothesis (BH) (Slabakova, 2018)

6. Summary and concluding remarks

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Bickerton's (1981) semantic framework of articles
 Specific Referent [\pmSR], Hearer Knowledge [\pmHK]
 [+SR][-HK]
 Speaker A: How will you train your dog?
 Speaker B: I know a professional trainer.
                                   (Snape & Hupisch, 2016: 72)
Huebner (1985), Parrish (1987)
 Semantic features are available in all languages.
    ==> Semantic features are universal.
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Results: Gradual development of article acquisition in L2 English.

=> L2 learners distinguished different features.

L1 influence was observed. (Thomas 1989, Murphy 1997)

There are languages which can encode definiteness or specificity. (Lyons, 1999)

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Semantic features [±definite], [±specificity]

==> the Article Choice Parameter (ACP)

(Ionin, Ko, & Wexler, 2004)
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ACP studies
(Snape, Leung, & Ting 2006; Snape 2006, Tryzna, 2009; Xu, Shi, & Snape 2016, among others)

Ionin, Ko & Wexler's (2004) proposals
 Natural languages can be divided into two types.

a. Languages which use articles to mark [+/—definite](e.g. English)

b. Languages which use articles to mark [+/—specific] (e.g. Samoan)

Context type	Example sentences
[-definite, +specific]	Peter intends to marry <u>a</u> /this merchant banker – even though he doesn't get on at all with her.
[+definite, +specific]	I'd like to talk to <u>the</u> winner of today's race – she is my best friend!
[-definite, -specific]	Peter intends to marry <u>a</u> /??this merchant banker – though he hasn't met one yet.
[+definite, -specific]	I'd like to talk to <u>the</u> winner of today's race – whoever that is; I'm writing a story about this race for the newspaper.

Table 1: Specificity and definiteness interaction in English (based on IKW, 2004: 7-10)  $_{\scriptscriptstyle 6}$ 

Context type	Example sentences	The corresponding Samoan DP
[-definite, +specific]	There was a couple who had a child, a girl called Sina.	le ulugāli'i lā tama, le teine
[+definite, +specific]	It was <b>the man'</b> s practice to get up early and while <b>the woman</b> stayed at home with her child.	le tamāloa l=a=na tama
[-definite, -specific]	Bring me a coconut [no matter which one]!	se niu
[+definite, -specific]	Go to <b>your family</b> – whoever that may be – and sleep! [I wonder] whose boy you might be!	se tou aiga

Table 2: Specificity and definiteness interaction in Samoan (based on IKW, 2004: 12-13)

IKW (2004:15)

The Article Choice Parameter (ACP)

- The Definiteness Setting:
  - Articles are distinguished on the basis of definiteness.
- The Specificity Setting:
  - Articles are distinguished on the basis of specificity.

#### English

	+definite	-definite	
+specific	the		
-specific	uie	а	

Samoan

	+definite	-definite	
+specific	le		
-specific	se		

Table 3: Article groupings

IKW (2004:20)

Fluctuation Hypothesis (FH)

- a. L2 learners have full access to UG principles and parameter-settings.
- b. L2 learners fluctuate between different parametersettings until the input leads them to set the parameter to the appropriate value.

How does FH predict for L2 acquisition?

fluctuation in [+definite, -specific] and [-definite, +specific]

• Fuli (2007), Tryzna (2009)

Definiteness in Samoan is marked with *le* regardless of specificity.

Ionin, Zubizarreta & Philippov (IZP)(2009)
 Revised version of the article groupings in IKW (2004)

#### Article grouping by definiteness

+specific the a-specific

Article grouping by specificity

	+definite	-definite
+specific	le	e
-specific		se

Table 4: IZP's article groupings

Under the revised article groupings,
 FH predicts that L2 learners should fluctuate only in [-definite, +specific] contexts.

#### Research Questions:

Do child and adult L2 English learners from an articleless L1 make the same errors of overusing *the* with specific Indefinites?

Do they make the same errors of **a** with non-specific definites?

#### Prediction:

The revised version of the ACP predicts that L2 learners overuse *the* with specific indefinites.

Subjects:
L1 Russian speakers of L2 English
-21 adults (age: 18–22)
-18 children (age: 10–12)

#### Task:

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written elicitation task

60 short dialogues

24 out of 60 = target items

4 context types

[+definite, +specific][+definite, -specific]

[-definite, +specific][-definite, -specific]
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[+definite, -specific]: target *the* 

Ruby: It's already 4p.m. Why isn't your little brother home from school?

Angela: He just called and told me that he got in trouble! He is talking to (**the**) principal of his school! I don't know who that is. I hope my brother comes home soon.

[-definite +specific]: target **a**Grandmother comes for a visit

Grandmother: Where is my little granddaughter Beth? Is she home?

Father: No...She is not going to be back till late. She is having dinner with ( **a** ) girl from class-her name is Angie, and Beth really likes her.

#### Results

(a) Children frequently exhibited overuse of **the** with specific indefinite, but little overuse of **a(n)** with nonspecific definites.

(b) Adults made both kinds of errors.

Question: Why did the adult L2 learners make the specificity distinction in definite contexts?

Answer: They used "explicit strategies".

(ESK=Explicitly Stated Knowledge)

ESK= "an explicit statement of the speakers' familiarity with the referent" (IZP 2009: 352)

#### Conclusion:

- IZP's proposal of a revised article grouping was supported.
- Both child and adult L2 learners had access to the ACP but adult learners also used explicit strategies.

If explicitly stated knowledge is present in a dialog,
 L2 learners link it to the.

 If explicitly denied knowledge is present (i.e. "I don't know who that is"), they link it to a (n).

Yamada & Miyamoto (2011)

To test the validity of IZP's (2009) article groupings To compare child and adult EFL learners

- Research questions:
  - a. Do child and adult L2-English learners from an L1 that has no articles make the same errors of the overuse with specific indefinites?
  - b. Do they make the same errors of *a/an* overuse with non-specific definites?

#### Prediction:

Fluctuation appears only with specific indefinites.

Adult L2 learners overuse *a(n)* in non-specific definite contexts where explicitly denied knowledge is involved.

Participants	Age	Starting age of studying English	Level
30 Japanese speakers			
-11 children	7-12	2-6 years old	-
-19 adults	20-22	10-13 years old	OPT Intermediate
3 English native speakers	30-35	-	-

Table 5: Participants

Screening test (child learners)
 If children gave a correct answer to simple definite contexts and simple indefinite contexts, they were included in the main test.

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#### Materials

Forced-choice elicitation task

- Revised the task in Ionin et al. (2004)
- Explanation of context in Japanese
- Test sentences in English
- Words that were chosen carefully
- 40 items, 10 types (4 tokens for each type)

	Contexts		Contexts
Type 1	[+def +spec] wide	Type 6	[-def +spec] wide
Type 2	[+def -spec] narrow	Type 7	[-def -spec] narrow
Type 3	[+def +spec]	Type 8	[-def +spec]
Type 4	[+def -spec]	Type 9	[-def -spec]
Type 5	[+def +spec] normal	Type 10	[-def -spec] normal

Type 2 [+definite, -specific] narrow scope

A raccoon suddenly disappeared three days ago. It seems that somebody stole it because its cage was broken. Children asked a staff member of the zoo how the affair had developed. Then the staff member said, "The police are trying to find (a, the, ---) suspect."

Type 4: [+definite -specific]

Mary asked John who Laura had married. He just heard this news as a rumor, so he didn't know much about it. So he answered, "Laura married (a, the, ---) principal of a school in New York."

\*underline = ESK/explicitly denied knowledge

Type 6: [-definite, +specific] wide scope

Monica's flight will arrive at the airport at 9:00. Mary came to the airport to meet Monica. Since Monica's hair is red, Mary thought she could find Monica immediately. However, the airport was so crowded that she could not find Monica. Then Mary asked a staff member at the airport, "I want to find (a, the, ---) red-haired girl; her flight arrived at 9:00."

Type 8: [-definite, +specific]

Chris saw Mary by chance. Mary looked so happy. Chris asked her what happened. Mary answered, "I saw (<u>a</u>, the, ---) player of the Hanshin Tigers."

Group results

#### Control group (n=3)

	Contexts	the	а	Ø
Type 2	[+def -spec]	12/12 (100%)	0/12 (0%)	0/12 (0%)
Type 4	[+def -spec]	11/12 (91.7%)	1/12 (8.3%)	0/12 (0%)
Type 6	[-def +spec]	1/12 (8.3%)	11/12 (91.7%)	0/12 (0%)
Type 8	[-def +spec]	3/12 (25.0%)	9/12 (75.0%)	0/12 (0%)

Table 7: Article choice by the control group

#### Child L2 learners group (n=11)

	Contexts	the	а	Ø
Type 2	[+def -spec]	28/44 (63.6%)	13/44 (29.6%)	3/44 (6.8%)
Type 4	[+def -spec]	29/44 (65.9%)	13/44 (29.6%)	2/44 (4.5%)
Type 6	[-def +spec]	19/44 (43.2%)	21/44 (47.8%)	4/44 (9.0%)
Type 8	[-def +spec]	20/44 (45.5%)	20/44 (45.5%)	4/44 (9.0%)

Table 8: Article choice by the child L2 learners

#### **Definite contexts**

- The children did relatively well with definites (correct choice: 60% and above).
- No clear contrast between type 4 and type 2 indicates that ESK is not involved in the child L2 learners.

#### **Indefinite contexts**

 The children showed fluctuation in specific indefinite contexts:

in type 6 *the* was selected 43.2%, and *a* 47.8% in type 8 *the* was selected 45.5% and *a* 45.5%.

#### Adult L2 learners group (n=19)

	Contexts	the	а	Ø
Type 2	[+def -spec]	56/76 (73.7%)	13/76 (17.1%)	7/76 (9.2%)
Type 4	[+def -spec]	9/76 (11.9%)	<b>58</b> /76 ( <b>76.3</b> %)	<b>9</b> /76 ( <b>11.8</b> %)
Type 6	[-def +spec]	18/76 (23.7%)	56/76 (73.7%)	2/76 (2.6%)
Type 8	[-def +spec]	14/76 (18.4%)	58/76 (76.3%)	4/76 (5.3%)

Table 9: Article choice by the adult L2 learners

#### **Definite contexts**

• **the** was selected more than 60% of the time with the exception of type 4.

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Type 4: [+definite –specific]

Mary asked John who Laura had married. He just heard this news as a rumor, so he didn't know so much about it. So he answered 'Laura married (a, the, ---) principal of a school in New York.'
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- A statistically significant difference in *the* choice among types 1 to 5 (F(4,72) = 23.027, p < .001).
- No significant difference in the use among types 2, 3, and 5.

#### **Indefinite contexts**

- Their score:
   in indefinite contexts > in definite contexts.
- In all the indefinite contexts, **a** was correctly selected more than 70% of the time.
- No significance in article selection found among types
   6 through 10
  - (A repeated-measures ANOVA, F(2.539, 45.706) = 0.390, p = 0.728).
- No fluctuation was observed in specific indefinite contexts.

## Acquisition of English articles by L1 Japanese

 The results from the adult learners were different from those of the child learners in 2 respects.

- 1) They could choose *the* only 11.8% of the time in type 4 with explicitely denied knowledge.
- 2) They did not exhibit fluctuation with specific indefinites.

## Acquisition of English articles by L1 Japanese

Brief summary

#### **Child learners**

They did relatively well in definite contexts while they showed a fluctuation only with specific indefinites. Therefore, our child learner data provides cross-linguistic support for the ACP.

#### Adult learners

- No fluctuation was observed because they seemed to have set the English parameter value.
- They accessed the ACP with IZP's article groupings.
- They also used explicit strategies.

 However, only the group data was analyzed in Yamada & Miyamoto (2011).

 "...the group pattern conceals some important individual variation," (Hawkins et al., 2006, p.24).

 We need to observe the child learner data individually to see whether they really fluctuate with specific indefinites.

Subject	Type 2 [+definite, -specific]	Type 4 [+definite, -specific]	
Child 1	0	0	
Child 2	2	1	
Child 3	1	0	
Child 4	0	1	
Child 5	1	0	
Child 6	0	1	
Child 7	2	2	
Child 8	3	2	
Child 9	0	0	
Child 10	2	3	
Child 11	2	3	

Table 10: Choice of \*a in definite contexts: elicitation task -individual results- Japanese 39 children

Subject	Type 6 [-definite, +specific]	Type 8 [-definite, +specific]	
Child 1	2	3	
Child 2	2	4	
Child 3	2	3	
Child 4	2	1	
Child 5	2	0	
Child 6	2	1	
Child 7	0	1	
Child 8	2	1	
Child 9	1	2	
Child 10	2	0	
Child 11	2	4	

Table 11: Choice of \*the in indefinite contexts: elicitation task -individual results-Japanese children

#### **Child learners**

Type 6: wide scope

9 out of 11 children chose *the* twice.

= = > There was fluctuation.

Type 8: no scope interaction

The children's individual results varied.

6 out of 11 children selected a more than the.

= = > Why was fluctuation not observed?

Trenkic (2008), IZP (2009)

ESK = speaker's familiarity with the reference

(not included in semantic universals)

specificity = speakers' intention to refer

===> It might have been unclear to the children whether the speakers really intended to refer or not in Type 8.

Type 6: [-definite, +specific] wide scope

Monica's flight will arrive at the airport at 9:00. Mary came to the airport to meet Monica. Since Monica's hair is red, ..."I want to find (a, the, ---) red-haired girl; her flight arrived at 9:00."

Type 8: [-definite, +specific]
Chris saw Mary by chance. Mary looked so happy.
Chris asked her what happened. Mary answered,
"I saw (<u>a</u>, the, ---) player of the Hanshin Tigers."

 The nature of the items played a role in the difference observed between Type 6 & 8.

• It seems unlikely that a scope interaction is relevant to the difference in article choice between Type 6 & 8.

(See IKW 2004: 27-28)

• The fluctuation observed in Type 6 indicates that the children accessed the semantic universal specificity.

Subject	Type 2 [+definite, -specific]	Type 4 [+definite, -specific]	
Adult 1	0	4	
Adult 2	1	4	
Adult 3	4	3	
Adult 4	0	3	
Adult 5	1	3	
Adult 6	0	1	
Adult 7	0	4	
Adult 8	1	1	
Adult 9	0	4	
Adult 10	1	0	

Subject	Type 2 [+definite, -specific]	Type 4 [+definite, -specific]	
Adult 11	0	1	
Adult 12	1	4	
Adult 13	0	4	
Adult 14	1	2	
Adult 15	0	4	
Adult 16	2	4	
Adult 17	0	4	
Adult 18	1	4	
Adult 19	0	4	

Table 12: Choice of \*a in definite contexts: elicitation task -individual results- Japanese adults

Subject	Type 6 [-definite, +specific]	Type 8 [-definite, +specific]	
Adult 1	0	4	
Adult 2	0	0	
Adult 3	0	0	
Adult 4	0	1	
Adult 5	4	0	
Adult 6	0	0	
Adult 7	1	0	
Adult 8	1	0	
Adult 9	0	1	
Adult 10	0	0	

Subject	Type 6 [-definite, +specific]	Type 8 [-definite, +specific]	
Adult 11	0	2	
Adult 12	3	1	
Adult 13	0	1	
Adult 14	0	0	
Adult 15	1	1	
Adult 16	1	0	
Adult 17	0	0	
Adult 18	4	1	
Adult 19	3	2	

Table 13: Choice of \*the in indefinite contexts: elicitation task -individual results- Japanese adult

#### Adult learners

As the group results showed, the individual data also indicated that most of the Japanese adult learners seemed to have the definiteness setting.

- Our Japanese child learners fluctuated in [-definite, +specific] where accessing semantic universals.
   However, each of their article choice varied in other 3 contexts, .
- This result is in contrast to the result from the adult Japanese learners in Hawkins et al. (2006) where their adult learners' performance varied, but not fluctuated.
- Also, our Japanese adult learners, whose level was intermediate, seemed to have set the English value of the ACP earlier than the Japanese adult learners with upper intermediate and advanced in Hawkins et al. (2006).

- Snape and Kupisch (2016) argued that there are many languages without free morphemes (e.g. a, the), how can these languages be captured under the ACP?
- A notion of parameter is useful, particularly when L1 influence is discussed.
- However, the variability observed among a group of L2 learners with the same L1, in what way can we explain their L2 knowledge?

- Within the minimalist framework (Chomsky 1995, 1999, 2000), language acquisition might be considered as a process of searching for the correct composition of features in the target language.
- A feature-based approach can provide us with a more fine-grained way to explain our L2 learners' knowledge.
- Two feature-based approaches
  - 1) Distributed Morphology (DM) account
  - 2) The Bottleneck Hypothesis

• Distributed Morphology (DM) (Harley & Noyer, 1999) This model involves the separation of syntactic outputs from phonological exponents.

Outputs of the syntax = a set of terminal nodes

Terminal nodes = a bundles of features lacking

phonological content

phonological exponents

DM account (Hawkins et al., 2006)

Feature specification of the terminal nodes of articles (for native speakers)

```
[D, +definite, +singular] (='the')
[D, +definite, -singular] (='the')
[D, -definite, +singular] (='a')
[D, -definite, -singular] (='Ø')
```

The context of insertion for the phonological exponents

```
a \leftrightarrow [D, -definite, +singular]
the \leftrightarrow [D, +definite]
\emptyset \leftrightarrow [D]
```

#### Article distribution----Child 4

Context	the	а	Ø
+def, +spec	4	-	-
+def, -sepc	4	-	-
-def, +spec	2	2	-
-def, -spec	1	3	-

\*each context has 4 tokens.

#### Terminal nodes:

#### Vocabulary entries:

#### The Bottleneck hypothesis

(Slabakova 2006, 2008, 2009, to appear)
The functional morphology is the bottleneck for
L2 learners.

#### **Functional Morphology**

"...is a bundle of morphosynatctic and semantic features, which may or may not be overtly expressed by a functional morpheme."

#### Morphosyntax-semantics mismatches

- L1: A feature or a meaning is overtly expressed.
- L2: The feature or the meaning are not morphologically realized.
- (e.g.) English chooses to encode definiteness
  Samoan chooses to encode specificity

 Heavier learning task for Japanese learners of L2 English

1) Which features (definiteness/specificity) are realized morphologically?

2) What morphological forms (a/the/Ø) are suitable in each context?

## Summary and concluding remarks

- The semantic features (definiteness, specificity) are available for selection in L2 grammar, and just needs input to trigger its selection.
- The individual data of the Japanese learners showed that children did fluctuate, consistent with Ionin et al. (2004, 2009).
- Specificity plays a role in the learners' article selection.
- The findings indicate that Japanese belongs to the specificity-based article group in spite of the fact that Japanese does not provide any morphological cue for either specificity or definiteness. This supports Watanabe (2006) who proposed that D encodes specificity in Japanese.

## Summary and concluding remarks

- Hawkins et al. (2006) claimed that the ACP is too particular a parameter.
- In a more recent account, Slabakova (to be published)
  argues that the ACP is one of the micro-parameters so
  that it is difficult for learners to acquire. Learners need
  sufficient input to set the correct parameter value.
- DM account can explain various L2 grammars of individual learners.
- The Bottleneck Hypothesis argues the acquisition of functional morphology is difficult. The learning task for Japanese learners is heavier than learners with L1 which has articles.

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