

Trust the task: Lexico- constructional variability and the assessment of spoken L2 performance

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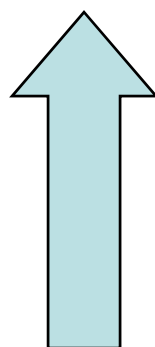
Sinclair's (2004) model of extended lexical units

(1) COLLOCATION

A relation of co-occurrence between obligatory core (attractor) words or phrases and individual (attracted) collocates. More variation, and more destabilization of the attractor-attracted state, results from task-induced effort.

ACTUAL CONSTRUCTION TOKENS

e.g., I ***think that***...the rabbit is ***running up***



Instantiation

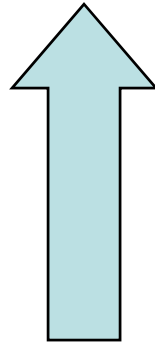
Level:
Lexical encoding

(2) COLLIGATION

A relation of co-occurrence between the node and abstract grammatical categories, lexico-constructions.

TASK INDUCED ABSTRACT CONSTRUCTIONS

e.g., verb complementation, motion verb construction, mental state verb complementation



Activation

Levelt:

Grammatical
encoding

Jurafsky:

Local Coherence

(3) SEMANTIC PREFERENCE

A relation of co-occurrence between the phrasal unit and words from characteristic lexical fields. Preferences differ across conceptual domains of task performance.

TASK INDUCED CONCEPTUAL FIELDS

e.g., CAUSATION, PERSPECTIVE-TAKING

INTENTION

SPACE and TIME

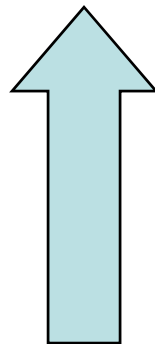
Levelt:

Conceptualizer

Lexical concepts

Concept stretching

Jurafsky: Access buffer



Pushing fine-grained
distinctions

(4) SEMANTIC PROSODY

The function of the whole extended unit in situated, communicative task performance.

DEALING WITH COGNITIVE DEMANDS OF PEDAGOGIC AND REAL WORLD TASKS

e.g., causal reasoning

intentional reasoning

spatial reasoning

temporal reasoning

Levelt:

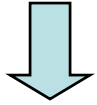
Conceptualizer

Macro-planning

Context/World of task performance

Mind/Learning

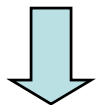
more variation



more abstract
schematization



more target-like
expression of
concepts



more success in
achieving task goals

Task/Performance

(Bottom up, item-driven)

collocation constructional token

colligation abstract construction

semantic preference for conceptual fields

semantic prosody of real-world tasks

Mind/Speech production

collocation constructional token

lexicalized lexico-
constructions in speech



colligation abstract construction

conceptual-linguistic
domain mapping



semantic preference conceptual fields

resource-directing
conceptual dimensions
of task performance



Semantic prosody real-world task demands

task goal and
purpose

(Top down, goal-driven)

Task/World

Task complexity

- (1) We need samples sensitive to specific conceptual demands tasks make on speech
- (2) in order to capture specific patterns of lexico-constructural variation
- (3) that are induced by communicative efforts to meet these conceptual demands
- (4) at different levels of task complexity

The present study

Tasks: *Here & Now/ There & Then* narratives (Robinson, 1995; Sachs, 1983) requiring reference to motion events (conceptual/constructional domain)

Participants: 20 Danish & 20 Japanese learners of English

Lexicalization Pattern:

(1) Satellite-framed Language: English/ Danish

e.g. The bottle floated into the cave.

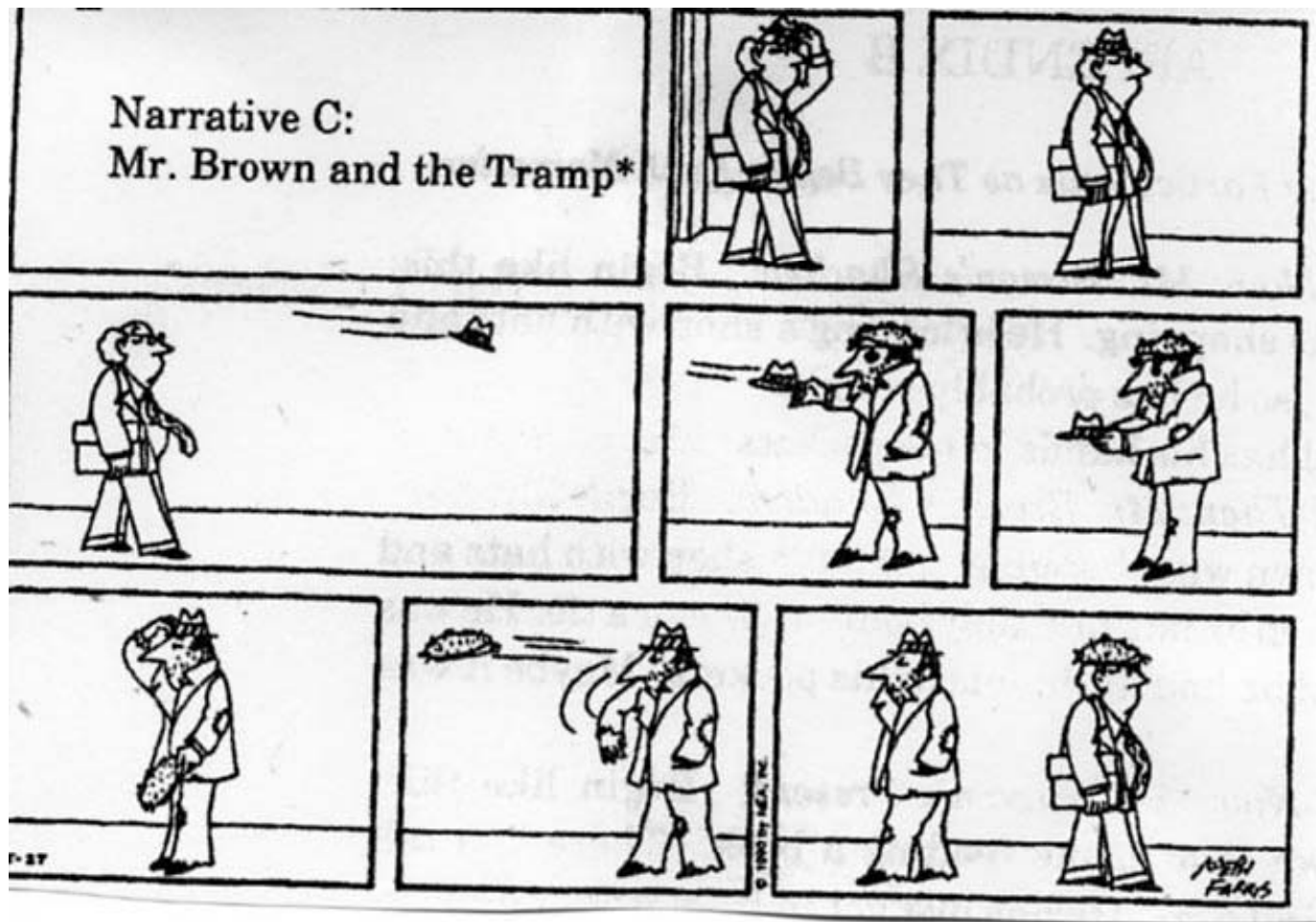
(2) Verb-framed language: Japanese

e.g. botoru-ga doukutsu-ni ukabi-nagara haitteitta.

[The bottle entered the cave floating.]

Proficiency measure: C-test (a total of 100 blanks)

Here-and-Now There-and-Then narratives



Research hypotheses

- **Hypothesis (1).** On the complex There & Then task, there will be more variation in the path slot accompanying each motion verb type than on the simple Here & Now task.
- **Hypothesis (2).** On the complex There & Then task, there will be more variation in the verb slot accompanying each path satellite type than on the simple Here & Now task.
- **Hypothesis (3).** These task complexity effects should be the same for typologically similar L1 Danish, and typologically different L1 Japanese participants.
- **Hypothesis (4).** These task complexity effects should be greater for those at higher levels of proficiency.

Measures taken

- Path variation is the summed path type/token ratio for paths occurring with motion verbs on any one task by any one speaker:

(1) Path variation index

$$= \frac{\text{Summed path type/token ratio per motion verb}}{\text{Total number of motion verbs types with satellites}}$$

e.g.,

MV type	MV token	Path token	Path type
blow	2	off off	1 (PTTR .5)
walk	1	down	1 (PTTR 1)
pick	2	----- up	1 (PTTR 1)
change	1	0	0
throw	1	0	0

PV = summed Path TTR 2.5 = .83

MV types 3

- Verb variation is the summed motion verb type/token ratio for motion verbs occurring with path satellites on any one task by any one speaker:

(2) Verb variation index

= Summed verb type/token ratio per path satellite
Total number of path satellites with motion verbs

e.g.,

MV type	MV token	Path token	Path type
1 (MVTTR .5)	blow blow	2	off
1 (MVTTR 1)	walk	1	down
1 (MVTTR .5)	pick pick	2	---- up
1	change	0	0
1	throw	0	0

VV = summed MVTTR 2 = .66

Path types 3

Group	PVS		PVC		VVS		VVC		C-test	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Danish L1	95.9	9.22	85.65	16.09	97	8.41	89.65	16.9	91.3	6.3
Japanese L1	83	30.21	93.9	13.96	83.85	29.95	96.85	11.40	82.4	10.44
All	89.47	23.007	89.77	15.86	90.42	22.71	93.25	14.27	86.87	9.66

Results

Hypothesis (1): More path variation on complex There & Then tasks.

Disconfirmed.

- Wilcoxon signed rank tests showed there was no overall (Danish and Japanese groups combined) significant difference in path variation on the simple and complex tasks, **$p = .42$**

Hypothesis (2): More verb variation on complex There & Then tasks.

Disconfirmed.

- Wilcoxon signed rank tests showed there was no overall (Danish and Japanese groups combined) significant difference in verb variation on the simple and complex tasks, **$p = .98$**

Hypothesis (3). Danish L1 = Japanese L1.

Disconfirmed.

Mann-Whitney U tests showed:

- (1) On the **simple task, Danish** learners produced more variation in the **verb** slot (97%) than Japanese learners did (83%), **$p = .035$**
- (2) On the **complex task, Japanese** learners produced more variation in the **verb** slot (96%) than Danish learners did (89%), **$p = .009$**
- (3) On the simple task, there were no significant differences on variation in the path slot between Danish (95%) and Japanese learners (83%), **$p = .076$**
- (4) On the **complex task, Japanese learners** produced more variation in the **path** slot (93%) than Danish learners did (85%), **$p = .015$**

Hypothesis (4). Higher proficiency = more variation on complex There & Then tasks.

Disconfirmed.

Spearman's rank order correlation tests revealed there were no significant correlations between C-tests, and verb and path variation on either simple or complex tasks.

Further analyses.

Question 1. Is there evidence that task demands affect the nature (if not amount) of path and verb variation? Yes.

Spearman's rank order correlation tests revealed (1) there was no overall (Japanese and Danish combined) significant correlation between path variation on the complex and simple tasks, $\rho = -.179$, $p = .26$

and also that:

(2) there was no overall (Japanese and Danish combined) significant correlation between verb variation on the simple and complex tasks, $\rho = -.174$, $p = .27$

So across both L1 groups simple and complex tasks differ with respect to the lexico-constructural variation they promote, but not with respect to the amount of variation they promote.

Question 2. Are path variation and verb variation related?

Yes.

(3) There was an overall (Japanese and Danish combined) significant correlation between path variation and verb variation on the simple task ($\rho = .805$, $p < .0001$) and on the complex task ($\rho = .953$, $p < .0001$)

Question 3. Does typologically similar (Danish) versus different (Japanese) L1 background interact with effects of task demands on lexico-constructional variation?

Yes.

Wilcoxon signed rank tests show significantly **greater** verb variation (VV) on complex tasks for Japanese L1, $p = .04$, as Hypothesis 2 predicts, but; significantly **lower** verb variation (VV), $p = .01$, and path variation (PV), $p = .004$, on complex tasks for Danish L1, in contrast to the predictions of Hypotheses 1 and 2.

Japanese L1 participants' performance is in line with Hypotheses 1 and 2, but Danish L1 performance contradicts the Hypotheses.

Summary and Conclusions

Proficiency:

We did not find, as hypothesized, a relation between **proficiency and the amount of path and verb variation** that complex tasks induce, compared to simpler tasks.

The complex There & Then tasks did not push those at a higher level of proficiency to stretch interlanguage, and produce a wider variety of path satellites and verbs of motion.

L1 and task influences:

Interestingly, for *Danish* learners, *path and verb variation* (95% and 97%) was *higher on simple tasks* than for Japanese learners (83% and 81%). Conversely, *on complex tasks, path and verb variation* were higher for *Japanese* learners (93 % and 96%) than for Danish learners (85% and 89%).

Task influence:

Complex tasks appear to *push greater variation* for *Japanese* learners, but not for *Danish* learners. Overall, path variation on simple and complex tasks was unrelated, as was verb variation. Overall, task demands affect the nature of variation, but not the overall amount.

Mitigating factors:

Small numbers (N=40) of participants; C-test measure of proficiency used; narrative elicitation picture strips described only a few events, and so did not require very extensive reference to motion.

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