



**Assessing derivative skills:  
EFL learners and English word-  
formation**

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# CEFLING

Linguistic Basis of the Common European Framework  
for L2 English and L2 Finnish

- Project funded by the Academy of Finland 2007-2009
- Based at the University of Jyväskylä; part of the European SLATE network (Second Language Acquisition and Testing in Europe)
- Homepage: <http://www.jyu.fi/cefling>

# Questions

- How to test word formation skills? How do the three methods used in the study function – what are their pros and cons?
- What is the relationship between the word-formation skills and overall written proficiency of Finnish school pupils ?
- (What kind of knowledge do they have on English word-formation?)
- (How do their word-formation skills develop?)
- (Is there any difference between Finnish and Swedish speaking participants?)

# Word-formation and SLA

- Word-formation and SLA in general
  - Mochizuki & Aizawa (2000)
  - Nyyssönen (2008)
  - Schmitt & Meara (1997)
  - Schmitt & Zimmermann (2002)
- Role in teaching English in a Finnish school?
- Derivation chosen because
  - Productivity of the method
  - The participants familiar with it at least implicitly
  - (though textbook analysis shows that explicit teaching non-existent)

# Participants

- 7th - 9th graders
  - 13-16 –year-olds, have studied English as a FL for at least 4-6 years
  - were administered three short word-formation tests (for practical reasons)
  - over 300 completed the word formation tests, about 150 of whom also completed four writing tasks as part of the main CEFLING project
- Different parts of Finland

# Word-formation test 1

## (Productive gap-fill test)

- Three written word-formation tests (revised after piloting)
- 1. Sentences / sentence pairs in English with a Finnish translation of the target word (from Waystage):

*I am \_\_\_\_\_ (varma) that he will get the job in London.*

*He will \_\_\_\_\_ (varmasti) get the job in London.*

→ *sure - surely*

# Word-formation test 2 (final version)

## (Non-words based test)

2. Sentences with non-words with explanations in Finnish (gap-filling):

- Some of the non-words taken from the DIALANG placement test (English) designed by Paul Meara
- Example in Finnish (with Finnish real words)

*She could **bourble** animals very well because she was a good \_\_\_\_\_ **bourble**\_\_\_\_\_. (henkilö, joka tekee lihavoidun sanan kuvaamaa toimintaa/työtä)  
(a person who does the action described by the bolded word)*

## Word-formation test 3 (List-based test)

3. A list of prefixes from which the participants were to choose suitable ones to fill in the gaps in sentences

anti-	il-	mini-	non-	pro-
de-	ir-	mis-	poly-	re-
dis-	inter-	mono-	post-	trans-
in-	intra-	neo-	pre-	un-
im-	mega-			

*He did not follow the instructions. He had  
\_\_\_ understood them.*

# Writing tasks

- Email to a friend
  - Email to one's teacher
  - Email to a store
  - Opinion piece
  - Narrative piece
- 
- Each student wrote 4 texts
  - Each text was assessed by 4 raters
    - the rating scale was a combination of several writing scales from the CEFR that best suited the writing tasks

# Marking word-formation tests

- Double marking
- Scoring:
  - Productive gap-fill test : 0-1-2-3-4
  - Non-words based test and List-choice based test: 0-1-2
- The respondents were very creative: *minigabl*
- Spelling errors more or less ignored in scoring:  
*unbelievubl,unbelievevabl, unbelievobl; understant, anderstand*
- (cf. *shore* ← *sure*, *deffreno* ← *different*)

## Results of item analyses / characteristics of the tests

One item turned out to be poor (despite piloting):

16. The dog started to \_\_\_\_\_ (seurata) the trail of a fox.

17. The hunter caught the fox the \_\_\_\_\_ (seuraava) day.

seurata = to follow / seuraava = following

→ next

# Characteristics of the 3 tests

	Items	Mean score (percent)	Standard deviation	Median	Cronbach's Alpha	Alpha for 40-item test	Average item / total correlation
Productive gap-fill test (n=326)	18	75.1	19.1	77.6	.86	.93	.56
Non-words based test (n=299)	8	34.3	26.4	25.0	.76	.94	.62
List-choice based test (n=327)	12	39.3	22.3	37.5	.78	.92	.54
All 3 tests together (n=327)	38	55.7	21.3	49.6	.90	.91	.48

# Characteristics of the 3 tests

	Items	Mean score (percent)	Standard Deviation	Median	Cronbach's Alpha	Alpha for 40-item test	Average item / total correlation
Productive gap-fill test (n=326)	18	75.1%	19.1	77.6	<b>.86</b>	<b>.93</b>	.56
Non-words based test (n=299)	8	34.3%	26.4	25.0	<b>.76</b>	<b>.94</b>	.62
List-choice based test (n=327)	12	39.3%	22.3	37.5	<b>.78</b>	<b>.92</b>	.54
All 3 tests together (n=327)	38	55.7%	21.3	49.6	<b>.90</b>	<b>.91</b>	.48

# Characteristics of the 3 tests (analyses with the TiaPlus programme)

	Items	Mean score (percent)	Standard Deviation	Median	Cronbach's Alpha	Alpha for 40-item test	Average item / total correlation
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## Word-formation test 2 (Non-words based test)

Sentences with non-words with explanations in Finnish:

ITEM 1:

*She could **bourble** animals very well because she was a good \_\_\_\_\_ **bourble**\_\_\_\_\_. (henkilö, joka tekee lihavoidun sanan kuvaamaa toimintaa/työtä)*

*(translation of the Finnish text: "a person who does the action / work described by the bolded word")*

# Non-words based test

(n = 299)

ITEM	MEAN SCORE (PERCENT)	ST. DEVIATION (on 0-2 scale)	ITEM / TOTAL CORRELATION (Hennyson's correction)	ITEM / REST CORRELATION
1	74	.87	.35	.29
2	33	.94	.67	.60
3	48	1.00	.70	.64
4	31	.93	.53	.46
5	9	.56	.44	.36
6	16	.73	.64	.54
7	41	.98	.59	.52
8	22	.82	.31	.25

# Non-words based test

(n = 299)

ITEM	MEAN SCORE (PERCENT)	ST. DEVIATION (on 0-2 scale)	ITEM / TOTAL CORRELATION (Hennyson's correction)	ITEM / REST CORRELATION
1	74	.87	<b>.35</b>	<b>.29</b>
2	33	.94	<b>.67</b>	<b>.60</b>
3	48	1.00	<b>.70</b>	<b>.64</b>
4	31	.93	<b>.53</b>	<b>.46</b>
5	9	.56	<b>.44</b>	<b>.36</b>
6	16	.73	<b>.64</b>	<b>.54</b>
7	41	.98	<b>.59</b>	<b>.52</b>
8	22	.82	<b>.31</b>	<b>.25</b>

## Correlations between word-formation tests

N = 281-310	A (total) Productive gap-fill test	A1. items tapping the base form	A2. items tapping the inflected form	B. Non- words based test	C. List- based test
<b>A. Productive gap-fill test</b>	1.00	(.905)	(.971)	<b>.567</b>	<b>.618</b>
A1. Items tapping the base form		1.00	.778	.511	.566
A2. Items tapping the inflected form			1.00	.544	.596
<b>B. Non-words based test</b>				1.00	<b>.601</b>
C. List-based test					1.00

# Conclusions about test characteristics

- Productive gap-fill test was rather easy for these test takers because the words were based on Waystage (A2) for English
- Non-words based and list choice based tests were quite difficult (but for different reasons)
- Reliable (relative to their length)
- Fairly high correlations between the different word formation tests but far from perfect → not equivalent
- The non-words based test appeared to be at least as good as the other, more traditional word-formation tests

## Relationship between word-formation skill and more general language proficiency

n = 141-160	<b>WRITING SKILL</b> (on CEFR scale) Mean rating across 4 raters and 4 tasks
Productive gap-fill test	<b>.696</b>
Non-words based test	<b>.652</b>
List-based test	<b>.742</b>
All 3 tests together (raw score)	<b>.798</b>
All 3 tests (only derivated forms; IRT theta value)	<b>.789</b> <b>P = .000</b>

# More specific questions about the relationship

How did learners at different CEFR levels (in writing) perform in the word-formation tests?

Do beginners (A1-A2 levels) master English word-formation or does the ability to derive words develop only later?



Proficiency level (median across 4 writing tasks)	Mean test result (% correct)			
	Productive gap-fill test	Non-words based test	List-based test	All 3 tests together
<b>A1</b> n = 21-27	49	15	14	26
<b>A2</b> n = 53-57	76	29	35	47
<b>B1</b> n = 45-47	90	58	58	68
<b>B2</b> n = 7	95	71	74	80

Proficiency level (median rating across 4 writing tasks)	Mean test result (% correct)			
	Productive gap-fill test	Non-words based test	List-based test	All 3 tests together
<b>A1</b> n = 21-27	<b>49</b>	15	<b>14</b>	26
<b>A2</b> n = 53-57	<b>76</b>	29	<b>35</b>	47
<b>B1</b> n = 45-47	<b>90</b>	<b>58</b>	<b>58</b>	<b>68</b>
<b>B2</b> n = 7	<b>95</b>	<b>71</b>	<b>74</b>	<b>80</b>

# Conclusions – word formation and the more general language proficiency

- word formation skill(s) appear(s) to be related to more general language proficiency (writing skills)
  - correlation .6 - .8
- A2 (and even A1) level learners (in Finland) may know a reasonable number of conjugated English words when the words are fairly basic (Waystage / A2 level)
- however, the results suggest that learners have to be at B1 / B2 before they can apply English word formation rules more systematically

# Comparison of the three word-formation test methods

	Pros	Cons / issues
Productive gap-fill test	familiar test type	<b>memorising</b> words? suitability depends on the <b>difficulty of the words</b>
Non-words based test	<b>focus only on word-formation</b>	relative difficulty and <b>unfamiliarity</b> of the test type
List-based test	quick and easy to take and mark	<b>memorising</b> words? somewhat unfamiliar test-type? suitability depends on the <b>difficulty of the words</b>

# Frequency of the word & item difficulty

- Is the frequency of the words related to their difficulty as test items?
  - the first test, the productive gap-fill test, based on Waystage words
- Frequencies based on the British National Corpus
- Rank order correlation between item difficulty and the word's rank in the BNC was  $-.429$  ( $p = .097$ ,  $n = 16$ )

# Future

- Develop and trial longer versions of the word-formation tests, especially of the non-word based test
- Qualitative study on the process of taking word formation tests (interview, think-aloud)
  - e.g. which way derivation occurs (always from the base form to the derivated form)?
  - effect of the unfamiliarity of the non-words test
- Analysis of the learners' written performances for derivated forms and for other word-formation methods



Kiitos!

Tack!

Thank you!

## Last item (item 8) in the non-words test

I did not **monadate** the story that your friend told me yesterday but what you tell me now is much more \_\_\_\_\_ **monadate** \_\_\_\_\_. (= sisältää asiaa, jota lihavoitu sana kuvaa)