

The integration of frequency dimensions and lexicalization preferences in foreign language learning

Sabine De Knop

Université Saint-Louis, Bruxelles

sabine.deknop@usaintlouis.be



1. Introduction

When learning FL → compare L2 with L1

➤ structural similarities/differences (König & Gast 2012)

- Syntactic structures
- Semantics
- Contexts of use
- Registers

➤ Central concept: ‘comparability’

“establishing the comparability” (Gast 2012: 3; Tekin 2012: 120)

Comparability → “[d]etermining the extent of similarity as well as the differences between the instantiations” (Gast 2012: 4)

1. Introduction

➤ But:

Haspelmath (2010: 664):

“[s]imilarities and differences cannot be captured by equating categories across languages.”

➤ Also take into account ‘authenticity’

Similar structures in L1 & L2 → but not authentic (Herbst 2016: 44)

(compare: “It is not the way you say it in L2”)

E.g. F. *Où sont les fleurs ?* (‘Where are the flowers’)

NL. *Waar staan de bloemen?* (‘Where do the flowers stand’)

1. Introduction

Comparing languages is about defining **authentic equivalents**
in L1 & L2

Definition of 'equivalence'

- Gallagher (1998: 2): equivalence $\neq$ identity but similarity
 - constraints for proper equivalents with translation (1998: 9)
 - rather focus on “adequacy” (1998: 19)
- Tekin (2012: 123): difficulties to define equivalence
- Types of equivalence
 - ‘semantic or pragmatic equivalence’ (James 1983; Olesky 1983 & 1986)
 - ‘contextual equivalence’ (Halliday, McIntosh & Strevens 1964)
 - ‘sentential equivalence’ (Krzyszowski 1981b & 1990)

1. Introduction

- ‘**statistical equivalence**’ (Krzeszowski 1981a, “Quantitative contrastive analysis”)
 - smaller study on Polish vs. English personal pronouns
 - same pronouns in PL & E
 - This equivalence “does not say anything about the appropriateness of specific pronouns in specific situations. Above all it does not say anything about the relatively low frequency of occurrence of personal pronouns in Polish texts in contrast to a relatively high frequency of occurrence of personal pronouns in English texts.” (Krzeszowski 1981a: 104)
- Different frequencies => “non-equivalent in statistical terms”
- Necessity to take into account notion of frequency

1. Introduction

➤ Aim of my talk:

- Specify notion of ‘**equivalence**’, focus on ‘statistical equivalence’
- Integrate **frequency** dimension in FLL for the sake of authenticity
- Illustrate how **preference for specific “lexicalization patterns”** (Talmy 2000) determines frequency differences
 - Verb-framed vs. satellite-framed differences (Slobin 1996 & 2017; Talmy 2000)
 - Synthetic (Schlücker 2012; Siemund 2004; Zeschel 2012) vs. analytic properties of L

1. Introduction

➤ To do so:

- 2 case studies:
 - (a) Causal constructions with (color) adjective
 - (b) Verbless directives

- For language pair German (D) vs. French (F)
- D & F: different typological classes, but socio-cultural (Gast 2012: 1) + genealogical link (De Vogelaer, Koster & Leuschner 2020: 1)
- favor different lexicalization patterns (Slobin 1996, 2017)

2. Case studies

2.1. Causal constructions with (color) adjectives

- (1) D. *Peter ist rot vor Wut* (lit. 'Peter is red with anger')
- (2) F. *Marie est verte de jalousie* (lit. 'Maria is green with jealousy')
- (3) D. *Die Kinder sind blau vor Kälte* (lit. 'The children are blue from cold')
- (4) F. *Il est mort de peur* (lit. 'He is dead of fear')

➤ similar syntactic structure: [COP.-V + (Color) Adj. + PP]

Basic colors: red, blue, green, yellow, white, black (Berlin & Kay 1969)

➤ similar semantics: causality

- *Causes are situations which trigger off another physical or psychological situation as their effect* (Radden & Dirven 2008: 327)

2.1. Causal constructions with (color) adjectives

Semantics: compositional/literal or non-compositional meaning

Ex. (1) D. *Peter ist rot vor Wut* (lit. 'Peter is red with anger')

- compositional:

Peter really gets a red face → result of rise of body fluid
(Soriano & Valenzuela 2009)

- non-compositional: metonymy for expression of intensification

Peter is very upset (COLOR OF FACE FOR PHYSICAL STATE)

➤ Different prepositions

F. *de* - D. *von/vor*

(5) F. *Hoffmann, son nez était noir de tabac*

D. *Hoffmann, seine Nase war schwarz von dem Tabak*

lit. 'Hoffmann, his nose was black with tobacco'

- Cause= external

(6) F. *J'étais **rouge** de honte et baissai la tête...*

D. *Ich war **rot** vor Scham und senkte den Kopf ...*

lit. 'I was red with shame and I dropped the head...'

- Cause = emotion

➤ Different distribution of color adjectives

(7) F. *Marie est verte de jalousie* (lit. 'Maria is green with jealousy')

(8) D. *Maria ist gelb vor Eifersucht* (lit. 'Maria is yellow with jealousy')

... and in Dutch?

In nlTenTen 20 of Sketchengine: 3 hits with **groen**, 1 hit with **geel**

➤ Frequency differences

Comparison of data from corpora of Sketch Engine
(<http://the.sketchengine.co.uk>) (April 2012):

- F. corpus frWaC (1,628,667,738 tokens)
- D. corpus deTenTen (2,844,839,761 tokens)

Table 1: Frequency of color terms in causal construction

Color term	Nr of hits in German corpus	Nr of hits in French corpus
white	5	11
black	10	67
red	8	14
green	3	19
blue	0	0
yellow	0	3

- Number of hits is low => frequency per million = 0.0
- French: higher frequency

Hypothesis

- Causal construction with color adjectives expresses **intensification/excessiveness**
- F & D favor different lexicalization patterns
- F: analytic expressions with NP, sentences, comparisons
- D: synthetic language (Primus 1997),
“Kompositionsfreudigkeit” (Schlücker 2012; Siemund 2004;
Zeschel 2012) (‘compounding preference’)

➤ D uses more compounds to express intensification

Hypothesis testing

Participants

- F: N= 17 Belgian (French-speaking) students of Romance languages at the Université catholique de Louvain
- D: N= 4 students + 8 non-studying adults

Test-Design

“Wie kann man sagen, dass jmd sehr hungrig, sehr durstig, sehr unglücklich, ... ist.”

(‘how can you say that s.o. is very hungry, very thirsty, very unhappy,...’)

	French-speaking group		German-speaking group	
Compound	/		32 %	<i>Bärenhunger, todunglücklich, Mordshunger, Riesenangst, eiskalt, bitterkalt</i>
Causal construction with verb	6.8%	<i>mourir/crever de faim/soif</i>	0.03 %	<i>vor Hunger sterben</i>
Causal construction with adjective	4.7%	<i>vert de peur/jalousie, rouge de colère</i>	0.01 %	<i>ist gelb vor Neid</i>
Nominal group + another noun	3%	<i>faim de loup, un froid de canard</i>	/	
Adjective <i>comme</i> noun	7.6%	<i>blanc comme un linge, blanc comme une endive, blanc comme un mort, pâle comme la mort</i>	/	
Noun/Verb + adjective	2.1%	<i>peur bleue</i>	0.02 %	<i>fades Aussehen</i>

Table 2: Results of tests with French- and German-speaking participants (De Knop 2015)

Hypothesis confirmed

- F prefers analytic expressions → syntactic structures
 - D synthetic expressions → compounds
- In FLL need to take into account differences between
analytic vs. synthetic properties of languages

2.2. Verbless directives

(Jacobs 2008; De Knop & Mollica 2018), e.g. D. *Ab ins Bett* (lit. 'Off to bed')

(9) *Raus aus meiner Küche* (DWDs, Jentzsch: Seit die Götter ratlos sind. München: Heyne 1999 [1994]: 285).
lit. 'Out of my kitchen'

(10) *Zurück aus dem Silicon Valley, rein in den Kulturschock* (Handelsblatt, 03.02.2019).
lit. 'Back out of the Silicon Valley, into in the culture shock'

- Verbless directives express a **motion event** with **illocutionary force** (commands, invitations, advice) (Jacobs 2008: 15)

3 Structures with verbless directives

Construction type	Motion start	Path	Goal	Theme argument
Type 1	<i>Auf</i> ,Off‘	<i>zum</i> ,to the‘	<i>nächsten Ziel</i> ,next goal‘	
Type 2	---	<i>Runter</i> ,Down‘	---	<i>mit den Steuern</i> ,with the taxes‘
Type 3	---	<i>In den</i> ,Into the‘	<i>Müll</i> ,garbage‘	<i>mit den Klamotten</i> ,with the clothes‘

Table 3: Construction types with verbless directives (Jacobs 2008)

Verbless directives in contrast

D exs and corresponding F exs

Data: 2 comic strips in German, French

F: Hergé (1947/1982), *Les aventures de Tintin - Le Crabe aux pinces d'or*.

D: Hergé (1998), *Tim und Struppi – Die Krabbe mit den goldenen Scheren*.

F: Jacobs, Edgar P. (1991). *Les aventures de Blake et Mortimer – L'affaire du collier*.

D: Jacobs, Edgar P. (1980). *Die Abenteuer von Blake und Mortimer. Die Diamanten-Affäre*.

(11) D. *Schnell! Hinter die Düne!... und absitzen!* (Hergé 1998: 38)

lit. 'Quickly! Behind the dune!... And wait and sit!'

(11') F. *Vite! Derrière la dune !...Et pied à terre!*... (Hergé 1947/1982: 36)

lit. 'Quickly! Behind the dune!... And foot on the ground!...'

- More verbless directives in D
- In F: constructions with verbs (many imperatives)

(12) D. *Schnell!...Wieder nach oben...!* (Hergé 1998: 20)

lit. 'Quickly!... Back upwards'

(12') F. *Vite!... Remontons!...* (Hergé 1947/1982: 18)

lit. 'Quickly!... Let us go upwards'

(13) D. *Oh! Eine Leiter!... Hinab!* (Jacobs 1980, 28)

lit. 'O! A ladder! ...Downwards'

(13') F. *Oh! Une échelle!... Descendons!!...* (Jacobs 1991, 28)

lit. 'O! A ladder! ... Let us go down'

Table 4: Frequency in 4 comic strips (2 D + 2 F)

	French examples		German examples	
	Number of examples	<i>Frequency</i>	Number of examples	<i>Frequency</i>
Verbless directives/ satellites	9	30 %	12	40 %
Phraseme-constructions	/	/	2	6.7 %
Motion verbs	17	56.7 %	1	3.3 %
Non-motion verbs	4	13.3 %	/	/
Motion adverbs	/	/	15	50 %

Preference for specific structures grounded in **typological differences between Romance and Germanic languages** (Talmy 2000)

➤ F= verb-framed language

- motion path with full verbs
- no salience of motion manner

➤ D= satellite-framed language

- motion path with satellites
- salience of motion manner

Typological differences between Romance and Germanic languages

Also: morpho-syntactic case system in D

- Difference between dynamic/incipient motion events vs. static/already established location (Willems (2011); Willems et al. (2018))
- Accusative case vs. dative case after 'two-way prepositions'

E.g. *Peter geht auf die Straße* [Accusative]

'Peter goes on the street' (he is not there yet)

Peter geht auf der Straße [Dative]

'Peter goes up and down on the street'

Contrastive survey with F + D speakers

Hypothesis

- verbless directives more frequent in D than in F

Participants

- D: 15 master students of D language and letters (specialization German as a foreign language) at University of Regensburg
- F: 15 F-speaking adults in Belgium

Test design

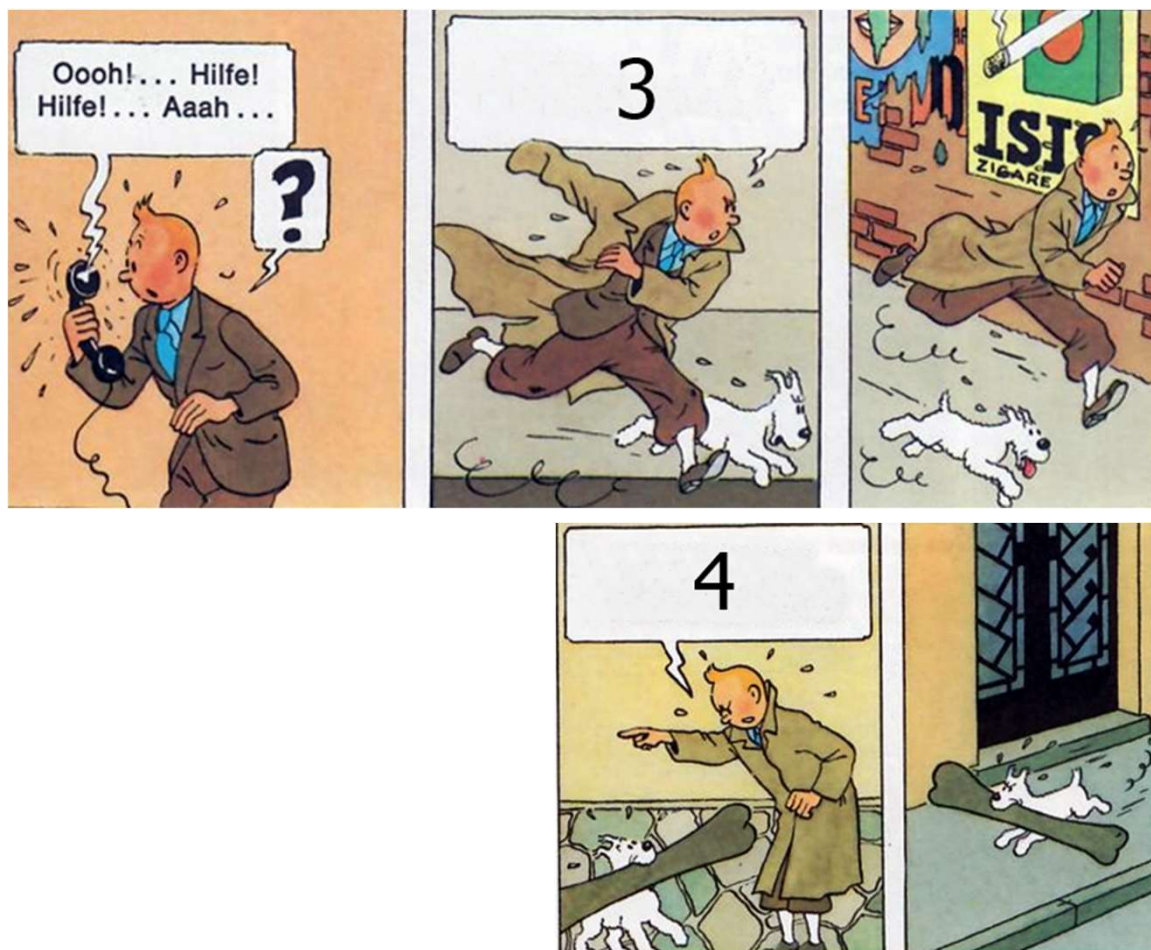
- 8 sets of 3 to 4 pictures representing motion events, extracted from F + D comics
- Write sentences for the empty bubbles

F comics

- Hergé (1947), *Les aventures de Tintin – Le sceptre d'Ottokar*. Tournai. Casterman.
- Hergé (1958), *Les aventures de Tintin – Coke en stock*. Tournai : Casterman.
- Hergé (1960), *Les aventures de Tintin – Tintin au Tibet*. Tournai : Casterman.

D comics

- Hergé (1967), *Tim und Struppi, Tim in Tibet*. Hamburg: Carlsen Verlag.
- Hergé (1967), *Tim und Struppi, König Ottokars Zepter*. Hamburg: Carlsen Verlag.
- Hergé (1970), *Tim und Struppi, Kohle an Bord*. Hamburg: Carlsen Verlag.



(3) D: *Schnell, sie braucht uns...*

'Quickly, she needs us...'

D: *Er ist in Gefahr! Komm, Struppi, wir müssen ihm helfen!*

'He is in danger! Come, snowy, we must help him!'

F: *Allons vite chez lui pour l'aider !*

'Let us go quickly to him to help him!'

F: *Dépêchons-nous Milou ! Cette femme a vraiment l'air d'être en danger !*

'Let us hurry up Snowy! This woman really seems to be in danger!'

(4) D: *Das darfst du nicht mitbringen!*

'This you are not allowed to bring with you!'

D: *Geh weg mit diesem Knochen!*

'Go away with this bone!'

F: *Vilain chien! Ramène-le où tu l'as trouvé*

'Bad dog! Bring it back where you have found it'

F: *Va remettre ton os à la maison !*

'Go and bring back home your bone'

(aus: Hergé (1967), *Tim und Struppi, Tim in Tibet*. Hamburg: Carlsen Verlag.

Hergé (1967), *Tim und Struppi, König Ottokars Zepter*. Hamburg: Carlsen Verlag.

Hergé (1970), *Tim und Struppi, Kohle an Bord*. Hamburg: Carlsen Verlag.)



(5) D: *Komm hier du Blödmann! Ich werde dich fangen!*

'Come here you stupid fool! I will catch you!'

D: *Gib mir den Revolver, jetzt!*

'Give me the pistol, now!'

F: *Attends que je t'attrape !*

'Wait till I catch you'

F: *Viens ici, sale gamin !*

'Come here, dirty brat!'



(8) D: *Wir müssen uns beeilen!*

'We have to hurry up!'

D: *Wir können ihn immer noch fangen!*

'We can still catch him!'

F: *Attrapons-les !*

'Let us catch them!'

F: *Dépêchez-vous, ils ne doivent pas nous échapper !*

'Hurry up, they should not escape (us)!'

Table 5: Results of the sentence writing test for empty bubbles by **D natives**

	Number of examples	Frequency	Examples by German participants
Verbless directive	14	11.7%	<i>Rein da! Schnell in den Wagen! Raus hier! Schnell ins Auto! Los, hier entlang!</i>
Construction with imperative	37	30.8%	<i>Na warte! Beeil dich! He, warte doch auf mich! Sei vorsichtig! Versteckt euch!</i>
Construction with modal verb	12	10.0%	<i>Wir müssen ihm helfen! Wir müssen ihn verfolgen.</i>
Construction with infinitive	1	0.8%	<i>Halt! Stehen bleiben!</i>
Only adverb	8	6.7%	<i>Los Struppi! Halt stopp! Los, weg hier!</i>
Non-motion constructions without verb	20	16.7	<i>Stopp, Sie da! Ich doch nicht! Immer das Gleiche mit ihm...</i>
Non-motion constructions with verb	28	23.3%	<i>Also, ich werde mir Zeit lassen. Hoffentlich ist es nicht entwischt! Wo hast du den her? Das sieht doch ganz einfach aus!</i>
TOTAL	120	100%	

Table 6: Results of the sentence writing test for empty bubbles by **F natives**

Structure	Number of examples	Frequency	Examples by French-speaking participants
Verbless directive	1	0.83 %	<i>En route Milou</i>
Construction with imperative	71	59.16 %	<i>Viens ici, sale gamin ! Allons nous cacher ! Suivez cette voiture noire...</i>
Construction with modal verb (also <i>il faut</i>)	6	5.0 %	<i>Vite, vite, on peut encore le rattraper ! Il faut vite aller le lui rendre ! Taxi, pouvez-vous suivre cette voiture noire ?</i>
Construction with infinitive	0	0 %	/
Only adverb (e.g. <i>schnell/los</i>)	0	0 %	/
Non-motion construction without verb	7	5.83 %	<i>Sale petit morveux Vite, Milou. Pas de temps à perdre Allez, capitaine, courage !</i>
Non-motion construction with verb	34	28.33 %	<i>Le premier en haut a gagné ! Que se passe-t-il ici ? Mais où est-il donc passé ?</i>
Construction without verb + following sentence	1	0.83 %	<i>Encore toi, sale garnement. Attends que je t'attrape.</i>
TOTAL	120	100 %	

Table 7: Results by Belgian and German natives in comparison

	French-speaking natives		German natives	
	Number of examples	Frequency	Number of examples	Frequency
Verbless directive	1	0.83 %	14	11.66 %
Construction with imperative	71	59.16 %	37	30.83 %
Construction with modal verb	6	5.0 %	12	10.0 %
Construction with infinitive	0	0 %	1	0.83 %
Only adverb	0	0 %	8	6.66 %
Non-motion construction without verb	7	5.83 %	8	6.66 %
Non-motion construction with verb	34	28.33 %	28	23.33 %
Construction without verb + following sentence	1	0.83 %	12	10.0 %
TOTAL	120	100 %	120	100 %

Structure	French examples	German examples
Verb-framed pattern	64.16 %	41.66 %
Satellite-framed pattern	0.83 %	18.32 %

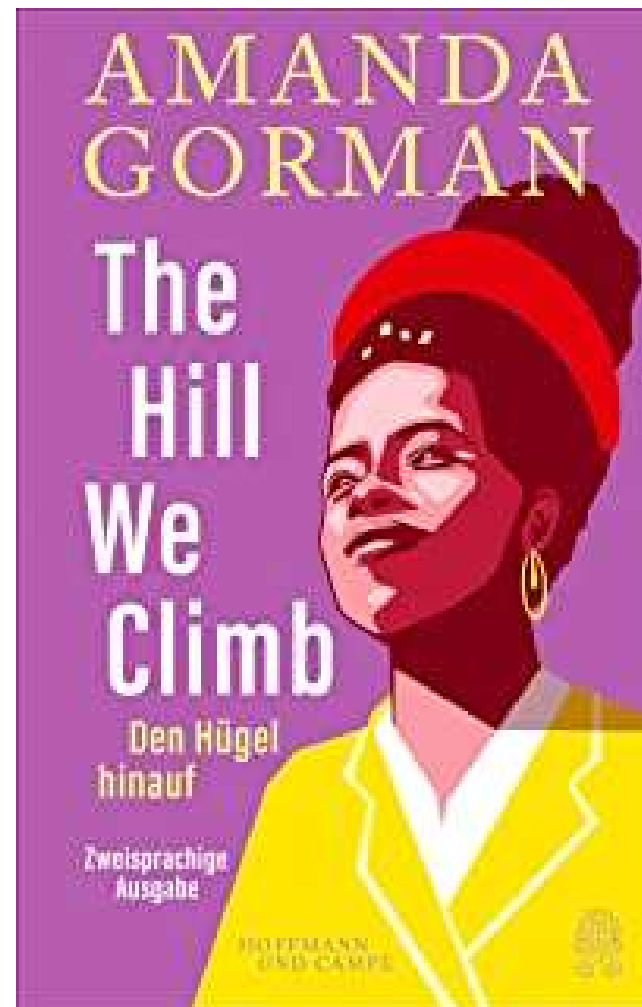
Table 8: Distribution of the lexicalization patterns in the French vs. German examples

t-test with 2 independent variables

- differences between both groups statistically significant
- verb-framed patterns: $t(28) = 4,111$, $p=0$ (with 95 % of confidence interval)
- satellite-framed patterns: t-test, $t(15.913) = 5,068$, $p= 0$ (95 % of confidence interval)
- **Results highly significant**

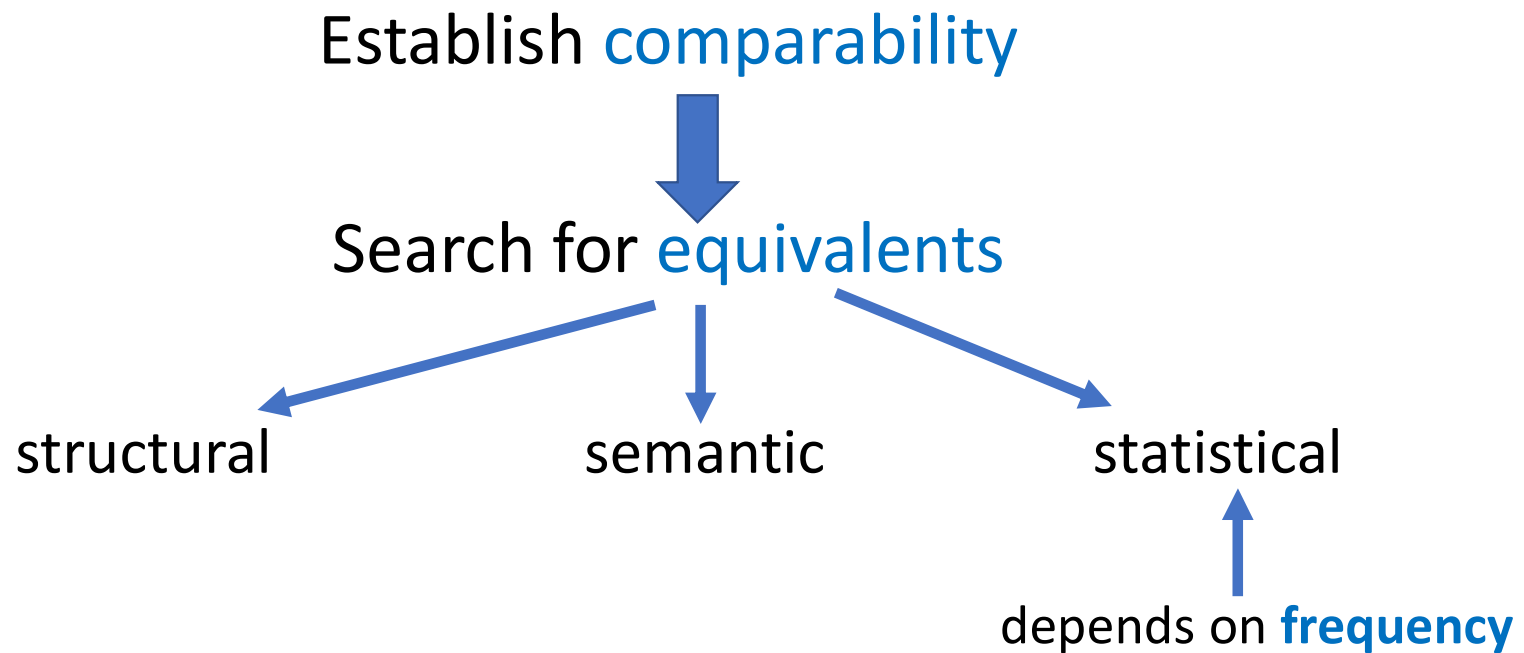
Why more verbless directives in D than in F ?

- due to typological differences satellite- vs. verb-framed languages
- In D authentic way of expression with ‘verb-free constructions’
 - V not so prominent for expression of **path**
 - motion path with **satellites** in D
 - morpho-syntactic **case-marking** (accusative vs. dative)



3. Conclusions

Learn FL → L2 in relation with L1



3. Conclusions

With focus on **authenticity** 2 studies have shown

- D & F can have similar syntactic structures in their repertoire of constructions, but not used with same frequency
- **no statistical equivalence**
- sometimes alternative lexicalization patterns preferred as more authentic ways of expression.

3. Conclusions

Consequences for FLL/FLT

- Observation: learners tend to transfer frequency tendencies from L1 to L2 (Selinker 1969, in Jarvis & Pavlenko 2007: 183)
- FLL should be enriched with
 - Typological aspects & constructional preferences
 - satellite-framed vs. verb-framed
 - analytic vs. synthetic
 - Frequency dimension (statistical equivalence)

Dank U!

Sabine De Knop

sabine.deknop@t-online.de



Literature (partim)

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