

"Something I learned from GoogleTranslate"  
 Analysen des Gebrauchs von digitalen Hilfsmitteln beim  
 Schreiben in der Fremdsprache: outils, usages et effets

Raphael.BERTHELE@unifr.ch

University of Fribourg

11.11.22

handout:

<https://homeweb.unifr.ch/berthele/Pub/berthele-bellinzona-2022.pdf>

## Table of Contents

- 1 Background
- 2 What tools do learners/teachers use?
- 3 Writing: How and with what effects do learners use tools?
- 4 Do learners learn the words they look up?
- 5 Discussion

## Alfonse, exchange student from Malaysia, BA at BFH Wirtschaft Bern

Task: Write application letter for a job in an English-speaking context.

DeepL Übersetzer DeepL Pro Warum DeepL? API Abos und Preise Koste

Text übersetzen 26 Sprachen Dateien übersetzen .pdf, .docx, .pptx

Englisch ↕ Deutsch

persuing

Verfolgung

Alternativen:  
Überzeugender  
Überzeugen

## Project "Digital technology and vocabulary learning in vocational education"

- Raphael Berthele
- Isabelle Udry, Petra Buser
- with the collaboration of Luna Hannappel, Fabrizio Ravicchio, Wioletta Kucharska, Samira Lötscher, Cédric Diogo
- 01.2021 – 12.2024
- funded by the national center of competence in multilingualism  
<https://centre-plurilinguisme.ch/>

### Subprojects

- **Survey** on tool use (learners, teachers) on primary, secondary, tertiary levels
- **Writing component:** What is the influence of tool use on texts produced
- **Learning component:** Compare different tool uses w.r.t. learning outcomes

## Beispiele für Grundkompetenzen Lesen ↔ Schreiben HarmoS (EDK, 2011)

### Die Schülerinnen und Schüler ...

- können einen einfachen persönlichen Brief / ein einfaches persönliches E-Mail verstehen, in dem jemand über vertraute Dinge schreibt ... oder nach vertrauten Dingen fragt;
- können in kurzen Leserbriefen und Diskussionsbeiträgen von Jugendlichen im Internet zu vertrauten Themen ... die wichtigsten Informationen und Meinungen verstehen;
- können in verschiedenen einfachen, kurzen Texten, ... die wichtigsten Informationen herauslesen, wenn Zahlen, Namen, Bilder und Überschriften eine grosse Rolle spielen. ...
- können auf einfache Art über Menschen und Dinge aus dem eigenen Erfahrungsbereich berichten. ...
- können kurze Mitteilungen schreiben. ...
- verfügen über ein ausreichendes Repertoire an häufigen Wörtern und gebräuchlichen Wendungen, um sich im eigenen Erfahrungsbereich auf einfache Weise schriftlich auszudrücken;
- verwenden ein beschränktes Repertoire an einfachen grammatischen Strukturen oft korrekt ... , machen aber auch elementare Fehler.

## Competenze fondamentali (scritto): comprensione ↔ produzione (CDPE 2011)

### Gli allievi ...

- sono in grado di comprendere una lettera personale semplice / un'e-mail personale semplice, nella quale si parla di cose familiari ... o si fanno domande su questi temi;
- sono in grado di comprendere le informazioni essenziali e le opinioni presentate su temi familiari ... in contributi di giovani pubblicati su forum di discussione in Internet oppure in brevi lettere dei lettori;
- sono in grado di rilevare le informazioni principali in diversi testi brevi e semplici ... in cui le cifre, i nomi, le immagini ed i titoli svolgono un ruolo importante;
- sono in grado di riportare in modo semplice fatti su persone e cose facenti parte del proprio campo d'esperienza ...
- sono in grado di scrivere brevi messaggi. ...
- dispongono di un repertorio sufficiente di parole frequenti e locuzioni correnti per esprimersi in modo semplice per iscritto nel proprio ambito d'esperienza personale;
- utilizzano spesso correttamente un repertorio limitato di strutture grammaticali semplici ... , ma compiono anche errori elementari.

## Standard nazionali di formazione per le lingue seconde: Common European Framework of Reference for Languages

- 1 Gli standard nazionali di formazione per le lingue seconde ... si basano su un **approccio orientato all'azione, incentrato sull'uso della lingua ai fini della comunicazione** orale e scritta. (CDPE 2011, p. 5)
- 2 ... the CEFR view of **language as a vehicle for opportunity and success** in social, educational and professional domains. (Council of Europe, 2020, p. 27)
- 3 The methodological message of the CEFR is that language learning should be directed towards **enabling learners to act in real-life situations**, expressing themselves and accomplishing tasks of different natures. (Council of Europe, 2020, p. 29) Thus, the criterion suggested for assessment is communicative ability in real life, in relation to a continuum of ability (Levels A1-C2).

## Rahmenlehrplan Maturitätsschulen (EDK, 1994) (versione italiana: introvabile)

### Fremdsprache (FR):

- ... Wortschatz mit Hilfe von Wortbildungsregeln erweitern
- die wichtigsten Sprachregister unterscheiden
- **Nachschlagewerke wie Wörterbücher, Enzyklopädien usw. benützen**
- mündlich wie schriftlich informieren und Äusserungen eines anderen wiedergeben
- längere verbale Kontakte pflegen
- Sprechakte und Redewendungen situationsgerecht einsetzen. ...

### Vorschläge für neuen Lehrplan (SBFI, n.d.):

- ... implizite Aussagen verstehen und Textintentionen erkennen (z. B. Verführung, Manipulation, Ironie etc.)
- sich mittels eines der Situation und Absicht angemessenen Registers ausdrücken
- sich mit Sensibilität und Bewusstsein für den interkulturellen Kontext und die zwischenmenschliche Disposition ausdrücken.
- **digitale Sprachproduktions- und Revisionstools ... nach deren Qualität und Nützlichkeit beurteilen und sie zur Unterstützung ihrer eigenen Sprachproduktion verwenden ...**

## Curricula, learning outcomes – and the digital tools? (Berthele and Udry, accepted, in press)

- all action-oriented goals (production, comprehension) can also be reached by freely available digital tools
- exceptions (mostly on Matura level, project):
  - detection of irony, manipulation (plan for Matura-level)
  - metalinguistic, metacognitive, and intercultural goals
- no mention of digital tools
  - in predispositions for primary, lower secondary levels
  - in new edition of CEFR/Quadro (2020)

### Survey: What do learners/teachers use? (Udry and Berthele, submitted, in review)

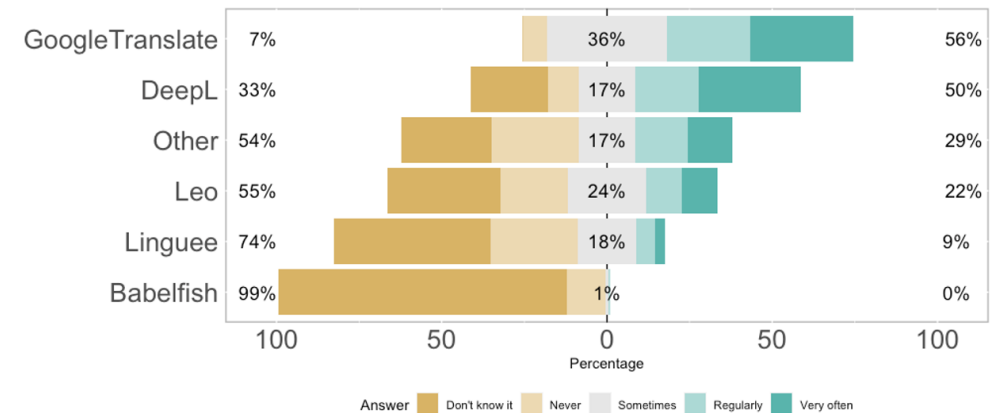
Self-selected sample (snowball sampling via emails to institutions, colleagues, etc.)

educational levels	N learners	N teachers
primary	NA	60
lower secondary	105	56
upper secondary (Gymnasium)	735	60
upper secondary (vocational training)	69	5
tertiary (UNI, other Higher Ed. institutions)	56	5
other (self-learners, language schools...)	22	3
several levels	-	14
Total	987	203
Complete questionnaire data	FR: 837 DE: 354	

## Table of Contents

- 1 Background
- 2 What tools do learners/teachers use?
- 3 Writing: How and with what effects do learners use tools?
- 4 Do learners learn the words they look up?
- 5 Discussion

### What are the preferred tools? (Students)



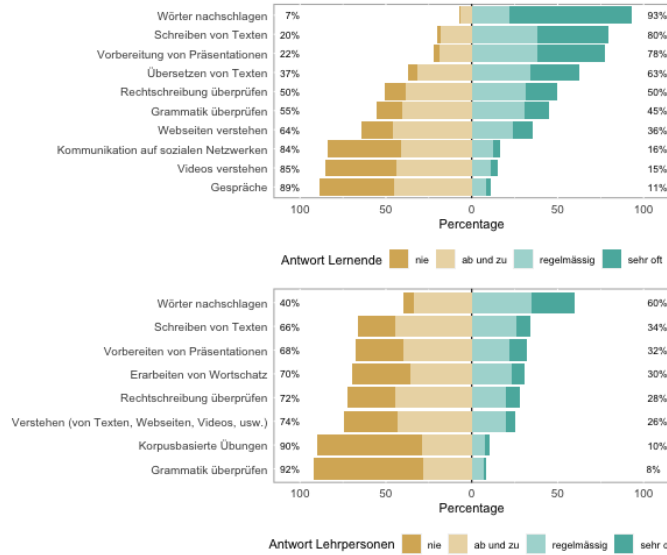
Other tools frequently named/used by participants:

- Dictionaries: Pons (278), WordReference (14), dict.cc (7), Cambridge Dic. (4), Gaffiot (3)
- Translators: Reverso (115), iTranslate (5); MicrosoftTranslate (not mentioned, but we observed many students using it)

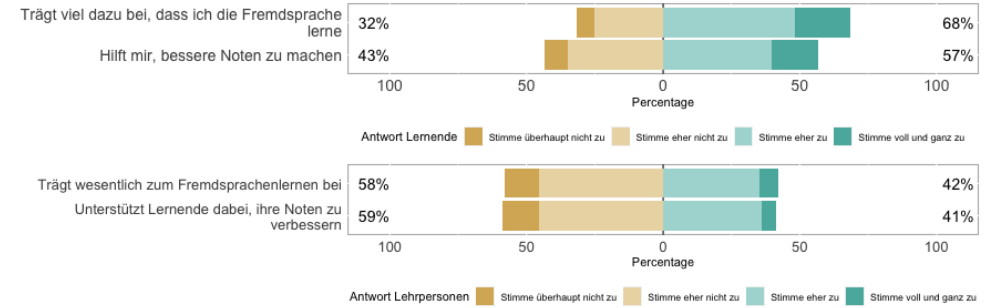
## What are the tools used for?

"Ich nutze digitale Übersetzer und online Wörterbücher für folgende Zwecke/in folgenden Situationen"

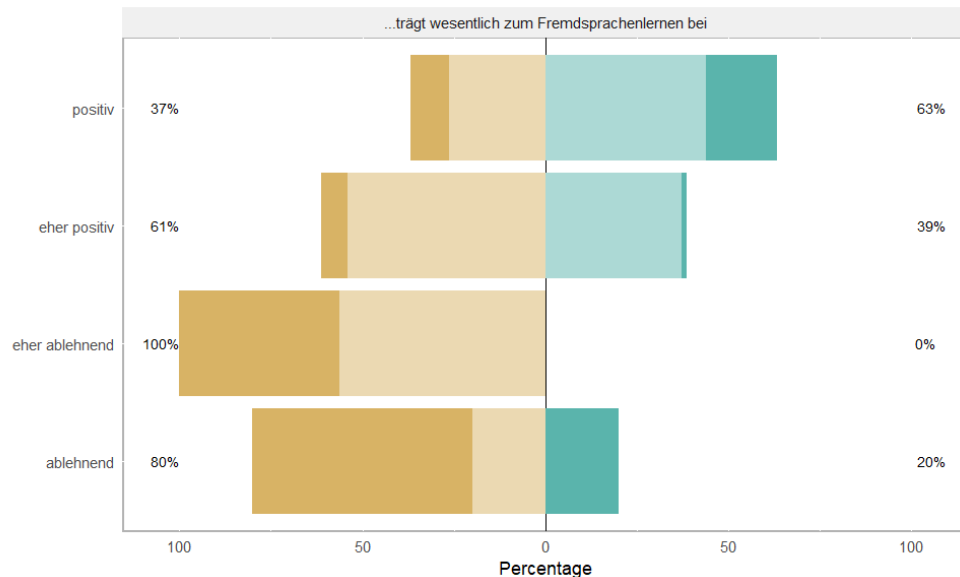
"Wofür setzen Sie digitale Übersetzungsprogramme und online Wörterbücher im Unterricht ein?"



## Contribution to language learning?



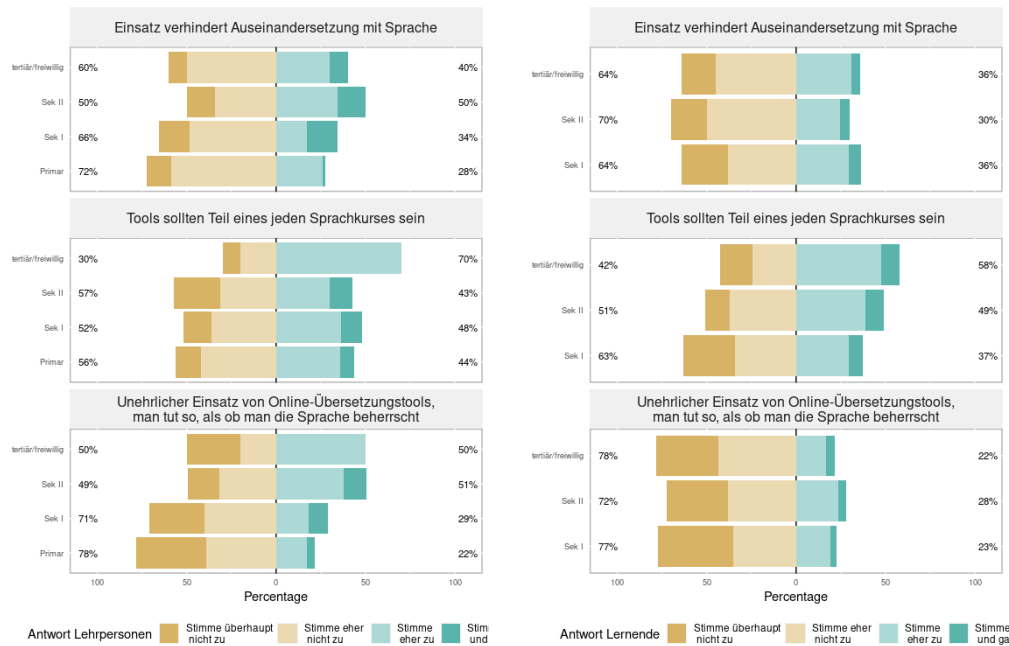
## Teacher attitudes towards students using digital translation tools



## Translators vs. dictionaries

LP1: "Digitale Wörterbücher [...] entsprechen eher dem alltäglichen Gebrauch der SuS als physische Wörterbücher. DeepL sehe ich eher kritisch, da ich finde, dass die Eigenleistung der SuS fehlt."

LP2: "[...] ces outils font partie du quotidien et il serait idiot de ne pas en tenir compte dans notre enseignement. Mais les examens de maturité excluent tout emploi de ces outils, ce qui nous force à continuer d'enseigner les langues avec les dictionnaires papier traditionnels [...]."



## Survey data: Problems and findings

- Tools are used mainly for vocabulary problems
- Teachers/learners rarely use them for metalinguistic activities, grammar checking
- No evidence for tool use in oral/synchronous interaction (e.g. sayHi, GoogleTranslate)
- Perceived discrepancy by teachers
  - between what everybody does in practice and the curriculum
  - between efficiency of tools for acting with/in target language and learning
- Teachers would prefer students to use online **dictionaries** rather than digital **translators**
- (How) can digital tools be used for learning, constructively? → "da nemici ad alleati"
- How can we foster at least some reflection/processing/focus on language?

## Involvement Load Hypothesis

Other factors being equal...

...words which are processed with higher involvement load will be retained better than words which are processed with lower involvement load...

...teacher/researcher-designed tasks with a higher involvement load will be more effective for vocabulary retention than tasks with a lower involvement load... (Laufer and Hulstijn, 2001)

- **need** – for a word, construction to express concept/message
- **search** – consult paper dictionary, language authority, DeepL, ...
  - How do learners search?
  - What are their preferred tools?
- **evaluation** – assess fitness of word to co-text, context
  - How do learners select among variants in the search results?
  - Do learners evaluate the output of their searches?

## Table of Contents

- 1 Background
- 2 What tools do learners/teachers use?
- 3 Writing: How and with what effects do learners use tools?
- 4 Do learners learn the words they look up?
- 5 Discussion

## Sample and corpus

### Participants (total)

- 274 adolescents and young adults in vocational training
- Age: 16-21
- IT, commerce, health care, design and arts
- Professional baccalaureate → Aim: English B2
- Language of instruction
  - German n= 178
  - French n= 55
  - Bilingual FR-GE n= 41

### Texts (total)

condition	n
base	238
k	78
o	83
oplu	73
Total	472

## Task with 30' time limit; 3 Conditions (control, O/Oplus)

### 2. Tâche

Vous souhaitez travailler en Angleterre. C'est pourquoi vous vous êtes renseigné-e sur les postes vacants au sein de la société ATC Ltd. Vous avez reçu l'e-mail suivant de la part de l'entreprise :

Bonjour,

Nous vous remercions de votre intérêt. Nous aimerions en savoir plus sur vous. Veuillez nous envoyer votre candidature en anglais. Mentionnez au moins les thématiques suivantes :

- Le fonctionnement de votre formation (par exemple, le contenu, les heures de cours, votre classe, etc.)
- Ce qui vous plaît, vous motive dans votre métier et ce qui ne vous intéresse pas ou moins. Pour quelles raisons ?
- Parlez-nous également de votre projet professionnel pour les prochaines années.

Avec mes meilleures salutations,  
Mr. Smith  
Société ATC Ltd.

Rédigez votre **courriel en anglais** en donnant le plus de détails possibles. Veuillez signer avec votre nom.

Vous **ne pouvez pas** d'outil de traduction en ligne (traducteurs ou dictionnaires).

**Oder (Kondition O => farbige Blätter)**

Vous pouvez utiliser n'importe quel outil de traduction en ligne (traducteurs ou dictionnaires).

- at T1 – 'baseline': the first text written by everybody without tools
- at T2: writing training, explicit instruction on use of electronic resources (Oplus)
- at T3: second text; either without (K) or with tools, after instruction (Oplus) or not (O)

## Explicit instruction (Oplus)

- Lesson 45' 1 week after writing baseline text
- 1 Pilot class + 6 classes, n=76
- Aims I: Awareness raising
  - Possibilities - limitations of online translation tools in text production
  - Differences between digital translation tools (e.g. DeepL) and online dictionaries (e.g. PONS)
- Aims II: Practice in using online translators and dictionaries

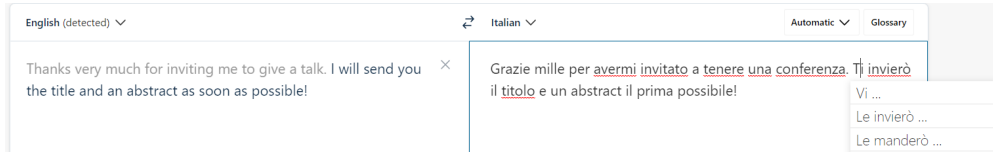
See available material here

<https://digitalvocabulary.wordpress.com/>

## Explicit instruction: Content

- 1 Introduction – Group discussion:
  - Why discuss online translation tools?
  - Are tools helpful (or not) for language learning?
  - Will we still need to learn languages?
- 2 Group exercises - Please translate!
  - "Tricky" examples from business letters, i.e. appropriate greetings
  - Using DeepL and PONS → compare the results
- 3 Individual exercises – Padlet

## Explicit instruction: Key insights



- Output from **translators** and **dictionaries** is specific and often limited (e.g., formality of address forms). Linguistic and cultural knowledge is often necessary to interpret the information.
- Online **dictionaries** sometimes provide more **information** on style, register, regional variants, ...
- Online **translators** can provide correct translations, but little additional information on words/phrases

## Writing task: InputLog Data

event_type	event_id	event_output	event_id	event_action	event_start
focus	0	WordLog_alfonse_20220503153638 - Word	0	0	00:01:55
mouse	1	Movement	0	1406	00:01:55
mouse	2	LEFT Click	0	156	00:01:57
focus	3	TASKBAR	0	0	00:01:58
mouse	4	Movement	0	1000	00:01:58
mouse	5	LEFT Click	0	141	00:01:59
focus	6	Program Manager	0	0	00:02:00
mouse	7	LEFT Click	0	93	00:02:00
focus	8	TASKBAR	0	0	00:02:00
mouse	9	Movement	0	1969	00:02:09
focus	10	TeamViewer	0	0	00:02:12
mouse	11	LEFT Click	0	171	00:02:12
mouse	12	Movement	0	375	00:02:13
keyboard	13	LCtrl	0	18	00:02:46
focus	14	TASKBAR	0	0	00:02:46
mouse	15	Movement	0	0	00:02:56
keyboard	16	LALT	0	1077	00:02:57
keyboard	18	LALT + TAB	0	158	00:02:57
keyboard	19	LALT + TAB	0	103	00:02:58
focus	20	WordLog_alfonse_20220503153638 - Word	0	0	00:02:58
mouse	21	Movement	0	812	00:09:29
focus	22	Sessions sponsorisées	0	0	00:09:30
mouse	23	LEFT Click	0	219	00:09:30
focus	24	TeamViewer	0	0	00:09:30
mouse	25	Movement	0	703	00:09:30
focus	26	TASKBAR	0	0	00:09:31
mouse	27	LEFT Click	0	219	00:09:31
focus	28	TeamViewer	0	0	00:09:31
keyboard	29	LCtrl	0	17	00:10:10
focus	30	WordLog_alfonse_20220503153638 - Word	0	0	00:10:11
mouse	31	Movement	0	0	00:10:20
mouse	32	Movement	0	141	00:10:21
mouse	33	Movement	0	300	00:10:23
mouse	34	Movement	0	1016	00:10:27
mouse	35	Movement	0	469	00:10:44
mouse	36	Movement	0	16	00:10:46
mouse	37	Movement	0	0	00:10:54
mouse	38	Movement	0	203	00:10:56

- processing of InputLog events; goal: extract switches to tools (and back)
- identify tools used
- calculate time spent on tools and on writing (MS Word)
- count number of Switches

Example of an InputLog file; cf. Lejten and Van Waes (2013)

## Extract lookup events, wordlists

event_id	event_output	event_start	ER_guessed
1	0 WordLog_b2.18.01_20220221142230 - Wo	2.15E+09	WORD
6	19 deepl translator - Suche et 1 page supplÃ©	2.15E+09	DeepL
19	1975 WordLog_b2.18.01_20220221142230 - Wo	2.15E+09	WORD
21	1983 DeepL Translate ll Der prÃ¤ziseste Ãeberse	2.15E+09	DeepL
23	1992 WordLog_b2.18.01_20220221142230 - Wo	2.15E+09	WORD
25	2009 DeepL Translate ll Der prÃ¤ziseste Ãeberse	2.15E+09	DeepL
27	2066 WordLog_b2.18.01_20220221142230 - Wo	2.15E+09	WORD

switched_eedit_nr	ER_guessed	file_id
1	1 DeepL uten	O_b2.18.01_T3.c
1	2 DeepL SPACETag	O_b2.18.01_T3.c
1	3 DeepL SPACEs	O_b2.18.01_T3.c
1	4 DeepL SPACEfreud	O_b2.18.01_T3.c
1	5 DeepL SPACEmich	O_b2.18.01_T3.c
1	6 DeepL hBACKHerr	O_b2.18.01_T3.c
1	7 DeepL SPACEBACKBACKBACKBAC	O_b2.18.01_T3.c
1	8 DeepL SPACESmithMovementMc	O_b2.18.01_T3.c
1	9 DeepL SPACEfrBACKBACKfreud	O_b2.18.01_T3.c
1	10 DeepL SPACEmich	O_b2.18.01_T3.c
1	11 DeepL SPACEdas	O_b2.18.01_T3.c
1	12 DeepL SPACEBACKBACKBACKBAC	O_b2.18.01_T3.c
1	13 DeepL ,dass	O_b2.18.01_T3.c
1	14 DeepL SPACESie	O_b2.18.01_T3.c
1	15 DeepL SPACEmehr	O_b2.18.01_T3.c
1	16 DeepL SPACEmich	O_b2.18.01_T3.c
1	17 DeepL SPACEmich	O_b2.18.01_T3.c
1	18 DeepL SPACEmich	O_b2.18.01_T3.c
1	19 DeepL SPACEmich	O_b2.18.01_T3.c
1	20 DeepL eine	O_b2.18.01_T3.c

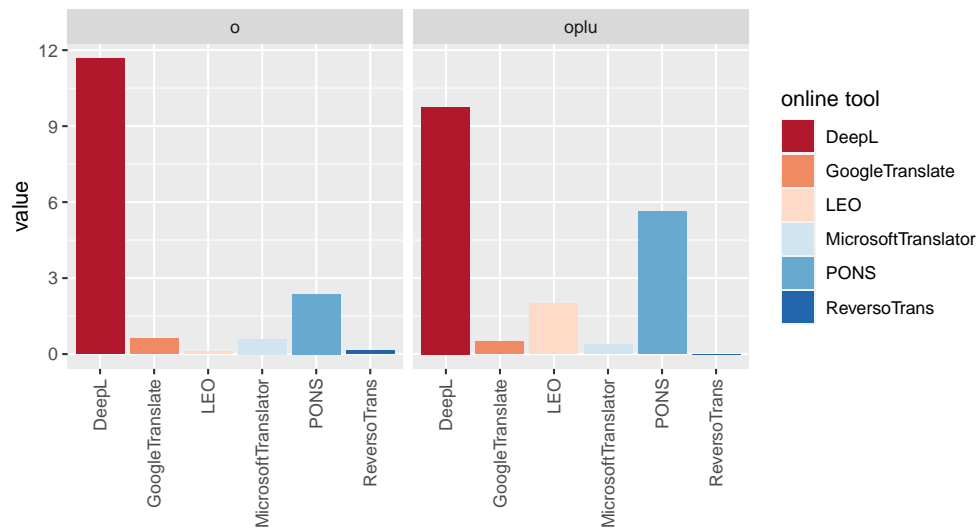
## Tools used

Total number of switches to online tools by condition

metric	o	oplu
DeepL	946	673
PONS	192	388
LEO	9	138
GoogleTranslate	51	35
MicrosoftTranslator	48	26
ReversoTrans	12	0

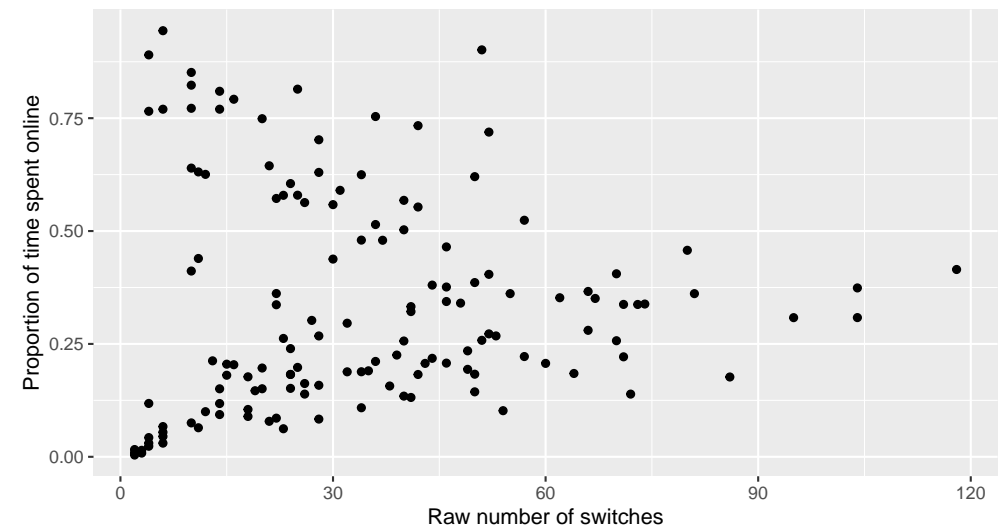


## Tools used: Mean switches to specific tools



Mean switches to online tools by condition

## Tools used: Time spent online and Number of switches



Switches and time spent using online tools

## What is the effect of tool use? – Complexity, Accuracy, Fluency (Housen, Kuiken, and Vedder, 2012)

- Complexity: "intrinsic formal or semantic-functional properties of L2 elements"
- Accuracy: "the extent to which an L2 learner's performance ... deviates from a norm"
- Fluency: speed fluency (rate and density of linguistic units produced)

## Complexity: Clause level

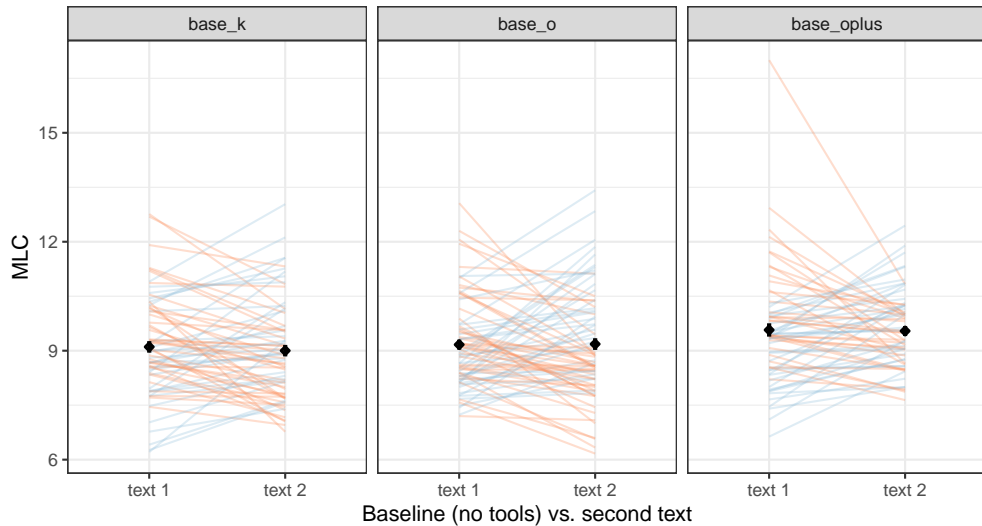
Length of clauses (Teilsatz, proposition) as a metric for *syntactic complexity*. We do not assess complex syntax here (e.g. subordination) which is more characteristic of conversational data (Biber, Gray, and Poonpon, 2011).

```
(ROOT
(S
  (PP (IN on)
    (NP
      (NP (DT the) (JJ first) (CD three) (NNS days))
      (PP (IN of)
        (NP
          (NP (DT the) (NN week))
          (, ,)
          (SBAR
            (WHNP (WDT that))
            (S
              (VP (VBZ means)
                (NP (NNP Monday) (, ,) (NNP Tuesday)
                  (CC and)
                  (NNP wednesday))))))))))
    (NP (PRP I))
    (VP (VBP am)
      (VP (VBG going)
        (PP (TO to)
          (NP (NN school))))))
    (, .)))
```

Two clauses, parsed automatically with the Stanford parser  
<https://nlp.stanford.edu/software/lex-parser.shtml>



## More **complexity** thanks to tools (clause length)?



Within subjects comparisons: Mean Length of Clauses

## Complexity: Vocabulary

Dear Ms Miller I am writing to you because I would like to do a working exchange with your firm. I would like to work in New York in your firm. I would like to learn a lot of new and interesting things in your firm.

dear, m, miller, I, am, write, to, you, because, I, would, like, to, do, a, work, exchange, with, you, firm, I, would, like, to, work, in, new, york, in, you, firm, I, would, like, to, learn, a, lot, of, new, and, interesting, thing, in, you, firm

### Text1: Metrics

TTR:  $\frac{26}{46} = 0.57$

Guiraud's R: 3.83

MTMD72MA: 25.39

Mean Lemma frequency:

$2.1799812 \times 10^6$

Dear Ms Miller I am an art student from Switzerland and am looking for an exchange as sculptor in New York. I used to visit the place school where i had a lot of art classes and after the 12 Years I begun to work as an sculptor in a family business.

dear, m, miller, I, am, a, art, student, from, switzerland, and, am, look, for, a, exchange, as, sculptor, in, new, york, I, use, to, visit, the, place, school, where, I, have, a, lot, of, art, class, and, after, the, year, I, begin, to, work, as, a, sculptor, in, a, family, business

### Text2: Metrics

TTR:  $\frac{36}{51} = 0.71$

Guiraud's R: 5.04

MTMD72MA: 51

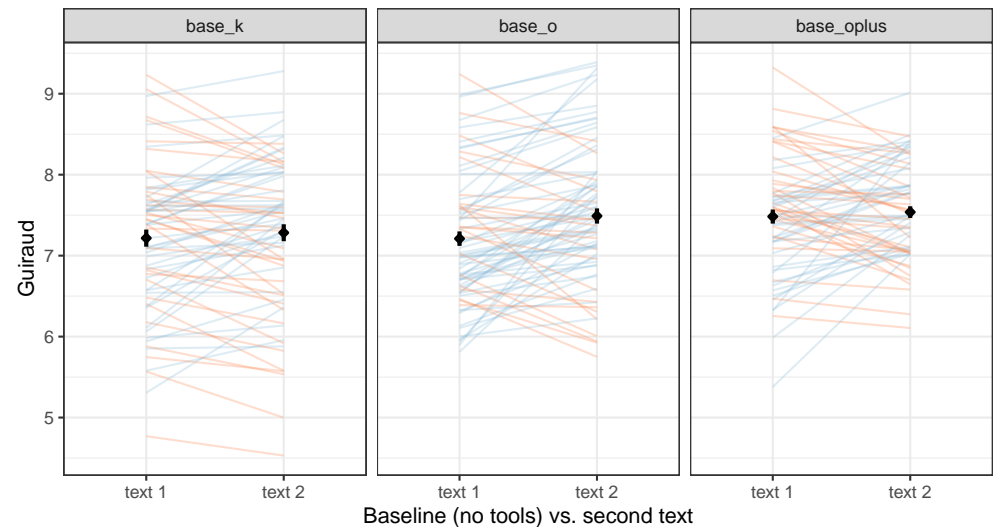
Mean Lemma frequency:

$1.9471351 \times 10^6$

## Complexity: Vocabulary

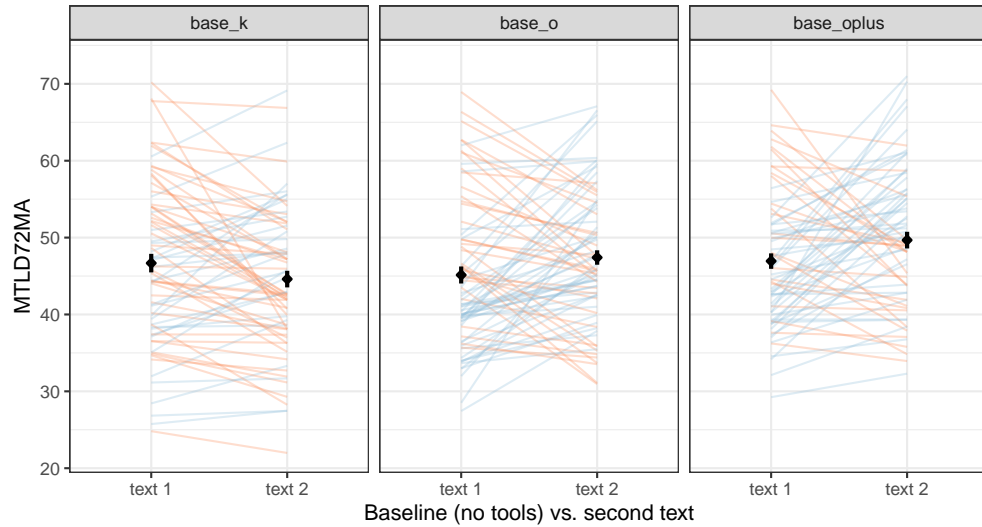
- Number of *different* words used by a learner (Type-Token-Ratio based metrics, TTR)
- Many different variants, most of which account for text length effect (short texts: high TTR, longer texts: lower TTR)
- Our work shows that Guiraud's R and MTLD (Jarvis, 2013) are good for foreign/second language learners' production (Vanhove et al., 2019; Bonvin et al., 2018)
- Alternative metric: 'sophistication', relative *rarity* of the words used;
- Compute an index that takes into account corpus frequency of the words used by the learners

## More **complexity** thanks to tools (vocabulary)?



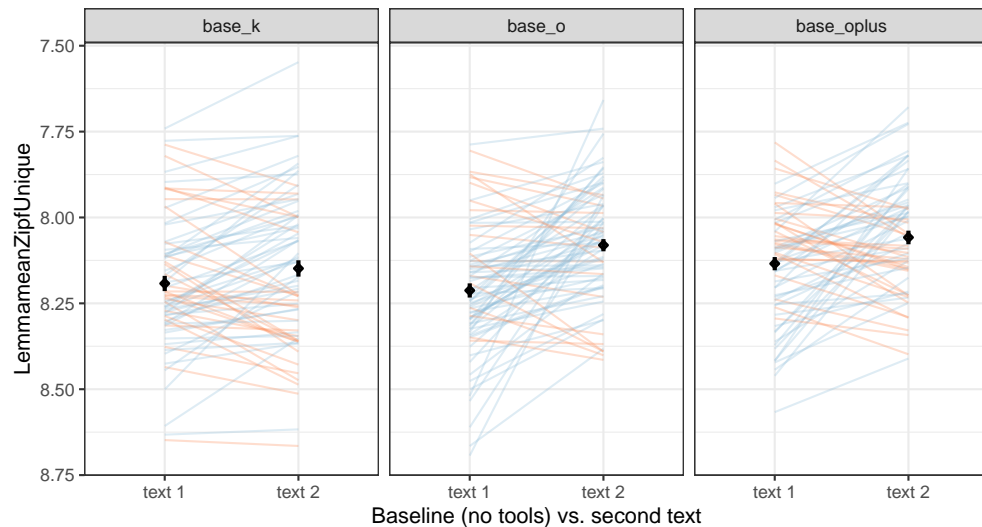
Within subjects comparisons: Guiraud

**Complexity:** the longer the tools used, the more lexical complexity



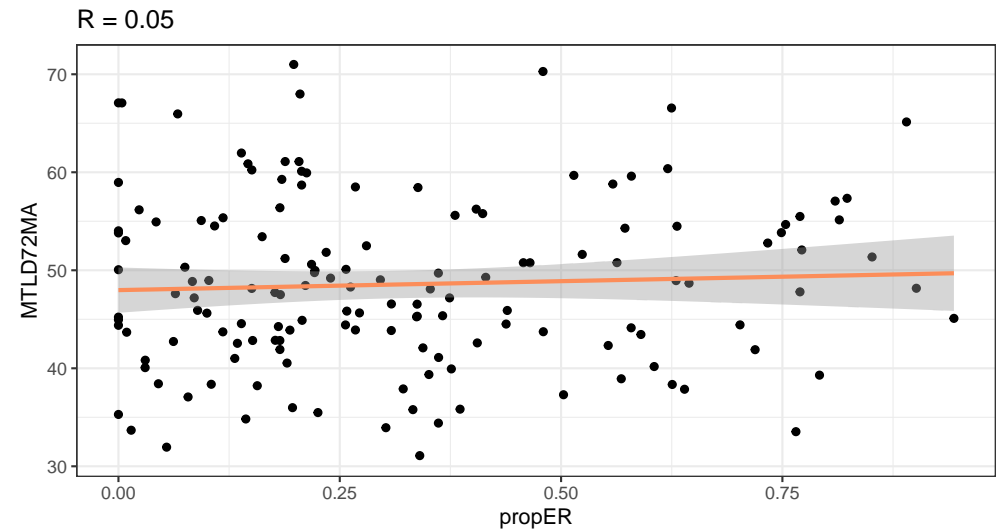
Within subjects comparisons: MTL D72MA

More **complexity** with tools (vocabulary sophistication)?



Sophistication: Zipf-transformed mean lemma frequency

**Complexity:** the longer the tools used, the more lexical complexity



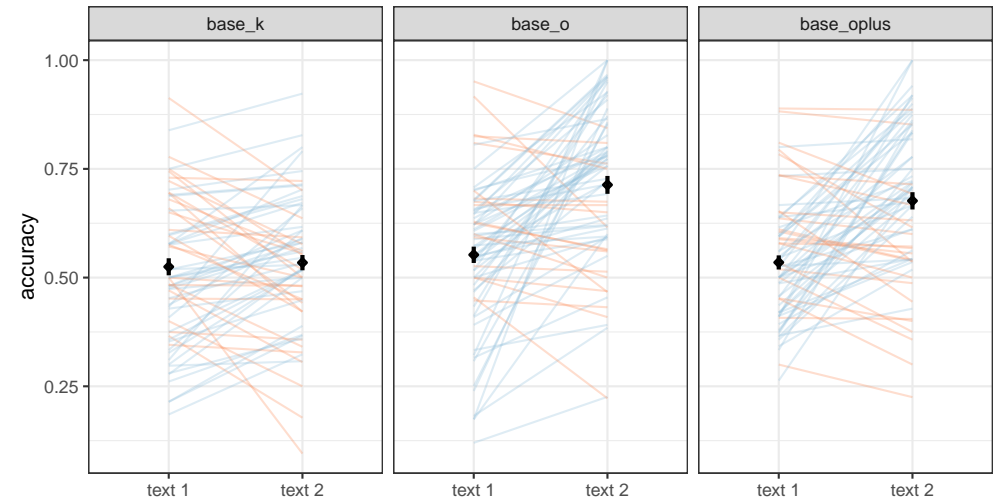
Task effects: Complexity

- lexical diversity increases in +online tool condition
- slight decrease in -online tool condition
- lexical sophistication higher in +online tool condition, but it increases in all conditions in the second text
- syntactic complexity: no effect

## Accuracy metrics (Foster and Wigglesworth, 2016, p. 104)

Workflow manual correction:

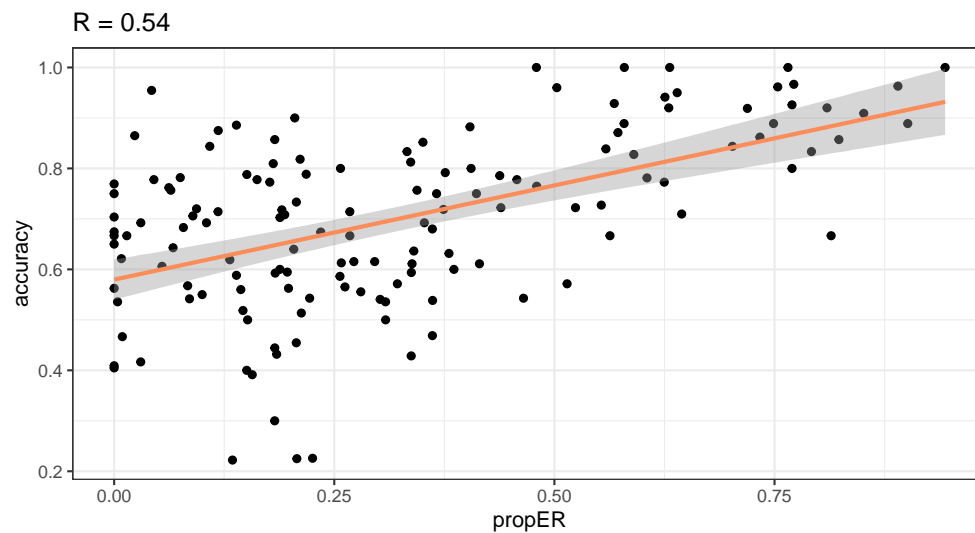
- segmentation into clauses
- binary coding: correct/incorrect
- criteria: spelling, syntax/grammar, semantics/lexical choices
- punctuation not counted
- ratio correct clauses/total number of clauses

Tools help with **accuracy** (spelling, grammar)

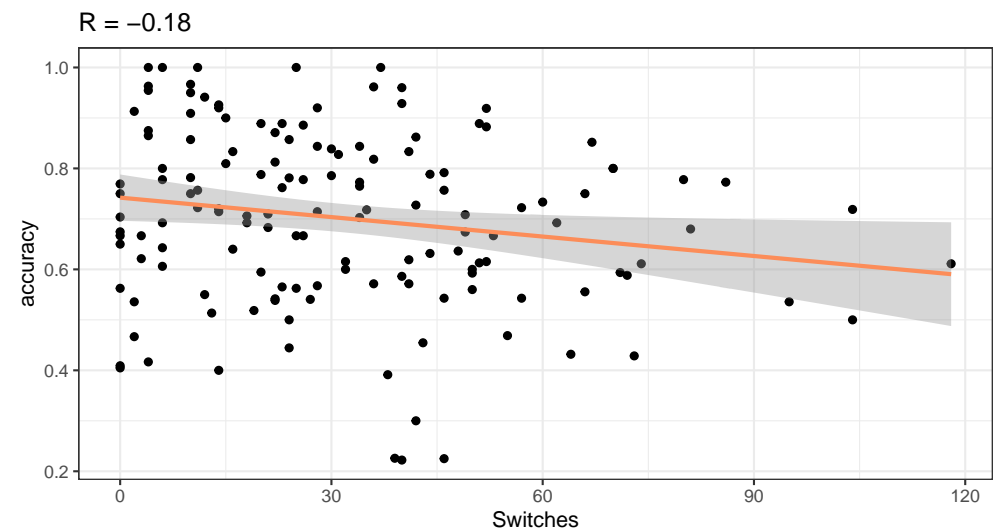
Baseline (no tools) vs. second text

Within subjects comparisons

**Accuracy:** the longer the tools used,  
the more accurate the texts



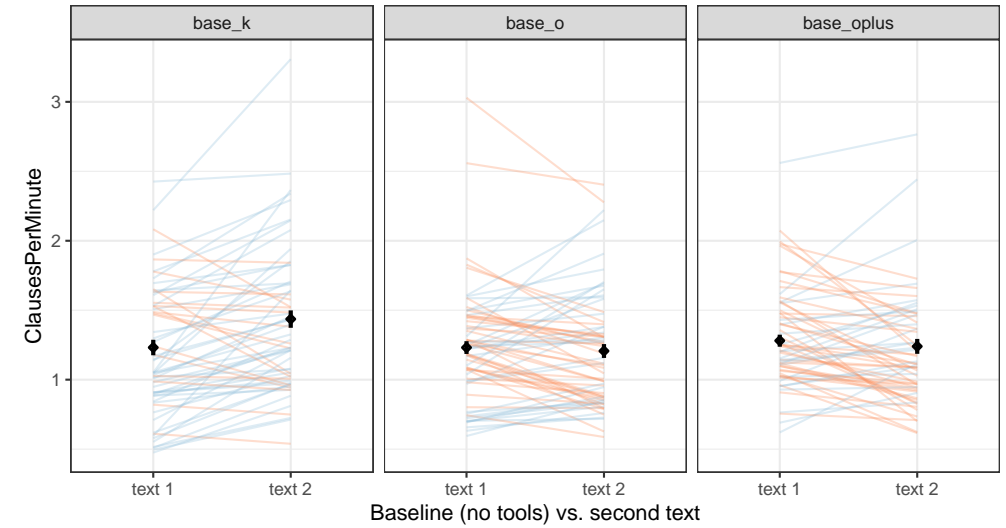
**Accuracy:** People who switch relatively infrequently  
produce more accurate texts



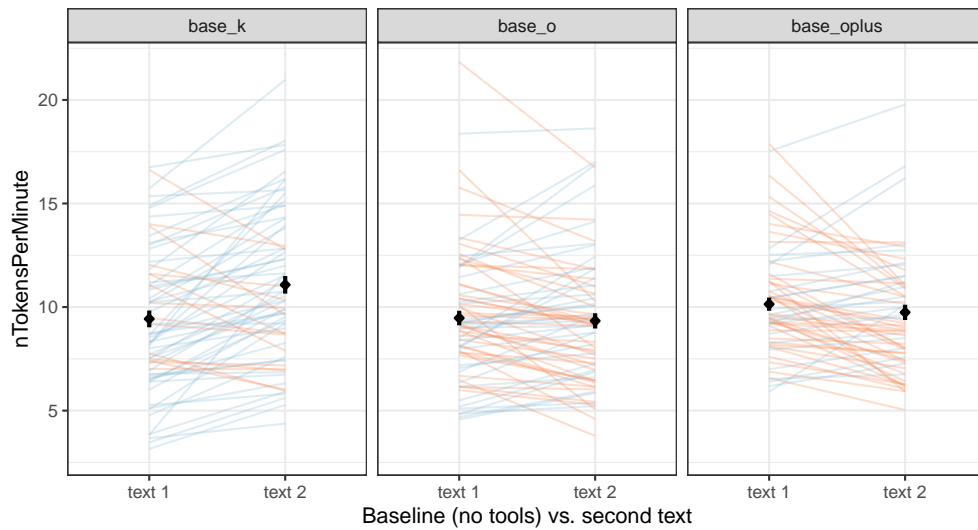
## Accuracy – Task effects

- clearly higher accuracy with digital tools
- same pattern if capitalization errors counted or not

## Fluency: tool use takes up time → + tools = shorter texts

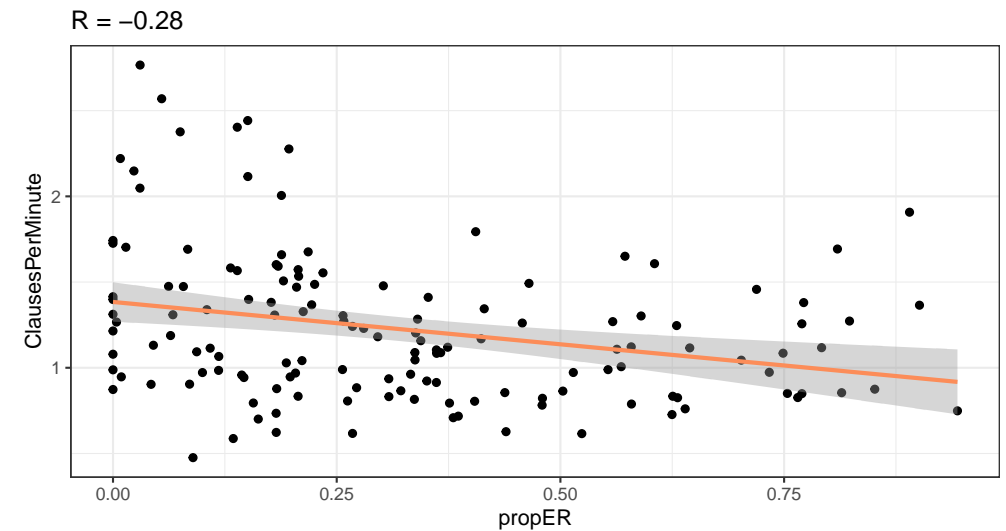


## Fluency: tool use takes up time → + tools = shorter texts



Within subjects comparisons: n tokens/minute

## Fluency: the longer the tools used, the shorter the texts



## Fluency: Task effects

- tool use takes up time → slightly shorter texts in + online tools condition
- the more time spent with online tools, the shorter the texts (weak association,  $r=-0.28$ )
- using online translators can reduce verbosity, thus effect might also be due to output of translators

## Table of Contents

- 1 Background
- 2 What tools do learners/teachers use?
- 3 Writing: How and with what effects do learners use tools?
- 4 Do learners learn the words they look up?
- 5 Discussion

## Complexity, Accuracy, Fluency: Effects

Using tools leads to . . .

- somewhat higher lexical complexity, no effect on syntactic complexity
- much higher accuracy
- slightly shorter

. . . Texts.

## Learning from Google Translate

Carmen, stimulated recall of exactly this sequence:

It's really good Google translator, but you shouldn't just translate, and copy paste. You should check out the words and try sometimes whenever you write it in Google translator, like a lot of sentences, maybe some words. It could be, if you just only two, it's going to be different from taking apart from the text. If you write, something long, a long sentence, and then appears 'Firm', it's going to the easiest. But if you just put 'Firm' it's going to be a different one, I don't know this is something I learned from Google.



English ▾ Deutsch ▾

↕

currently a student ×

derzeit Student

Alternativen:

derzeitiger Student

derzeitige Studentin

zur Zeit Student

English ▾ Deutsch ▾

currently a student × derzeit Student

Alternativen:

derzeitiger Student

derzeitige Studentin

## Do students learn anything when looking up words?

- InputLog: Information on tools and on which words were looked up
- Extraction of words/items for subsample of students
- Individual, customized vocabulary tests

Vocabulary Test -

You kindly agreed to write short texts on the computer for our research project. Since we're interested in whether you learned anything while writing these texts, we would like to ask you one last favour: Could you quickly tell us whether you know the following 10 words? And if so, what you think they mean (type in a word that means the same in any language you know). We will send you a feedback on your test! Thanks a lot for helping us with this.

jbdupont76@gmail.com (not shared) [Switch accounts](#) Draft saved

\*Required

commercial \*

I have never seen this expression before

I have seen this expression, but I don't know what it means

I know this expression

## Involvement Load Hypothesis

*Other factors being equal...  
... words which are processed with **higher involvement load will be retained better** than words which are processed with lower involvement load ...  
... teacher/researcher-designed tasks with a higher involvement load will be more effective for vocabulary retention than tasks with a lower involvement load ... (Laufer and Hulstijn, 2001)*

- need – for a word, construction to express concept/message
- search – consult paper dictionary, language authority, DeepL, ...
  - How do learners search?
  - What are their preferred tools?
- evaluation – assess fitness of word to co-text, context
  - **How do learners select among variants in the search results?**
  - **Do learners evaluate the output of their searches?**

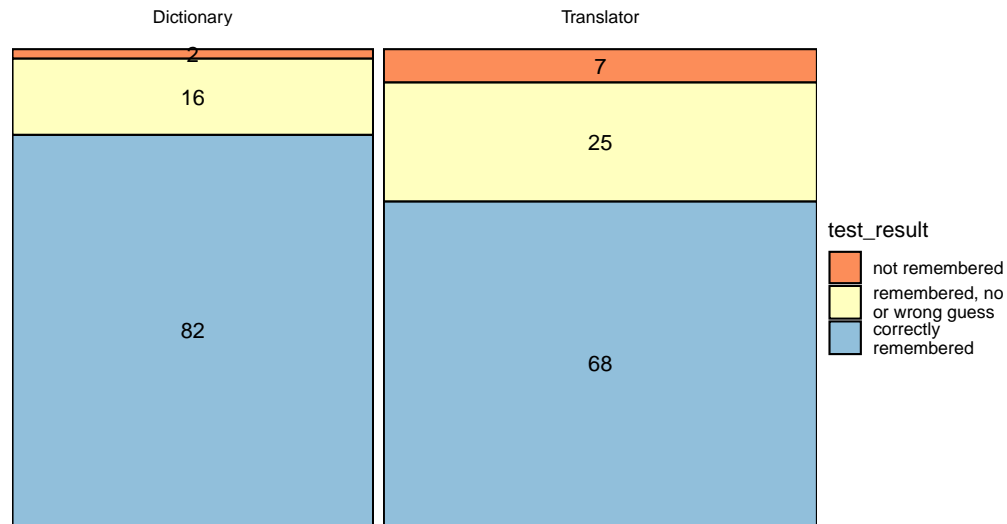
## Do students learn anything when looking up words?

### Number of students tested

condition	n
K	16
O	17
Oplus	29
Total	62

- 2 weeks after task
- 10 words tested
- 5 of which were looked up by individuals
- 3 levels:
  - don't recognize word
  - recognized but no (correct) translation given
  - correct translation

## Do students learn anything when looking up words?



### Discussion

- 1 Teacher's fear that translators → laziness, lack of involvement is not entirely unfounded
- 2 Some learners use tools in a pedagogically more valuable way (evaluation of output/choices; back-and-forth translations between several languages; ...)
- 3 Dictionaries seem associated with higher learning than translators
- 4 Texts change, but not dramatically
- 5 Changes mainly affect accuracy and fluency in opposite ways
- 6 Complexity changes: unclear, yes for vocabulary, no for syntax/clauses
- 7 Effect of our instruction on tool use: almost none, except for more frequent use of dictionaries

## Table of Contents

- 1 Background
- 2 What tools do learners/teachers use?
- 3 Writing: How and with what effects do learners use tools?
- 4 Do learners learn the words they look up?
- 5 Discussion

### Discussion – Looking forward






- 1 Ignoring tools in foreign language teaching seems problematic
- 2 Curricula and learning outcomes: unilateral focus on action-orientation
- 3 This focus in my view self-destructive for foreign language teaching, need for other goals and reasons why (foreign) languages are important in education
- 4 Find ways to use tools with high(er) involvement load (cf. <https://digitalvocabulary.wordpress.com/>)



## References I

-  Berthele, Raphael and Isabelle Udry (accepted, in press). « Welche Fremdsprachlichen Lernziele Der Schulen Können Mit Digitalen Tools Aber Ohne Lernen Erreicht Werden? Simply Playing the Ostrich Will Not Help in the Long Run. ». In: *Zeitschrift für Interkulturellen Fremdsprachenunterricht*.
-  Biber, Douglas, Bethany Gray, and Kornwipa Poonpon (2011). « Should We Use Characteristics of Conversation to Measure Grammatical Complexity in L2 Writing Development? » In: *TESOL Quarterly* 45.1, pp. 5–35.
-  Bonvin, Audrey et al. (2018). « Die Entwicklung von Produktiven Lexikalischen Kompetenzen Bei Schüler(Innen) Mit Portugiesischem Migrationshintergrund in Der Schweiz ». In: *Zeitschrift für interkulturellen Fremdsprachenunterricht* 23.1, pp. 135–148.

## References III

-  Housen, Alex, Folkert Kuiken, and Ineke Vedder (2012). « Complexity, Accuracy and Fluency. Definitions, Measurement and Research ». In: *Dimensions of L2 Performance and Proficiency Complexity, Accuracy and Fluency in SLA* /. Ed. by Alex Housen, Folkert Kuiken, and Ineke Vedder. Amsterdam ; John Benjamins Pub. Co., pp. 1–20.
-  Jarvis, Scott (2013). « Capturing the Diversity in Lexical Diversity ». In: *Language Learning* 63, pp. 87–106.
-  Laufer, B and J Hulstijn (Mar. 1, 2001). « Incidental Vocabulary Acquisition in a Second Language: The Construct of Task-Induced Involvement ». In: *Applied Linguistics* 22.1, pp. 1–26.
-  Lejten, M. and L. Van Waes (2013). « Keystroke Logging in Writing Research: Using Inputlog to Analyze Writing Processes ». In: *Written Communication* 30.3, pp. 358–392.
-  SBFi, EDK (n.d.). *Rahmenlehrpläne. Aktualisierung Des Rahmenlehrplans von 1994*. Bern.

## References II

-  CDPE, Conferenza svizzera dei direttori cantonali della pubblica educazione (2011). *Competenze Fondamentali per Le Lingue Seconde. Standard Nazionali Di Formazione*. Berna.
-  Council of Europe (2020). *Common European Framework of Reference for Languages : Learning, Teaching, Assessment. Companion Volume*. Strasbourg: Council of Europe Publ.
-  EDK, Erziehungsdirektorenkonferenz (1994). *Rahmenlehrplan Für Die Maturitätsschulen*. Bern: EDK/CDIP/CDPE/CDEP.
-  EDK, Schweizerische Konferenz der kantonalen Erziehungsdirektoren (2011). *Grundkompetenzen Für Die Schulsprache. Nationale Bildungsstandards*. Bern: EDK/CDIP/CDPE/CDEP.
-  Foster, Pauline and Gillian Wigglesworth (Mar. 2016). « Capturing Accuracy in Second Language Performance: The Case for a Weighted Clause Ratio ». In: *Annual Review of Applied Linguistics* 36, pp. 98–116.

## References IV

-  Udry, Isabelle and Raphael Berthele (submitted, in review). « Digitale Übersetzungsprogramme Und Online-Wörterbücher Im Fremdsprachenunterricht: Erkenntnisse Aus Einer Umfrage Bei Lehrpersonen Und Lernenden Der Obligatorischen, Post-Obligatorischen Und Tertiären Bildung ». In: *Linguistik Online*.
-  Udry, Isabelle, Raphael Berthele, and Wioletta Kucharska (2022). *Digital Learning*. Digital Learning. URL: <https://digitalvocabulary.wordpress.com/> (visited on 11/01/2022).
-  Vanhove, Jan et al. (2019). « Predicting Human Lexical Richness Ratings of Short French, German, and Portuguese Texts Using Text-Based Indices ». In: *Journal of Writing Research* 10.3, pp. 499–525.