Using comparable corpora for interpreters' terminology preparation

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Challenges

- Interpreters often work in a wide range of domains and have limited time to prepare for and activate domain-specific terminologies before interpreting.
- The terminological resources for technical meetings are rarely specific enough for interpreters to use straight away.
- Interpreters have to spend a lot of time reading through meeting documents. Iinterpreters' term lists are largely done manually.

Current situation for research

- Limited research into the use of modern term extraction and concordance tools for the task of SI.
- A few previous studies mentioned the application of corpora as potential tools for interpreters.

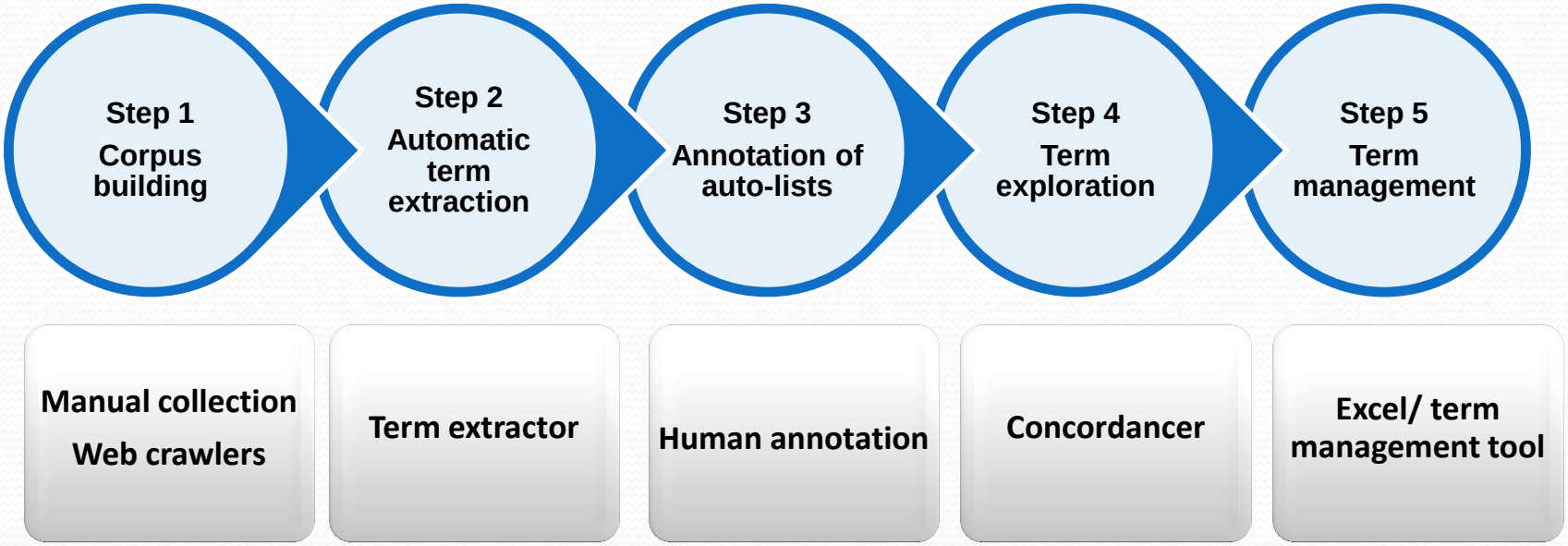
  eg. Fantinuoli (2006), Gorjanc (2009), Rütten (2003)
- However, no empirical study to test whether the use of term extraction and concordance tools can help interpreters increase their preparation efficiency and to what extent the use of the tools influences interpreters' SI performance.

Research objectives

- To investigate how to integrate the use of corpus tools into interpreters' terminology preparation
- To measure the effect of using the proposed preparation procedure and the corpus tools on simultaneous interpreting performance.

The preparation procedure

Corpus-based preparation procedure and tools used

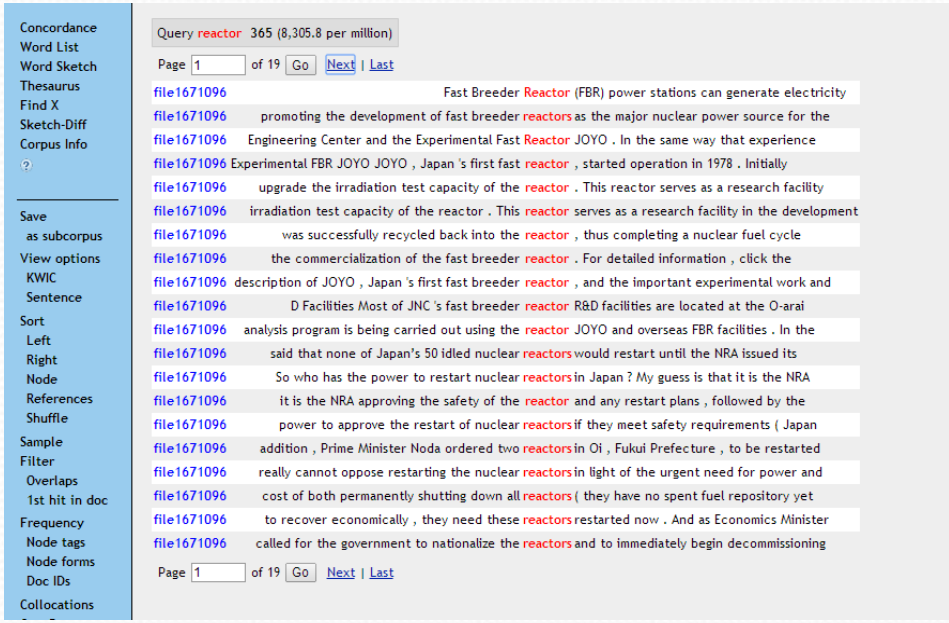


Tools to use

- Term extraction tool: Syllabs

B	C	D	E	F	G	H	I
EN	general_count	specific_count	general_frequency	specific_frequency	quotient_of_occurence	entity	form
use fuel	0	20	7.87E-08	0.000481486	6119.732707	NP	used fuel
hlw	0	19	7.87E-08	0.000458558	5828.316863	ABR	hlw
jnc	0	17	7.87E-08	0.000412702	5245.485177	ABR	jnc
fbrs	0	16	7.87E-08	0.000389774	4954.069334	ABR	fbrs
fissile	0	13	7.87E-08	0.00032099	4079.821804	ADJ	fissile
jnfl	0	12	7.87E-08	0.000298063	3788.405961	ABR	jnfl
pwrs	0	12	7.87E-08	0.000298063	3788.405961	ABR	pwrs
sfps	0	10	7.87E-08	0.000252207	3205.574275	ABR	sfps
containment pressure	0	10	7.87E-08	0.000252207	3205.574275	NP	containment pressure
bwrs	0	10	7.87E-08	0.000252207	3205.574275	ABR	bwrs
containment structure	0	9	7.87E-08	0.000229279	2914.158432	NP	containment structure
reactor core	0	9	7.87E-08	0.000229279	2914.158432	NP	reactor core
isolation condenser system	0	9	7.87E-08	0.000229279	2914.158432	NP	isolation condenser s
nps	0	9	7.87E-08	0.000229279	2914.158432	ABR	nps
actinides	0	8	7.87E-08	0.000206351	2622.742589	NOUN	actinides
twh	0	8	7.87E-08	0.000206351	2622.742589	ABR	twh
hydrogen production	0	8	7.87E-08	0.000206351	2622.742589	NP	hydrogen production
lwr	0	8	7.87E-08	0.000206351	2622.742589	ABR	lwr
design basis	0	8	7.87E-08	0.000206351	2622.742589	NP	design bases
npp	1	16	1.57E-07	0.000389774	2477.034667	ABR	npp
experimental reactor	0	7	7.87E-08	0.000183423	2331.326745	NP	experimental reactor

- Concordance tool: SketchEngine's concordance function



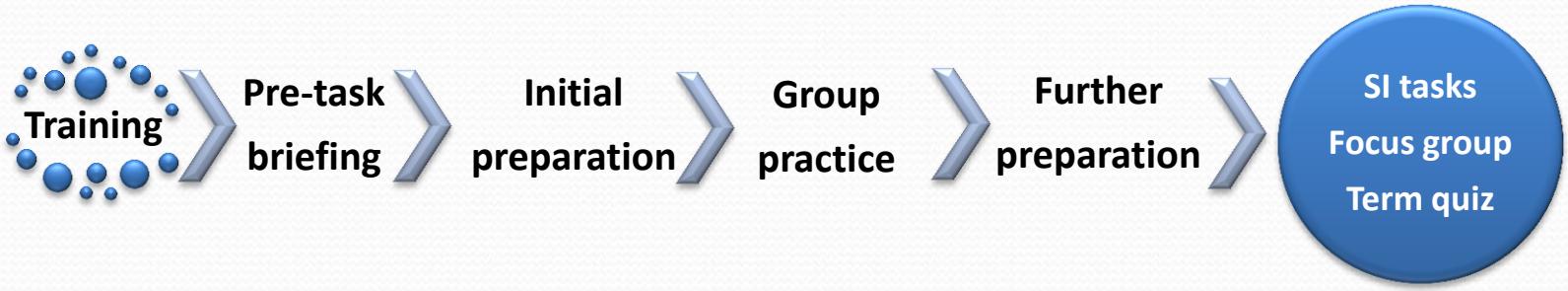
This preparation procedure is expected to bring a twofold benefit to simultaneous interpreters:

- Helping to form and manage their tailor-made terminology resources in their work environments
- Boosting readiness of relevant terms for quick access and retrieval in SI.

Design of a pilot experiment

Experiment setting and procedure

	Group	Preparation method	Preparation Time
Pilot Experiment (FR)	Control	Traditional	9 days
	Test	Using auto-lists and concordancer	9 days



Dependent variables

- SI performance scores
- Terminological accuracy scores
- Terminology error types and error numbers
- Degrees of departures for each error type

Results

The effect of using both auto-lists and the concordancer in interpreting preparation

The pilot experiment with 22 trainee interpreters shows:

- The test group had significantly higher term accuracy scores (↑7.5%). ($P<0.05$)
- The test group made significantly fewer **term omission errors (OM)** in SI tasks (↓9.3%). ($P<0.05$)
- The test group had significantly better **post-task recall of terms** than the group without using any tool (↑18%). ($P<0.05$)
- The test group spent significantly less **preparation time** than the control group. (↓17%). ($P>0.05$)

- **An increased level of term density** in the source speech and **working into B language** affected trainee interpreters' performance by deteriorating term accuracy in interpretations.

- However, using both tools played a significant role in mitigating the detrimental effects of **increased term density** in the source speech and **working into B language** on the numbers of **serious errors** and **omission errors (OM)** in interpretations.

Summary of results

- The preparation procedure using both the term extractor and the concordancer within ample preparation time yielded the better preparation result then the traditional preparation procedure.

- Using both tools generally helped to improve trainee interpreters' terminological performance during SI by increasing term accuracy scores by 7.5% and reducing the number of omission errors by 9.3%.

- On the other hand, terminology preparation (through using both tools) is not a “magical cure” for all. The data shows that the preparation procedure only helped to improve students’ holistic SI scores to a certain extent (but not yielding any statistical significance).

Pedagogical implications

- This study demonstrates that training on terminology preparation by using comparable corpora could be a useful supplement to the already existing professional interpreting training.

- It is important for both students and trainers to be aware that corpora and corpus tools when used properly can assist interpreters' terminology preparation and achieve an enhanced performance.

Limitation

- Providing the automatically-generated term lists to the test group was to avoid overburdening them. However, this is arranged at the expense of a weaker ecological validity of the experiment, as in a real interpreting assignment, the interpreters have to get the tem lists by using the tool themselves.

Future work

- Future experiment:
  - the participants use term extraction tool themselves
  - SketchEngine platform

Thank you!