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Capturing Translation Processes Final Report

April 2009 - December 2012

A photograph of a keychain with several keys and tags. One tag is black with white text: "www.theaterstrasse15.ch". Another tag is pink with white text: "riverdaleRd.ch". A third tag is yellow with black text: "1559.ch".

Italiano
Français
Translation
Deutsch



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Executive summary

What do translators actually do and why is it so special? These questions were explored by a research team from the ZHAW in a project co-funded by CLS Communication and the Swiss National Science Foundation. In a mixed-method approach that combines interviews, screen recordings and eye-tracking, the team captured the translation processes of beginners, advanced students, and experienced professionals. Comparing professionals' processes to those of students has provided valuable insights into online decision-making, good practices, and training needs.

Professionals indicate that they have a wider repertoire of strategies to cope with translation problems than students do, and a clearer self-concept of their roles. They adapt their approach in response to the challenges presented by a particular text, apparently driven by cost-benefit considerations, whereas most students seem to find it difficult to depart from familiar patterns. Examinations of resource use indicate that there are also potentially important discrepancies. Most professionals use a wide range of resources such as search engines, online multilingual dictionaries, terminology databanks, online parallel texts, and encyclopedias, and are more discerning than students about which resource they use for which type of problem.

Many of the findings of the project have direct implications for translation teaching and professional development: one that is currently being implemented is an increased focus on the process in order to heighten translators' awareness of their own practices and decision-making. One of the unexpected findings from the workplace recordings concerned disturbances to the translation process and coping strategies to deal with them. A follow-up study, also financed by the SNF, explores the cognitive and physical ergonomics of professional translation.

Design of the project

In the longitudinal Capturing Translation Processes (CTP) project funded under the Swiss National Foundation DORE program from April 2009-December 2012, translators with various levels of experience – beginners, advanced students, and professional translators – were monitored while translating various genres of texts. The original motivation for including a group of professionals in the project design was not only to investigate translation processes at the workplace but also to have a control group for comparisons with students' processes. The dominant language for professional translation work in Switzerland is German, either as the target from English, French, or Italian, or as the source for translation into those three languages. Our industry partner – CLS Communication – specializes in the financial and life science sectors and offers a comprehensive range of services for end-to-end multilingual text management, which is a good fit with the curricula of our BA and MA degree programs. As the largest employer of staff and free-lance translators in Switzerland, the company is the single most significant contact for graduates of our programs.

The multi-method approach used in the project captured as much information about translation processes as possible in a naturalistic and non-invasive way, combining observations of the workplace, interviews, questionnaires, computer logging, screen recordings, and retrospective verbalizations (see Table 1 for a summary of the data collected). In order to make the transcripts of the screen recordings and commentaries from the various groups comparable and machine-readable, all were provided with metadata and every activity was tagged using XML conventions developed during the project.

Table 1. *Corpus of data from students and professional translators collected during the CTP project*

Type of information	Experience level			Data collection instrument*	Form of data**
	Beg	Adv	Pro		
Personal background	194	112	39	questionnaire	transcript
Typical translation process	194	112	39	semi-structured interview	transcript
Use of tools and resources	-	96	139	online questionnaire	statistics, comments
Lab translation processes	194	112	29	journalistic texts with SCR, KSL, ET	ST, TT, logs of keystrokes and pauses, XML transcripts
Cue-based retrospection about lab processes	194	112	29	audio recorded over SCR	ST, TT, RVP, XML transcripts
Workplace translation processes	500	200	325	various genres of source texts with SCR	ST, TT, XML transcripts of selected processes
Cue-based retrospection about workplace processes	-	-	18	audio recorded over SCR	ST, TT, RVP, XML transcripts

* SCR=screen recording; KSL=keystroke logging; ET=eye tracking

** ST=source text; TT=target text; RVP=retrospective verbal protocol

Research questions

In the analysis phase of the project, the various sources of data were triangulated to answer six main research questions:

1. What are the differences between the strategies and practices of beginners, advanced students, and professional translators?
2. How conscious are translators with different levels of experience of their strategies and practices?
3. Which translation strategies and practices, if any, are unique to particular language combinations?
4. How much of the translation process is actually devoted to revision and how does this change as translators gain experience?
5. How do translators with different levels of experience compensate target language competence when translating into their second language?
6. In what ways are translation processes in the workplace comparable to translation processes in a controlled setting?

Main research results

Comparisons have been made between students at various stages (beginners and advanced) and professionals; between different language combinations (i.e. involving German, English, French, or Italian); between translation into the translator's first or second languages; and between processes at the workplace and in a controlled setting (i.e. a usability lab). Some of the main findings related to each of the research questions are highlighted below, with references to the relevant project publications listed at the end.

Differences between beginners, advanced students, and professional translators^{3,5,7,8,11-14}

The key research question driving the project concerned the development of translation competence and identifying indicators in the translation process that seem to be related to competence level. In general, we found that professionals oriented themselves more quickly to translation tasks, produced titles sooner, were faster at target text production, researched less, revised more, and paused more than beginners and advanced students did (see Table 2 for one set of processes).

Table 2. Results for first 15 minutes of lab translation processes (Whale/Wale source texts)

	n	Translation direction	Orientation phase (sec)	Title (hh:mm:ss)	TT words/m	Number of actions in the process			
						Consults	Writes	Revises	Pauses
E-G									
Beg	15	L2-L1	101.3	00:03:10	4.0	22.0	26.4	21.1	22.1
Adv	8	L2-L1	100.1	00:01:32	4.5	13.4	31.0	27.3	24.8
Pro	11	L2-L1	90.6	00:01:20	5.6	12.7	26.7	27.1	28.9
G-E									
Beg	11	L1-L2	192.1	00:02:30	2.9	20.9	17.9	14.7	19.1
Adv	11	L1-L2	122.6	00:02:07	4.5	22.1	26.1	19.1	19.5
Pro	8	L2-L1	80.4	00:01:37	7.5	13.0	27.4	34.4	24.3

The development of translation competence was most apparent in the results for the advanced students, which were intermediate between the beginners and professionals in some respects or similar to those of one but not both of the other groups in others. This was true of measures as diverse as eye fixations per second during the orientation phase (professionals with the fewest, beginners with the most) and amount of target text produced after 15 minutes (professionals with the most, beginners with the least).

Although the frequency of writing activities (defined as the every incidence of new text being added to the end of the emerging text) showed little variation in the groups translating into their first language, the beginners translating into their second language (English) wrote much less often in the first 15 minutes of the process (17.9 vs. 26.4 occurrences). This was also apparent in their very slow production of target text (2.9 words/min). The professionals' text production processes were smoother, with longer average writing activities than those of the other groups

(see Figure 1 for a visualization of writing production in the Eng-Ger lab processes). The pattern was the same for Ger-Eng lab processes (i.e. average length for Beg=3.6 sec.; Adv=4.0 sec.; Pro=5.3 sec.), even though the students were translating into their second language, which is usually assumed to be a slower process. The diagnostic and didactic implications of these results have already been implemented in the MA entrance exams at our institute and are being discussed by translation institutions elsewhere.

Figure 1. Duration of writing activities (average in seconds, location in process, and length)



Awareness of strategies and practices^{2,4,5,10,13,14}

The degree of metalinguistic awareness of the complexity of the translation process was found to be a distinguishing feature of the professional translators, especially in the workplace setting (see in particular the figures in bold in Table 3).

Table 3. Percentage of each group that mentioned concerns with different aspects of the translation process

E-G Setting	Level	Direction	Words & phrases	Sentence structures	Text quality	Loyalty to ST	Reader-ship	Account-ability
Lab	Beg	L2-L1	44	33	33	0	78	22
	Adv	L2-L1	50	25	25	50	63	25
	Pro	L2-L1	25	75	88	50	88	25
Work	Pro	L2-L1	38	88	100	100	75	88
G-E Setting								
Lab	Beg	L1-L2	50	75	75	0	38	0
	Adv	L1-L2	38	50	63	25	38	13
	Pro	L2-L1	29	71	100	86	86	33
Work	Pro	L2-L1	83	83	83	83	67	100

In their commentaries after completing translations in the lab, both the advanced students and the professionals reflected on their practices and strategies far more than the beginners did. The success of using recordings of the translation process to trigger reflection and learning has convinced many instructors in our program and other institutions to incorporate this technique into their teaching.

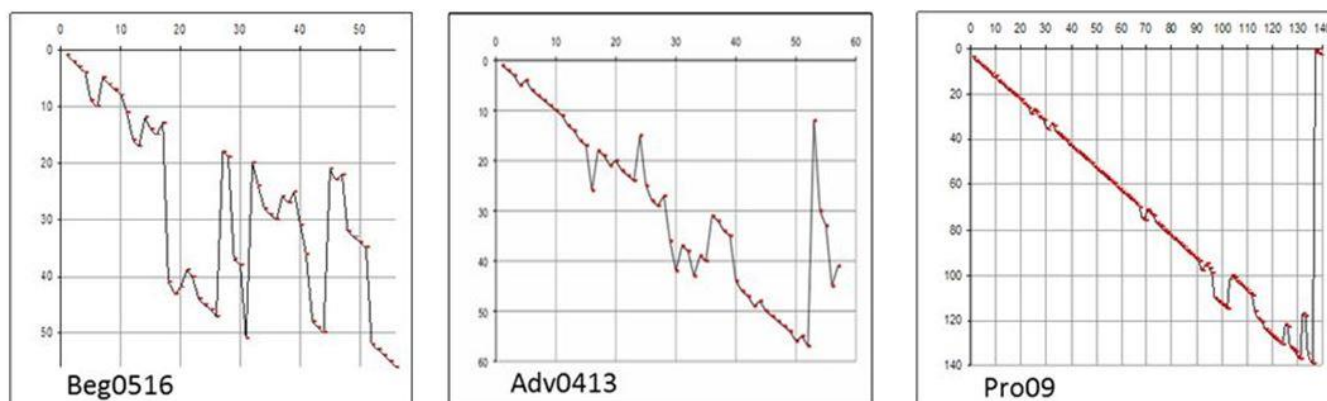
Translation strategies and practices unique to particular language combinations^{9,11}

The results of our online survey of research practices suggest that professional translators with language combinations that involve English are much more likely to exploit online resources than those that do not. However, it was not possible to verify this because too few professionals with language combinations without English participated in the data collection phase at the industry partner. Comparisons based solely on student data must be treated with caution because they are based on small groups that were taught by a small pool of teachers, so any differences might reflect methods of instruction rather than language combinations. We are confident that the interest in the project from scholars outside of Switzerland and the participation of the research team in an international network of translation process researchers will result in data being generated with these language combinations that will allow meaningful comparisons to be made.

Revision in the translation process^{2,3,4,6,9,13,14}

The increasing smoothness of the translation process as translators gain experience that was noted in the duration of TT writing activities is also apparent in plots of their revision activities (see Figure 2). These progression graphs of keystroke logging data show the revisions to an emerging text as a function of their position in the final text, revealing that revision is as much a part of the translation drafting process as text production and is not restricted to a post-drafting phase.

Figure 2. Progression graphs of a beginner, advanced student, and professional (G-E; RAPEX source text)

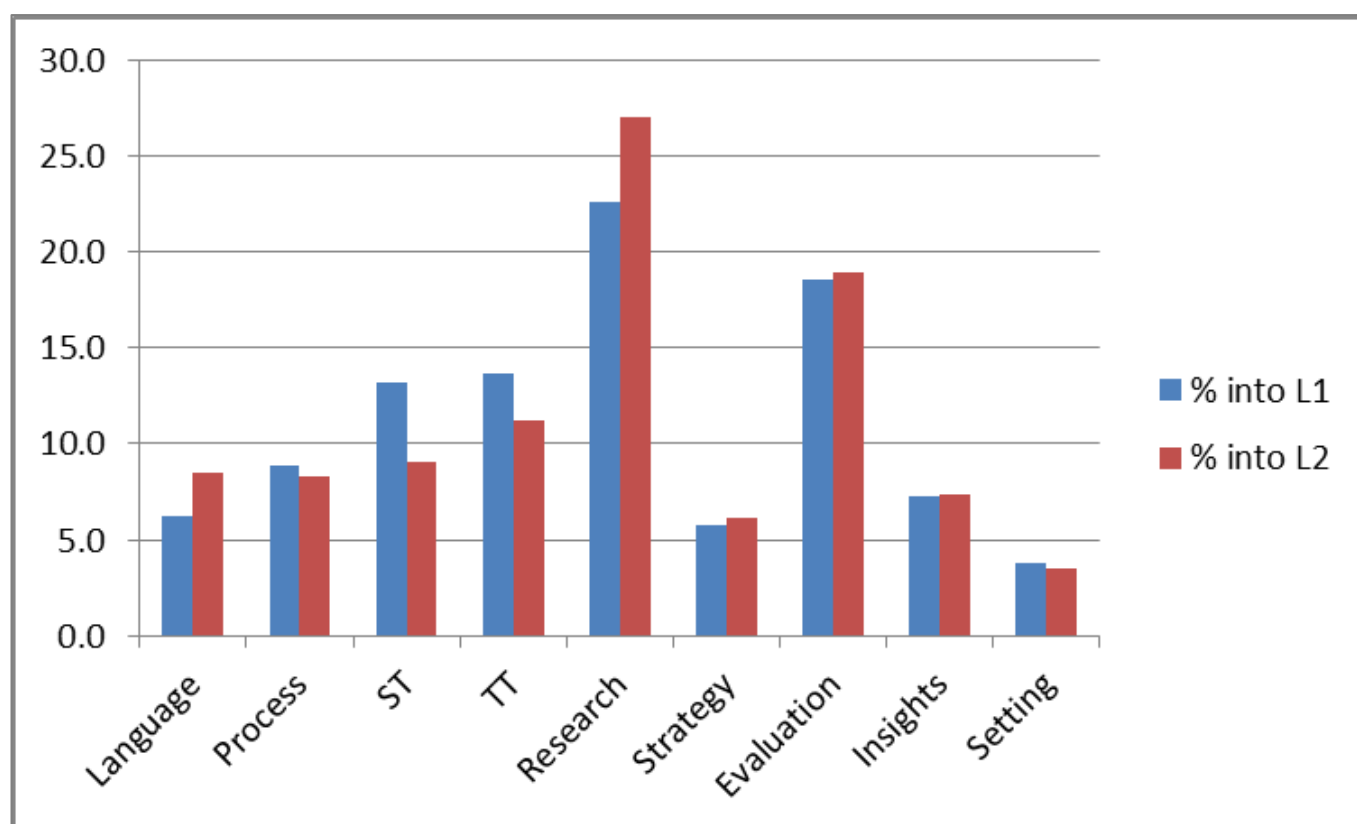


We found evidence that relatively few substantial changes were made in the post-drafting phase of many of the processes, which suggests that self-revision may be less important than other-revision. On this basis, we propose that other-revision must be included in models of translation and explicitly taught at the undergraduate, graduate, and professional development level.

Compensation for target language competence when translating into L2^{2,4,6,10,11,12}

When translating into their second language (L2), the beginners slowed down text production and revised much less. The reduction in revisions was also noticeable for the advanced students, but they also significantly increased the frequency of their consultation of online resources, which we assume is an important strategy to compensate for insecurity in their L2. This interpretation is supported by the distribution of comments that the students made about their translations into L2 (see Figure 3). There were more concerns expressed about resolving language issues and researching terms when translating into the L2 and more talk about the source text and target texts when translating into the L1. No comparisons were done for the professionals, since they all translated into their L1.

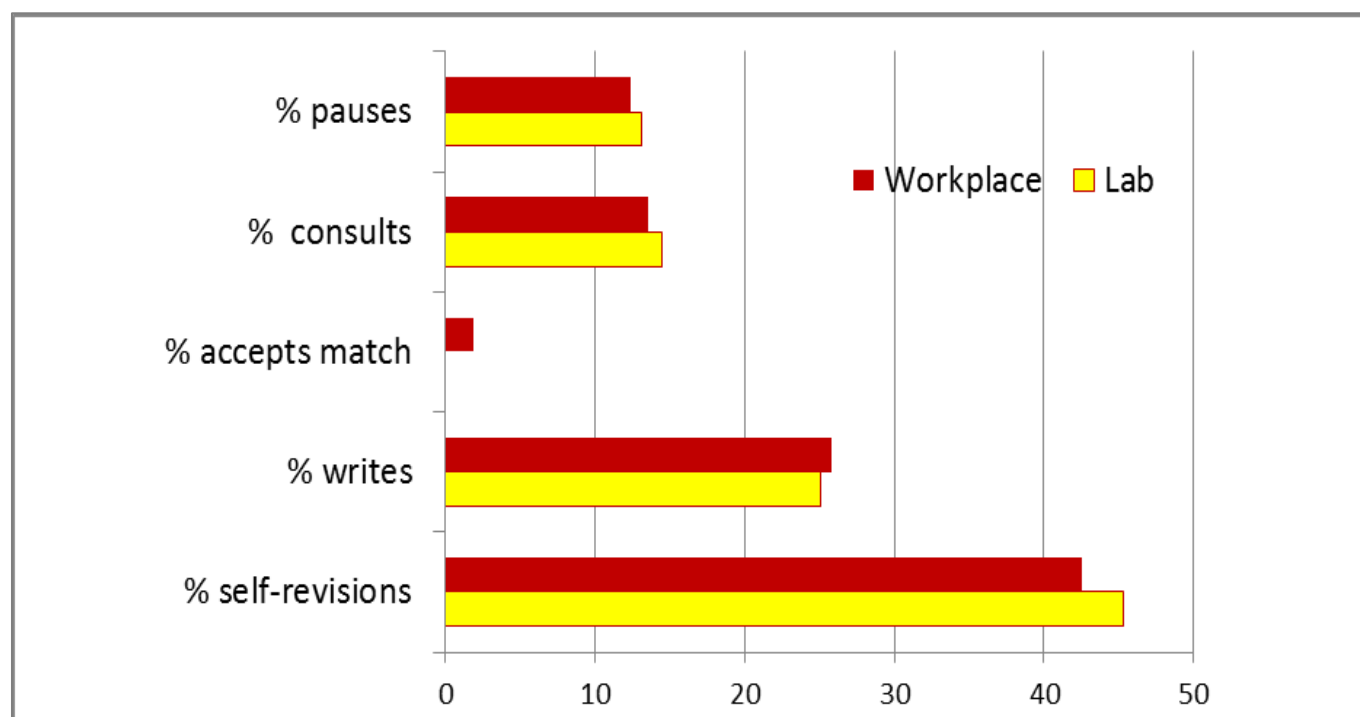
Figure 3. Categories of comments about the translation process in relation to translation direction



Comparability of translation processes in the workplace and controlled settings^{1,9,12}

The transcription conventions to code activities during the translation processes recorded in the controlled setting of the lab had to be adapted to account for various activities at the workplace, such as accepting translation memory matches, interrupting the process to check style guides, and including comments for colleagues. However, the distribution of the core activities of writing, self-revision, consulting, and pausing was very similar for the lab and workplace (see Figure 4). About half of all the activities in the processes which the translators had commented on (one in the lab and one in the workplace) concerned self-revision, followed by writing, and roughly equal percentages of pausing and consulting activities (e.g. dictionaries, online searches). In their commentaries about the processes at the workplace, though, the professional translators referred to a broader range of responsibilities than they did for the lab processes (see Table 3).

Figure 4. Percentages of activities during the translation processes in the lab and in the workplace (n=14)



One of the unexpected findings from the workplace concerned disturbances to the translation process and coping strategies to deal with them. In the course of the study, it became increasingly clear that a deeper examination of external influences would help to understand how demands on professional translators affect their practices. A follow-up study, launched in January 2013 and financed by the SNF, explores the cognitive and physical ergonomics of professional translation.

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Further information about the project can be found at www.linguistik.zhaw.ch/ctp

Publications related to the project

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