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Commenting on translation: implications for translator training

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ABSTRACT

As translation research moves towards investigating translation processes and not just products, researchers have begun to examine the effects of those processes on the quality of target texts. Translation products result from the interaction between expectations of what translations should be and those practices and competences by which translators produce acceptable translations within temporal and economic constraints. Translation process models suggest what cognitive decision processes might involve, and competence models outline the expert knowledge and cognitive components assumed necessary for effective translation work. In translator training, translation processes have traditionally been accessed and evaluated through student annotations and other written commentaries. Recently, however, other ways of including explicit input on the translation process have been proposed, including the transfer of process research techniques to understanding and evaluating undergraduate students' translation performance. This paper outlines how methods to investigate translation processes can profitably be applied to translator training. A pilot study conducted in our MA programme shows that making translation processes transparent provides trainers and students with valuable insights into translation behaviour. This transparency facilitates better needs-oriented coaching than product-oriented evaluations can, since many of the considerations in reaching translation solutions can be directly observed rather than assumed.

KEYWORDS

Translation process research, translation pedagogy, process-oriented translator training, translation evaluation

1. Introduction

Translation products result from the interaction between expectations of what translations should be and those practices and competences that allow translators to produce acceptable translations within sometimes severe temporal and economic constraints. An important indicator of present-day demands on professional non-literary translation is the European standard EN15038 (2006). Designed to give translation service providers a set of procedures and requirements to meet market needs, it covers the entire service, from managing translation projects to aspects of the translation process and added-value services such as rewriting, adaptation and the revision of translations from third parties. The standard stresses the functional, "fit-for-purpose" (cf. Martin 2007) nature of translation and revision, describing translation competence in terms of "the ability to translate texts to the required level" and "to render the target text in accordance with the client-TSP [translation service provider] agreement" (EN15038 2006: 7).

The skills set out in the standard are closely matched by the translator training outcomes proposed in best practice guidelines, for example in the reference framework of competences for the European Master's in Translation (EMT expert group 2009). Those, in turn, reflect current translation competence models (e.g. PACTE 2009, Göpferich 2009) outlining the expert knowledge and cognitive components assumed to be necessary for effective translation work. Developed by researchers investigating the processes of translation, and partly building on earlier work on cognitive decision-making processes and patterns (e.g. Bell 1991, Gile 1995, Hönig 1997, Krings 1986), these competence models have emerged as translation studies research has, over the past 25 years, moved from an almost exclusive focus on translation products towards translation processes and their effects on the quality of target texts (cf. Lee-Jahnke 2005: 361).

The modelling of translation competence serves to generate hypotheses to be validated in longitudinal process studies such as *TransComp* (cf. Göpferich 2009), the PACTE group's investigations (cf. PACTE 2009) and the *Capturing Translation Processes*[1] project at our institute (cf. Massey and Ehrensberger-Dow 2010). The goal of these studies is to discover how competence is and may be acquired, which, once known, could have important pedagogical implications for the training of translators. Indeed, translation process research was itself initially driven by pedagogical interests (House 2000: 152), and an explicit objective of the *Capturing Translation Processes* project, for instance, is to transfer that knowledge directly into the design of our translation curricula (cf. Massey and Ehrensberger-Dow forthcoming). After all, it is only logical that any programme intended to be relevant to professional translation practice under real-world constraints must also be directed towards improving the efficiency and effectiveness of translation processes, and not just to the quality of the final products. Such training necessarily requires explicit input on those processes both by exposing students to the authentic, experiential learning situations through which key procedural skills can be acquired and by heightening awareness of the ways in which translation competence evolves (cf. Alves 2005, Massey 2005).

Of course, translation pedagogy has for some time been aware of the importance of students reflecting on the decisions made and actions taken during their own translation performance. It has also recognised that the evaluation of a translation can be aided by knowledge not only of the product, but also of the process by which it came about. In evaluating student performance, the most widespread means of eliciting information about student translation processes has been the annotated translation and other forms of written commentary, a practice Garcia Álvarez (2008: 27) traces back to the early 1980s. Garcia Álvarez proposes that directing students to write commentaries according to a fixed set of guidelines should serve as a model for student evaluation (Garcia Álvarez 2008: 28

ff.). It would facilitate the analysis and assessment of students' mental processes and thus, by supplementing the judgement of the product, be a more reliable means of evaluating overall student performance (Garcia Álvarez 2008: 31). Yet, as Kujamäki (2010: 2 f.) points out, this methodology is based purely on retrospective reflection and is therefore deductive in nature. Gaining a truer picture of what goes on in the minds of (student) translators as they make the decisions and take the actions leading to the translation product requires other, inductive methods (Kujamäki 2010: 3).

Scholars working in the area of translation process research have developed and exploited various techniques to try to access the "black box" of the translator's mind (e.g. Asadi and Séguinot 2005, Hansen 2003, Jakobsen 2002, Krings 2005 and others). Some of these have been applied directly in translator training experiments and methodology. House (1986) reports on the benefits of "dyadic," or dialogic, discourse interactions among student pairs during the translation process, and on the pedagogical potential of descriptive, inductive-empirical process research (House 2000: 152), especially when dialogue think-aloud methods are used (ibid.: 159 f.). This is supported by Kussmaul, whose underlying proposition is that "self-awareness will breed self-confidence" (Kussmaul 1995: 149) and who agrees with House on the usefulness of dialogue protocols for raising awareness in learners, although he does acknowledge the caveats of ecological invalidity and of distortions due to the psycho-dynamic interactions of reporting pairs (Kussmaul 1995: 11 f.). Kussmaul elicits introspective data on translation processes through both monologue and dialogue think-aloud protocols (TAPs), which he believes can complement and support each other (1995: 12). Despite conceding that no direct access to mental processes is possible, Kussmaul shares the view of all process researchers that introspective methods such as TAPs allow observers to get "closer" to the translator's mind by inference, and that there is "an improvement by degree when analysing protocols [reporting the translation process] instead of errors [in the translation product]" (1995: 7).

Gile's "Integrated Problem and Decision Reporting (IPDR)" (2004), which systematically requires written introspective reporting by students for every translation assignment, represents an inductive form of annotated translation. He concludes that the method is valuable for enhancing student awareness of key components of the translation process and can help the instructor identify and correct strategic and technical problems in student performance (Gile 2004: 15). Research done by Hansen (2006: 2) on "sources of disturbance in translation processes" uses the keystroke-logging software *Translog* to record translation processes, which is then replayed to elicit retrospective oral comments from subjects (R+Rp). This she combines with an immediate retrospective dialogue (R+Rp+ID) between the subject and the observer "with the purpose of reaching

subjective and inter-subjective identification and clarification of a phenomenon of interest" (Hansen 2006: 2 f.). Testing and comparing R+Rp+ID with Gile's IPDR as well as retrospection and R+Rp, she concludes that these introspective methods are pedagogically valuable in raising awareness of translation processes and can be deployed complementarily in both research and teaching (Hansen 2006: 2, 26).

Alves (2005) reports on an experiment using a similar keystroke-logging R+Rp technique to Hansen's. This he combines with immediate retrospective verbal protocols to promote novice translators' awareness of translation processes through individual and group cross-analysis of their performance. Building on previous research suggesting that higher levels of meta-reflection are a fundamental characteristic of the behaviour of expert translators, Alves contends that applying process research elicitation methods in the classroom can increase the quality of translator education by focussing on procedural aspects of translation competence. This opinion is shared by Dam-Jensen and Heine (2009: 18 ff.), who, in a helpful overview of process research methods in university text-production and translation teaching prior to 2009, argue in favour of the same "learning-by-doing" R+Rp approach.

More recently, Pym (2009) and Kujamäki (2010) have reported on using screen recordings of translation processes combined with retrospective commentaries as a direct training tool in the classroom, and both are positive in their judgements of the pedagogical value of their methods. In the experiments conducted by Pym, students provide written commentaries on individual and pair-work translation tasks, answering set questions on specific aspects of their performance. Learner autonomy is encouraged, with instructors only becoming involved once students have exchanged views with one another. Amongst the pedagogical advantages Pym (2009: 153) mentions are that the techniques used empower students "to make direct observations about their own translating and to draw their own conclusions," to challenge common assertions about translation, and to directly apply research methods and findings to the discovery and development of their own translation practices. In the case study reported by Kujamäki, student processes are recorded and analysed by the instructor in an observation protocol. The students themselves write unguided retrospective commentaries on their own processes, which they must contrast with the recorded processes of one other student. Kujamäki (2010: 19 f.) too, regards the methods as effective and informative, providing instructors with a diagnostic tool for constructive, individualised feedback on unsuccessful procedures and facilitating student "self-therapy" based on reflection and comparison of translation performance.

The research, experiments and case studies reported above pose interesting questions about the added value of deploying process research

techniques in educational settings. Beyond the shared und seemingly uncontroversial view that, by encouraging reflection and fostering self-awareness, the use of such methods help students acquire translation competence, exactly what kind of pedagogical insights can be gained from examining translation processes, and by whom? What can and do instructors learn from observing their students, and what can and do students learn from observing translation processes of their own and their peers? How may such insights aid course design and curriculum development? The study reported in this paper is an attempt to address these questions.

2. Methodology and approach

In the longitudinal *Capturing Translation Processes* project at our institute, we are monitoring students and professional translators at various points in their careers. The data we are collecting for our corpus allow comparisons between the same students at the beginning of their translation degree program (beginners), just before completion of their programme (advanced), after finishing (graduates), and after gaining professional experience (professionals). Translation processes of different language combinations are of interest as well as translation into the A (native or first language) or into the B language (active foreign or second language).

The methodology we use is rather complex but has the advantage of being relatively non-invasive for the translators involved. It is based on progression analysis, a multi-method approach developed by Perrin (2003) to investigate the writing processes of journalists. It provides information at four levels as described below:

1. the situation surrounding the translation activity;
2. the practices that the translators engage in;
3. the comments about translation processes;
4. the translation products themselves.

In addition to contributing to our understanding of cognitive processes involved in translation, the various sources of information allow us to determine what kind of pedagogical insights can be gained by examining translation processes. In this study, we include an extra component in an attempt to bring insights directly back to the classroom by investigating how students and their teachers might benefit from observing translation processes.

2.1 Participants

As part of the larger project in our institute, 12 students in their first semester of an MA programme in specialised translation with the versions English-German and German-English contributed to the institute's corpus of translation processes. Of this group, eight (seven women, one man) volunteered to participate in the present study. They all had German as their A language and at least one other language version in addition to English. Their English-German and German-English translation teachers also took part in the study.

2.2 Data collection

In the first week of the semester, the MA students were briefly told about the main project and asked to participate (all of those present at the information session agreed to do so). Recording sessions were scheduled in the usability lab of our institute between the 2nd and 4th week of semester. After providing background information such as languages, education, and work experience, students were recorded individually as they translated into English a short German journalistic text (about 100 words) that had been given to other groups in the main project. They were not expected to complete the translation in the time available (20 minutes) and were encouraged to work at their own pace.

All of the students' keystrokes, screen movements, and eye movements were recorded by software running in the background of the text editor (*MS Word*) that they were using to access the source text and produce their target texts. Although the monitor they had in front of them (a *Tobii T60* eye-tracker, with small diodes below the screen to record the eye movements), looked slightly different from the institute computers they were used to, the user interface and resources at their disposal were familiar. There was a short break after each recording while the data from the screen and eye movements were rendered into Audio Video Interleave format (.avi) for viewing (see Figure 1 for an example). Immediately afterwards, the students viewed their own processes and were asked by a research assistant, who could not see the screen clearly, to verbalise what they saw themselves doing. They were prompted to continue talking if they stopped but were not guided in any other way. These retrospections (RVPs), all done in German, were presumably cued by the changes made to the emerging text, by the shifts between windows as they performed research and by the fixations and saccades – moving dots and connecting lines – from the eye-tracking data.

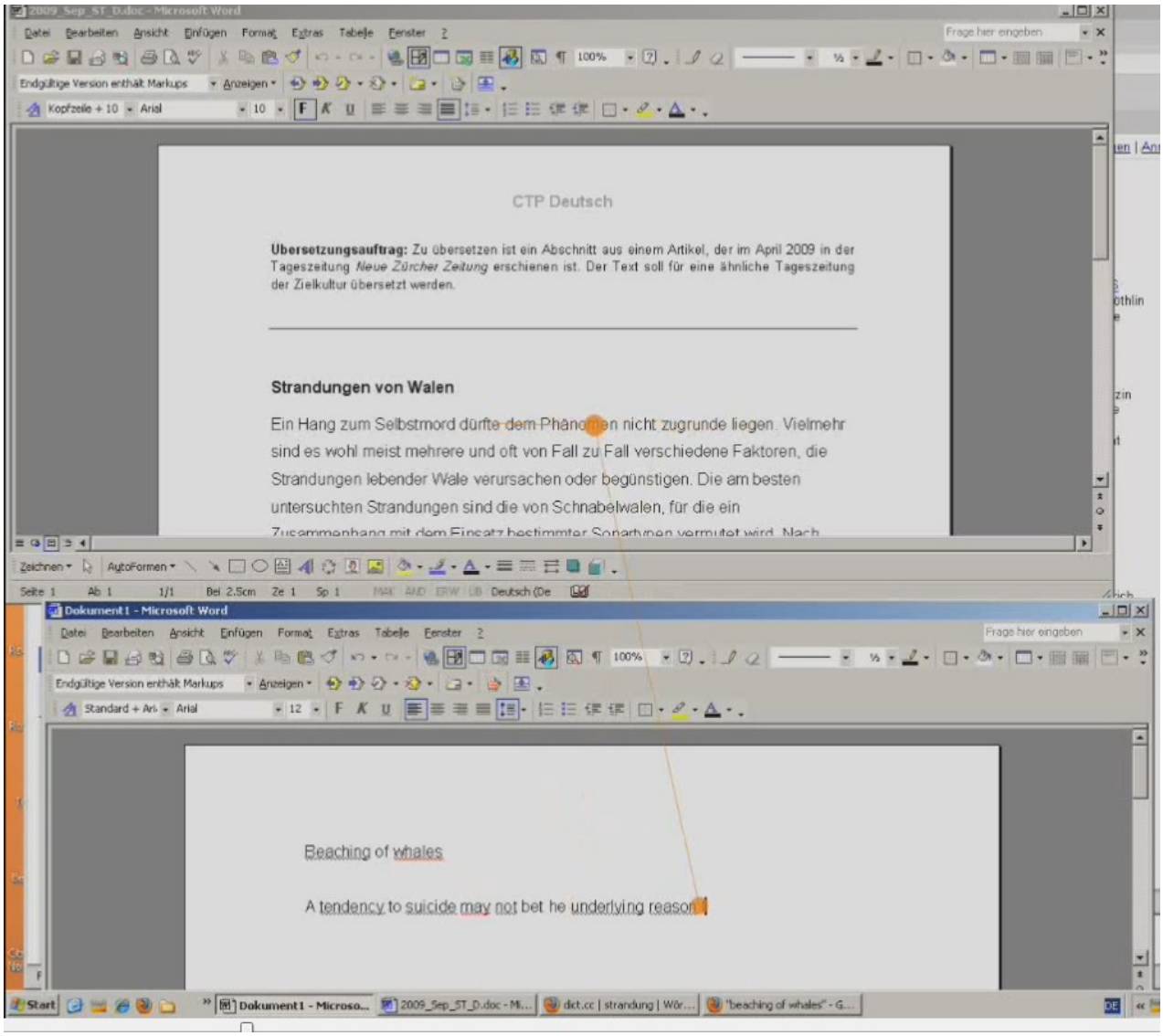

Figure 1. Screenshot from a recording of a German-English translation process (MA1004_GE). The dots and lines indicate eye fixations and saccades, respectively.

About three weeks after recording their own processes, the eight students participating in the present study were invited back for individual sessions in which they observed a German-English translation process randomly chosen from those done by their peers. The producer of the process was not identifiable in any way. The screen recordings that they viewed were as rich in information as their own had been, since they also included the eye-tracking gaze patterns. The students were asked to provide commentaries on what they were seeing their peers doing but were given no indication about what they should comment on or how. In a semi-structured interview immediately afterwards, they were asked to answer specific questions that encouraged them to compare their own process to the peer process they had just seen (Appendix A1). The peer commentaries and interviews were all recorded and took place in German (i.e. in the students' first language).

Towards the end of the semester, the eight students completed a translation from English into German in the usability lab under the same recording conditions as for the initial translation. The English source text was of a comparable length, for a comparable publication, and on a similar topic. Again, they produced RVPs by commenting on their processes and in a post-translation interview answered a short questionnaire, including questions about their involvement in the study and whether they had learned anything in particular (Appendix A2). To prevent over-saturation and participant fatigue, no peer commentaries were obtained for the English-German translation processes (see Table 1).

In individual sessions over several days, the translation teachers viewed a selection of processes in their respective version and commented on what they saw the students doing in each. Just as for the peer commentaries, the processes were completely anonymous and the teachers could only guess about which one might have been from which of their students. On analogy to the students, the teachers provided answers to questions about each process after viewing it (Appendix A3). The commentaries and interviews were carried out in the target language of the respective teacher's version (i.e. in their first language).

	German-English	English-German
Translation processes	12	8
Peer commentaries	8	-
Student interviews	8	8
Teacher commentaries	4	8
Teacher interviews	4	8

Table 1. Overview of data sources.

3. Analyses and results

The recordings of the students' processes are very rich in information and served as high-quality cues for the peer and teacher commentaries but will not be considered further in the present paper. The primary focus of our analysis is on the commentaries, which were transcribed using the Text Encoding Initiative (TEI) conventions suggested by Göpferich (2008: 72-81). All of the commentaries were then coded using *HyperResearch* software in a recursive process until no new codes emerged. In line with qualitative research coding, some utterances were assigned more than one code, resulting in a total of 519 coded utterances from the 8 peer commentaries and 1,064 from the 12 teacher commentaries. Of the resulting codes, ten were common to both the peer and teacher commentaries, four were used only for the peer commentaries, and six were used only for the teacher commentaries (see Figure 2).

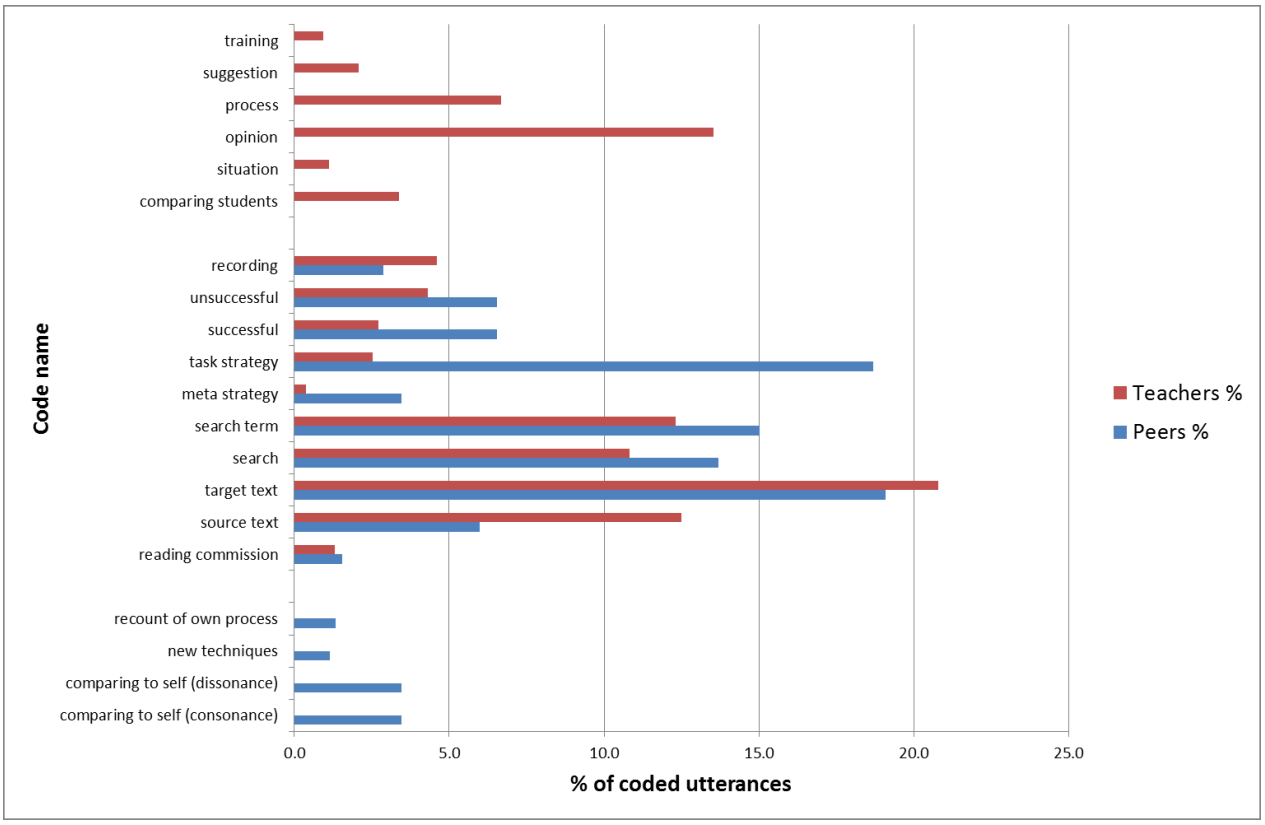

Figure 2. Percentage of coded utterances by code in teacher and peer commentaries.

Many of the comments common to the students and teachers (see Table 2 for examples) were simply descriptions of what the translator was doing or the quality of the recordings themselves, but many were judgmental or inferential. The relative proportions of certain of the codes differ between the students and the teachers, suggesting there may be a difference in their focus of interest.[2] For example, the students, in particular, often judged the actions of their peers (i.e. 13.2% for unsuccessful and successful combined) or interpreted actions as strategic (i.e. 22.2% for task strategy and meta strategy combined). The teachers seemed more focused on the source text and emerging target text than the students were (33.3% vs. 25.1% of the comments overall) whereas the students appeared more interested in information retrieval behaviour than the teachers were (22.9% vs. 17.0% for codes related to search behaviour, excluding overlaps where both the resource and the search term are mentioned in the same utterance).

As mentioned above, some of the utterances were coded more than one way (e.g. a positive judgment about the target text would be coded both as successful and as target text). Not only did the teachers make more comments about the target text than the students, slightly more of them were evaluative (4.5% vs. 3.2%, respectively). The students made comments about the target text linked more often to what they interpreted as strategic actions than the teachers did (5.4% vs. 0.9%), and they were more inclined to judge strategic actions as successful or not

than the teachers were (2.4% vs. 0.8%). In addition, students were more focused on and ready to judge search actions than the teachers were (6.3% vs. 2.2%).

Code	*Example*
recording	*now the video seems to be a bit stuck*
unsuccessful	*and afterwards they didn't find the webpage*
successful	*that sounds very idiomatic*
task strategy	*maybe she's using it [the question mark] to mark what she has to check later*
meta strategy	*this person really does an analysis, she thinks about what the key terms are and translates them first*
search term	*the word "keen" is checked*
search	*and now Langenscheidt [online bilingual dictionary] is checked*
target text	*wrote two variants, once the noun and once the adjective*
source text	*this person seems to be looking at the text, looking at the tricky bits in the text*
reading commission	*and now this person is reading the commission*

Table 2. Codes common to peer and teacher commentaries.

The codes unique to the peer commentaries (see Table 3) indicate that the students also compare their own processes to what they are seeing (7% of the total number of peer comments) and occasionally get some new ideas that they might be able to use (a total of 6 comments or about 1% of all the peer comments were coded as new techniques).

Code	*Example*
recount of own process	*I take a break and look at everything again later.*
new techniques	*aha, interesting, this person uses two windows on top of each other.*
comparison to self (dissonance)	*I didn't look for that in Wikipedia*
comparison to self (consonance)	*I also got to this solution*

Table 3. Codes unique to peer commentaries.

The teachers related some of what they were seeing to their own teaching practices (i.e. training, see Table 4) or to what they would do (i.e. suggestion). Some of the comments were descriptions of the process or the situation (6.7% and 1.1%, respectively). However, the majority of the comments unique to the teacher commentaries were evaluative, namely opinions about the students' actions or comparisons of students (i.e. 16.9% combined). The opinions were not judgmental (i.e. not labelled good or bad), since no explicit mention of success or failure was made.

Code	*Example*
training	*they've learned about how headlines work in newspapers but they don't seem to be bearing that in mind*
suggestion	*I must say that, from the research, it does look as though you'd opt maybe for something to do with stranding for the title*
process	*MoD is looked at for a while, then they [the eye movements] jumps back and forth*
opinion	*I'm glad they're reading it through to the end before they start*
situation	*I think most of them felt they had to get into it because they didn't have much time probably*
comparing students	*this person is making more of an attempt to translate than the other person…rather than just looking up the words and putting them down*

Table 4. Codes unique to teacher commentaries.

In the interview after the peer commentary, the students all commented that they had found the experience very interesting and were motivated enough to provide more translation process recordings for the study. Although the interview questions were intended to elicit observations and not just comparisons, most of the students focused on differences and similarities between their own way of proceeding and the process they had observed (e.g. "this person does more background research than I do"). A couple of comments did indicate an increased awareness of certain inefficient practices of their own (e.g. "I also look up words that I actually know"). When asked specifically about whether they would change anything about their way of proceeding based on what they had seen a peer do, the students mentioned research techniques, use of sources, workplace organisation and identification of key words before translating. Presumably many of these things had been discussed in class with their teachers, but seeing a peer's process seemed to highlight their relevance.

After completing their second translation and doing an RVP, the students answered questions about their participation in the study. According to several, the lab situation made them somewhat nervous and might have made them less efficient, especially because they were not at their own computer and did not have their Internet bookmarks with them. They stressed, however, that they had found it very interesting to see how their peers translate, that they had learned things from watching both their own and their peers' processes, and that they were able to better reflect on what they do themselves.

Although the teachers were not explicitly asked to rate the usefulness of observing the processes, information obtained in the interviews after the commentaries confirmed that they had learned things about their students

which product analyses might not have revealed. For example, both teachers expressed their surprise at how many of the students appeared to simply translate word for word without reading the source text through first. In response to the question about what struck them the most about each process, they often remarked on the way students proceeded (e.g. whether they first read the commission and source text, whether they seemed to consider the context) and on the size of the translation units (i.e. usually individual words or phrases). They also remarked on the information behaviour of various students and in some cases about strategic actions (e.g. using parallel texts) but then, in response to the second question in the interview about interesting strategies, said that they mainly noticed the lack of strategies. Depending on the process concerned, the question about signs of translation competence produced very different answers. The teachers commented on actions dealing with the topic (e.g. doing background research), syntactic issues (e.g. making revisions to certain structures) and pragmatic issues (e.g. explicitation appropriate for the target audience) that suggested a degree of translation competence not immediately obvious in the target texts alone.

4. Discussion and conclusion

The study outlined in this paper builds on the many valuable experiments in process-oriented translation teaching conducted over the last 25 years. By employing a multi-method approach involving screen recordings, eye-tracking data, cue-based retrospective verbalisations and semi-structured interviews, it extends the scope of observation and elicitation techniques reported in past studies, providing a richness of data not previously seen in comparable investigations. In particular, the use of screen recordings combined with eye-tracking patterns not only allowed us to capture fruitful data for detailed process analysis, but also seemed to have supplied high-quality, low-threshold visual stimuli for the expansive cue-based commentaries obtained from teachers and students alike. This, in turn, appears to have reinforced the learning effect amongst both groups, as the subsequent interviews revealed.

In general, our investigation confirms the overall result of past experiments and case studies, namely that applying process research techniques to translator training stimulates reflection on decisions made and actions taken and heightens awareness of key procedural aspects of translation practice and expertise. It also seems to corroborate previous conclusions that process analysis can serve as a useful, practicable diagnostic tool for translator trainers, giving instructors more insights into individual and collective translation behaviour than pure product-oriented teaching and evaluation can. Finally, it upholds the principle of peer-to-peer learning and appears to support the contention that students can and do learn from observing one another.

Where our approach goes further is in attempting to discover who appears to learn what from the process research methods employed in our experiments. As none of the participants referred to any difficulties in understanding the recordings they were viewing or had watched, we assume this method of elicitation and analysis to be viable, presenting no interpretative or ergonomic challenges for the participants. The judgmental and inferential data from the student commentaries show them to be more receptive to actions, procedures and strategies, especially information behaviour, and to comparing their own processes to those of their peers. In response to the interview question about how they would change their behaviour, the students demonstrate a similar pattern, tending to focus again on strategic and procedural aspects of translation performance. The teachers' commentaries direct more attention to the source text and various versions of the target text, which they also tend to evaluate more than the students do, while the interviews show the teachers to have observed little overtly strategic behaviour on the part of students. On the other hand, the teachers do classify individual aspects of students' translation behaviour as striking, and thus presumably unexpected.

Both groups, therefore, seem to have learned something new. The students appear to have gained what they consider to be useful comparative insights on a strategic, procedural level, which suggests that the introduction of process research methods to classroom teaching could indeed provide a realistic, workable means of "bridging the gap between declarative and procedural knowledge" (Alves 2005) in translator training. At the same time, the teachers seem to have acquired new knowledge of the individual and often non-standard behaviour of their students, which would indicate the usefulness of these process research techniques in both diagnostic, formative student evaluation and the provision of genuinely needs-based training. However, some training may also be needed for the teachers themselves, since the observed tendency to focus on intermediate and final text products is not compatible with process-oriented evaluation.

The implementation of process-oriented elements in translation teaching is by no means dependent on the full range of tools and techniques discussed in this paper, which were primarily intended to elicit our experimental data. As Pym (2009) and Kujamäki (2010) indicate, for instance, it is perfectly feasible to use readily available screen recording software[3] without expensive and more time-consuming eye-tracking solutions, both in the classroom and for independent study assignments. Indeed, in previous research we have conducted using screen recordings alone, participants have frequently commented on how insightful and instructive they find the viewings to be. Similar reactions to such "learning by observation" are reported by Dam-Jensen and Heine (2009: 17). All our undergraduate and graduate students are currently required to record

some of their translation assignments with screen recording software (but not with our eye-tracking systems). The recordings are stored on a central server but can be saved to other media as well. Although this data-collection method was initially intended for research, it is easy to envisage teachers using the recordings for diagnostic purposes, combining a selection of them with product-oriented discussions and evaluations in classroom settings and/or devising independent study assignments in which students review recordings of one another's processes. The time teachers devote to the preparation, analysis and assessment of processes would depend on a number of factors, including infrastructure, resources, students' proficiency and group size. With careful planning, however, it need not exceed that spent on wholly product-oriented methods.

The ultimate goal of our investigations is to discover how process-oriented components of translator training can be profitably incorporated into course development and curriculum design. The transfer of knowledge from empirical research to teaching is open-ended, an iterative cycle of observation, description, evaluation, generalisation (of observed processes) and optimisation (of translation and training practices). If the future projects we have planned continue to replicate the findings presented here, they will enable us to provide the training students need to acquire all aspects of professional translation competence.

Appendix

Translated excerpts from the questionnaires administered after the commentaries

A1. Questions for MA students after doing a peer commentary
- What struck you most while watching your peer's recording?
- What struck you as different from what you did when translating this text?
- What struck you as different from what you usually do?
- Based on the two recordings you have seen (your process and this one), will you change your work pattern? If yes, in what way?

A2. Questions for MA students after doing their second translation and RVP
- Do you think that the lab situation had any effect on your behaviour?
- Have you learned anything in particular by participating in this study? Anything useful?
- Did anything present a problem for you?
- Do you have any suggestions for improvement?

A3. Questions for teachers after viewing each process
- What struck you most while watching this recording?
- Was there a particularly interesting strategy to solve a translation problem?
- Did you notice any signs of translation competence? If so, what were they?

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Biography

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Maureen Ehrensberger-Dow, PhD, is a Canadian psycholinguist who has been involved in research into multilingualism and translation in Switzerland for the past 10 years. From a learner-based perspective driven by an interest in second language acquisition, she has become increasingly drawn into research into language practitioners' strategies and expert knowledge. She is currently principal investigator of the *Capturing Translation Processes* research project. She can be contacted at maureen.ehrensberger@zhaw.ch.

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[2] Inferential statistics are not appropriate for these qualitative data, so only percentages and no significance levels are reported here.

[3] We use *Camtasia Studio*. See http://www.techsmith.com/camtasia.