

TEACHING HOW TO USE REFERENCE MATERIAL IN TRANSLATOR TRAINING:
Results of a think-aloud protocol study

Riitta Jääskeläinen
University of Joensuu,
Savonlinna School of Translation Studies

The data for the present study was elicited by the method of thinking aloud. In four think-aloud experiments, two first year and two fifth year students of translation were asked to produce a written translation from English into Finnish. In this paper the differences in how the first year vs. fifth year students used various sorts of reference material will be discussed, with reference to the role of translator training in the subjects' skills in using working aids.

The fifth year students proved to be very skillful and efficient dictionary users, while the first year students were clearly inexperienced, which seems to indicate that the teaching of the use of reference material is sufficient in translator training. However, these results show that the main differences between the two groups were not in the quantity, but in the quality of dictionary use.

1. The method of thinking aloud

From the beginning of the 80s, there has been an increasing number of empirical studies on translation as a cognitive process (see e.g. Hönlig 1988, Königs 1987, Krings 1986, Lörscher 1986, and Tirkkonen-Condit 1987 and in press). In these studies the method of thinking aloud has been used which means simply that a subject is asked to verbalize everything that occurs to him or her during the translation process. The subject's performance is tape-recorded and later transcribed into protocols. This method originates from psychology, where it has been used to study how subjects solve mathematical problems or puzzles, for example (cf. Ericsson and Simon 1984). Think-aloud protocol data has also been used in second language acquisition studies to examine students' text comprehension strategies (Gerloff 1986) and students' oral communication and writing skills (Cohen and Hosenfeld 1981).

In my think-aloud protocol study (Jääskeläinen 1987) four students of translation (two fifth year and two first year students) translated a short English text into Finnish. Because translation theory has traditionally been normative, i.e. it has concentrated on what should happen in a translation process, the global purpose of the present study was to get a glimpse of what actually happens in a translation process. In this paper I will describe the main differences between novices (first year students) and more professional translators (fifth year students) in how they used reference material, which was one of the more specific areas of research in my study. The extent to which the effects of translator training were reflected in the results will also be discussed in this paper.

2. Instructions on the use of dictionaries

In translator training the teaching of the use of reference material could be divided roughly into two categories:

(1) the practical advice on the usefulness of different types of working aids (bilingual and monolingual dictionaries, glossaries, thesauruses, subject matter aids¹, and parallel texts²) which is given in various practice-oriented courses, such as text comprehension, written exercise and translation exercise courses; (2) the more theoretical courses on the organization etc. of various types of dictionaries; courses such as lexicology, and terminology and dictionary compilation.

In this paper only tuition of type (1) will be discussed, because in the present data the more theoretical knowledge provided by courses of type (2) did not seem to play a role in the subjects' skills.

One basic instruction on dictionaries which teachers of translation stress time and time again, particularly in translation into the mother tongue, could be summarized as follows, "Don't trust a bilingual dictionary, use a monolingual dictionary first!"³ The reason for this instruction is that monolingual dictionaries are, as a rule, more up-to-date and more reliable

than bilingual ones. In translation theory literature, Newmark has commented on bilingual dictionaries that "every time one consults a bilingual dictionary the word should be checked in half-a-dozen source and target language monolingual dictionaries and reference books" (Newmark 1981: 16). Furthermore, in translation into the mother tongue, using a bilingual dictionary first might restrict the translator's creativity, so that the translator might end up being stuck with a probably more or less correct, but clumsy translation.

Another relevant point is that right from the beginning of translation exercise courses which start in the second year at university, students are encouraged to use parallel texts as well as subject matter aids, such as encyclopaedias, newspapers etc. in translation. In the fourth year of translator training, when students start to translate specialized texts in the advanced studies in the special fields (technology, trade or law), the above advice on subject matter aids becomes indispensable, because a large part of the terminology cannot be found in any dictionary.

3. Design of the experiment

During the think-aloud experiment, the subjects had access to various sorts of reference material in the experiment room: a bilingual English-Finnish dictionary [Hurme-Pesonen], two monolingual dictionaries of English [Oxford Advanced Learner's Dictionary and Collins English Dictionary], two monolingual dictionaries of Finnish [Nykysuomen sanakirja and Nykysuomen sivistyssanakirja], and two volumes of a Finnish encyclopaedia [Fakta], as well as one issue of New Scientist where the source text (ST) had been taken from and one issue of Helsingin Sanomat where the translation was supposed to be published. The subjects were also instructed to ask for any other source which they might want to use, but none of them did. It is obvious that the availability of many sorts of reference material did probably influence particularly the first year

students' behaviour and made them seem more sophisticated dictionary users than they really were at the time.

3. Quantitative analysis

The first stage in the analysis was to count how many times each of the subjects used some sort of reference material. For this purpose the reference material was divided into three categories: the bilingual dictionary, monolingual dictionaries, and other sources (encyclopaedias and newspapers). The original hypotheses were that less proficient language users, i.e. first year students, would use reference material considerably more often and that they would mostly rely on the bilingual dictionary, while the fifth year students were expected to use dictionaries less often and to prefer using monolingual dictionaries and other sources. The hypothesis about the first year students' behaviour was supported by Krings' think-aloud protocol study where the subjects were eight advanced German learners of French who were studying for careers as language teachers, not as translators (see Krings 1986: 217-260). The results of the present study, however, were slightly surprising, as shown in Table 1. (The subjects were given fictional names for purposes of anonymity; Bertha and Emily were the fifth year students, and Clara and Dorothy the first year students.)

Table 1. Number of times different types of reference material was used

	BIL.	MONOL.	OTHERS	TOTAL
BERTHA	4/19%	11/52%	6/29%	21/100%
EMILY	4/33%	6/50%	2/17%	12/100%
CLARA	12/52%	10/44%	1/4%	23/100%
DOROTHY	17/49%	14/40%	4/11%	35/100%

Rather unexpectedly, the differences in the total number of times reference material was used seem to be between individuals, rather than between the two groups, first year and fifth year students. In a sense, Emily and Dorothy represent the extremes, while Bertha and Clara represent the average in the continuum of the quantity of dictionary use. It was also rather surprising that there were no great differences in the share of monolingual dictionaries. However, this can easily be explained by the fact that the experiments were carried out just before and right after Christmas, and by that time even the first year students had been acquainted with monolingual dictionaries in the text comprehension and written exercise courses. However, one could say that for the fifth year students the bilingual dictionary was a relatively dispreferred source, which supports the original hypothesis. Furthermore, the relatively large share of other sources in the fifth year students' use of reference material can be considered a result of translator training and their experience in translation. The first year students used other sources as well, but the comments in their protocols showed that they did that mainly because the sources were available. The fifth year students' comments, on the other hand, showed that they were used to using subject matter aids in translation.

Another way of analysing the number of times reference material was used was 'the primary source of reference', i.e. the source which a subject used first in order to look up an item. The results are shown in Table 2.

Table 2. The primary source of reference

	BIL.	MONOL.	OTHERS	TOTAL
BERTHA	2/18%	7/64%	2/18%	11/100%
EMILY	2/29%	5/71%	-	7/100%
CLARA	12/71%	5/29%	-	17/100%
DOROTHY	16/64%	6/24%	3/12%	25/100%

Table 2 shows a more pronounced difference between the first year and fifth year students' preferences. The fifth year students preferred using a monolingual dictionary first in about two thirds of the cases, while the first year students used the bilingual dictionary first in the majority of the cases and resorted to the other available sources only after the bilingual dictionary had offered no help. Experience has shown the fifth year students that it is worthwhile not to use a bilingual dictionary first in translation from L2. This learning process can, in fact, be seen in the first year students' behaviour in the present data. The instances in which the first year students decided to use a monolingual dictionary first appeared relatively late in the process and were clearly a result of their disillusionment about the usefulness of the bilingual dictionary.

However, the quantitative results reported above give only some indication of the differences between first year and fifth year students. Perhaps the most important finding in Tables 1 and 2 is that analysing think-aloud data of this nature on a purely statistical basis reveals relatively little of what is really going on in the process. The most significant, and the most interesting, differences were not in the quantity, but in the quality of dictionary use. For acquiring the qualitative data about the subjects' translation processes, the method of thinking aloud is of paramount importance. The quantitative data on dictionary use could also have been collected by asking the subjects to write down which dictionaries they used; however, it was the spontaneous remarks on why a subject chose a particular dictionary, for instance, which clearly illustrated the differences between first year and fifth year students.

4. Qualitative analysis

In this section some of the most striking qualitative differences between the first year and the fifth year students will be illustrated by examples from the subjects' protocols. The fifth year students typically used the bilingual dictionary as

a source of inspiration when searching for a translation variant in cases in which they had no comprehension problems or after having solved the comprehension problem by using a monolingual dictionary, as shown by example (1). The first year students, on the other hand, trusted the bilingual dictionary to solve both comprehension and formulation problems. In example (1), Bertha checks whether the bilingual dictionary could offer any interesting translation variants for 'to knock out', because she "cannot think of any right now".

- (1) [ST: ... it knocks out some of the key enzymes ...]
(ENG-FIN BIL) (15.0) oisko tässä mitään (.) mielenkiintoista (.) vastinetta (5.0)
Exp: mille (1.0)
B: tälle knock outille (2.0) tästä joskus löytyy (1.0) sellasta mitä ei ite sillä hetkellä keksi (8.0) knock out (1.0) knock off (.) knock out knock out (4.0) tyrmätä -- eipäs ollu tällä kertaa (3.0)
[could there be any/interesting equivalents/E: for what/
B: for this KNOCK OUT/here you can sometimes find/something that you can't think of right then/KNOCK OUT/KNOCK OFF/KNOCK OUT/render unconscious/there wasn't anything this time]

Another typical feature in the fifth year students' dictionary use, which is illustrated in example (2), was that due to their experience with similar tasks, they needed only to check the exact spelling of some items, because they knew that terms of that kind are normally just transliterated into Finnish. In example (2), Emily uses a monolingual dictionary of Finnish (Nykysuomen sivistyssanakirja) to check the Finnish spelling of 'adenine' (after having correctly transliterated the term 'nicotineamide').

- (2) [ST: ... energy-carrying compound NADPH (nicotineamide adenine dinucleotide phosphate hybride) ...]
NA (1.0) DPH (6.0) yhdisteen (2.0) ei (15.0) ehkä ne sulkuumerkit on pantava sitten tähän (1.0) nikotii (3.0) niamidi (7.0) onko olemassa sellaista (3.0) sellaista (.) ainetta kuin ade (1.0) niini # (NS SIV) (13.0) ade (5.0) adeniniin kyllä on (9.0)
[NA/DPH/compound/no/maybe the brackets should be put here/nico ti/eamide/is there such/such/a substance as ade/nine/ade/adenine/yes there is]

The first year students also used dictionaries to check up words, but that was primarily due to lack of self-confidence in translation. They checked familiar words such as 'liver' and 'garlic' etc. the meaning of which they knew, but were insecure about, as shown in example (3). The source text was a research report of the beneficial effects of garlic. Relatively late in her translation process, Dorothy checked in the bilingual dictionary whether 'garlic' really is valkosipuli in Finnish.

- (3) [garlic]
tässä vaiheessa tuli mieleen että on ehkä syytä tutkia
(.) vielä (1.0) tota että mitä on garlic (1.0) ettei
mulla menny ihan päin seinää tää koko juttu # (ENG-FIN
BIL) (10.0) garlic (2.0) kynsilaukka valkosipuli (1.0)
joo (2.0) must kyllä tuntuu, että on ihan selvä puhuu
valkosipulista eikä mistään kynsilaukasta (4.0)
[at this stage it occurred to me that perhaps I/should/
check what is GARLIC/so that the whole thing didn't go
into woods/GARLIC/yes it's clear if we talk about garlic]

Finally, both fifth year and first year students engaged in multistage dictionary search, but for that, too, they had different reasons. The first year students were compelled to do that, because they did not find the wanted item in the sources they used first. The fifth year students did so purposely, to ascertain the information given in the previous source, which can be considered an indication of their professionalism (cf. section 2.).

5. Concluding remarks

In summary, as could be expected, the fifth year students in the present study were very efficient and skillful dictionary users. The first year students, on the other hand, clearly lacked experience and self-confidence. However, they were far more experienced and sophisticated dictionary users than the non-professional subjects in Krings' study. It should also be noted that the differences in the quantity of dictionary use were mainly between individuals. On the other hand, with regard to the quality of dictionary use, the subjects clearly formed two groups which could be labelled 'novices' and 'professionals'.

On the basis of these results it would seem that the use of reference material is taught sufficiently in translator training: by their fifth year the students have learnt to use a wide variety of reference material efficiently.

Generalizations should, however, be avoided at this stage of research. The four students in my study may have been exceptionally good/bad representatives of the two groups. Therefore, repeating the experiment with a larger number of similar subjects might not produce similar results. From those results generalizations could, however, be more reliably made. In my further research, these results have been used to form precise hypotheses about the differences between professional vs. non-professional translation processes.

Notes

1. The term 'subject matter aids' was used by Finlay (1971) to describe various sources, such as periodicals and encyclopaedias, in which information on as well as terminology of a specific subject matter can be found.
2. 'Parallel texts' means the target language texts which have a similar function as the source text (e.g. legal documents, patents, certificates).
3. In translation into a second language, students are encouraged to check the information given in a bilingual dictionary in monolingual dictionaries of the target language to ensure the correctness of their choice. In other words, "Don't trust a bilingual dictionary, check all the items in a monolingual dictionary!"

References

- Cohen, A. and Hosenfeld, C. 1981. Some Uses of Mentalistic Data in Second Language Research. Language Learning 31. 285-313.
- Ericsson, K.A. and Simon, H.A. 1984. Protocol Analysis. Verbal Reports as Data. Cambridge, Mass.: MIT.
- Finlay, I.F. 1971. Translating. Edinburgh: The English University Press.
- Gerloff, P. 1986. Second Language Learners' Reports on the Interpretive Process: Talk-aloud Protocols of Translation in House and Blum-Kulka (eds.)
- Hönig, H.G. 1988. Wissen Übersetzer eigentlich, was sie tun? Lebende Sprachen, 1/1988, 10-14.
- House, J. and Blum-Kulka, S. (eds.) 1986. Interlingual and Intercultural Communication. Tübingen: Gunter Narr.
- Jääskeläinen, R. 1987. What Happens in the Translation Process: Think-aloud Protocols of Translation. A pro gradu thesis.
- Königs, F.G. 1987. Was beim Übersetzen passiert. Theoretische Aspekte, empirische Befunde und praktische Konsequenzen. Die Neueren Sprachen 86:2, 162-185.
- Krings, H.P. 1986. Was in den Köpfen von Übersetzern vorgeht. Tübingen: Gunter Narr.
- Lörscher, W. 1986. Linguistic Aspects of Translation Process: Towards an Analysis of Translation Performance, in House and Blum-Kulka (eds.)
- Newmark, P.P. 1981. Approaches to Translation. Oxford: Pergamon Press.
- Tirkkonen-Condit, S. 1987. Think-aloud Protocols in the Study of the Translation Process. In Nyyssönen, H., R. Kataja and V. Komulainen (eds.), CDEF 86. Papers from the Conference of Departments of English in Finland. Publications of the Department of English 7. Oulu. Oulu: University of Oulu, 39-49.
- Tirkkonen-Condit, S. (in press). Professional vs. Non-professional Translation: A Think-aloud Protocol Study. In Halliday, M.A.K., J. Gibbons and H. Nicholas (eds.), Proceedings of the 8th World Congress of Applied Linguistics 16-21 August 1987. Sydney. Amsterdam: John Benjamins.