

Executing the instructions. An empirical investigation into the usability of technical translations done by trainees

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ABSTRACT

This paper reports the results of a longitudinal empirical study on the acquisition of translation competence as concerns technical translation. The study comprised the assignment of two different translations of a number of extracts from a snowmobile service manual administered to translator trainees at an interval of a month. The first task was followed by a seminar on technical translation focused on a genre analysis of instructional documents and aimed at providing guidelines to produce better translations. On the basis of the relevant literature and the analysis of a small-scale corpus of automotive instruction manuals originally written in Italian, the target texts were assessed in terms of syntactic structure and Iconic Linkage. Finally, a relation between the translations' usability and their overall quality is investigated.

KEYWORDS

technical translation, technical communication, translator training, iconic linkage, syntactic variation.

“By reason of weird translation,
many such sets of instructions
read like poems anyhow”
Brian Ferneyhough

1. BACKGROUND

According to a recent survey conducted by the Society for Technical Communication, translation and multilingual technical writing are among the most frequent activities carried out by technical communicators (SIG 2014). Another survey appears to confirm a convergence between technical communication (TC) and translation, enabling translators to migrate to professional communication (Gnecchi et al., 2011: 178). In the production chain of multilingual technical documentation, this convergence enables providers to “[meet] customers’ expectations, [comply] with product liability regulations, and [achieve] the goals of cost reduction policies” (Göpferich, 2006: 38). The two professions certainly share a common ground, requiring similar competences, mostly as concerns language proficiency and communication skills. As a matter of fact, Minacori and Veisblat (2010) suggested an overlap of the core competences of technical communicators with translation competence, by grounding their framework on the existing European Master’s in Translation list of competences for professional translators (EMT Expert Group, 2009). Since the 1990s, some “megatrends” in specialised communication, i.e. informatisation, internationalisation, commercialisation and contextualisation, have posed new challenges for translator training programmes that aim to train translators as multilingual specialised communicators (Budin, 1994: 253). However, European universities providing modules on technical writing still seem to be “the exception rather than the rule” (Byrne, 2006: 257), as compared to the USA, where technical communication has been taught from the late 1980s (Varantola, 1990: 48). There is a cry on the part of both technical communicators and translators for cross-training and further education in each other’s field (Gnecchi et al., 2011: 178). Indeed, if some TC-specific competences, e.g. information design, usability testing and enhanced project management, can be acquired in postgraduate study programmes, technical translators can rely on their language, terminology and textual core competences. It is also true, however, that such “background [does] not automatically make them technical communicators” (Risku, 2004: 192-193). In this paper, the results of an empirical study aimed at investigating the development of technical textual features in translation trainees will be presented, with suggestions for translator training as regards the acquisition and development of TC-specific competences.

2. RESEARCH DESIGN

The analysis has been conducted in the framework of a longitudinal empirical study on the acquisition of translation competence as concerns technical translation.¹ Though the study considers several variables, the scope of this paper is focused on syntactic structure and *Iconic Linkage* (IL) in the target texts (TTs). These two specific aspects have been observed with the sole purpose of assessing the adherence of the TTs to the genre conventions of user manuals, so as to monitor any improvement in the participants' TC-specific translation competence. It should be noted that the lack of adherence to the above-mentioned conventions (usually) does not affect the textual accuracy but rather impacts its usability (cf. Byrne, 2006), ultimately resulting in a translation that does not meet the relevant professional standards. The concept of usability refers to "how easily and effectively people can use something" (Byrne, 2006: 97) by "assimilating and acting upon information that is presented to them in texts" (Byrne, 2014: 130). The effectiveness of texts can be improved by using particular layouts and formatting conventions, as well as images and diagrams, which are however strategies that usually go beyond the traditional role of the translator. Byrne recommends the use of a particular strategy that translators can implement in the writing phase of the TT, i.e. *Iconic Linkage*. Coined by Juliane House, the term indicates "the repetition or reuse of target language translations for source language sentences which have the same meaning but different surface properties" (1981: 55). In other words, IL consists in reducing the number of ways in which similar information is presented by using symmetrical sentences, based on the premise that grammatical parallelism helps readers remember information more easily (White, 1996: 183). From a pragmatic perspective, the use of standardised terminology and the consistency of the documentation allows for the optimal employment of translation memories, in an attempt to keep costs down and meet the increasingly stringent product liability regulations (cf. Göpferich, 2006; Mambelli, 2009). The usability of information can thus constitute a way of measuring the quality of TTs (Byrne, 2014: 130).

2.1. THE SAMPLE

The experiment was carried out with ten first-year MA translation students at the University of Trieste. All female Italian native speakers, the ten participants had been studying English for an average of at least 10 years. The sample was divided into two cohorts: 1) six trainees who had previously attended a technical translation seminar provided within the framework of this study (see Sec-

1 This study was extracted from the MA thesis in Translation by the author (Orlando, 2011) at the Advanced School of Modern Languages for Interpreters and Translators (SSLMIT), University of Trieste.

tion 2.2 below), and 2) four trainees who participated in the study remotely via e-learning. The internal composition of each cohort has remained unchanged throughout the whole study. It should be noted that, given the limited duration of the study, which took place during the summer break when no translation classes are held, any improvement in the participants' translation performance can be assumed to result from the technical translation training they received for the purpose of this study. Also, having completed the first of the two years of the MA in Translation, the ten participants are assumed to be somewhere between the advanced beginner stage and the competence stage devised by Chesterman (2000: 78). If we adopt the scholar's - rather fitting here - metaphor on driving, the pool of translators participating in this study should be able to "change gear in accordance with the engine noise" and be developing the ability to choose in a hurry "the shortest route [...] in order to meet a given priority goal" (2000: 78). In other words, it was decided to observe the behaviour of translation trainees with an *assumed* higher level of competences to be further developed with reference to technical translation rather than the behaviour of novices.

To avoid any possible bias, the translations were analysed anonymously, by assigning to each participant a random identification code from TR01 to TR10.

2.2. THE TASKS

The study consisted of three stages: translation of Text 1, a technical translation seminar, and translation of Text 2.

STAGE 1. TRANSLATION OF TEXT 1

The subjects were asked to translate from English into Italian an extract of the Service Manual of a snowmobile whose brand has been anonymised as 'ABC'. A 343-word text was extracted from the almost 70k-word manual, comprising two equally long parts, i.e. foreword and safety labels, and the *Engine Assembly* section. The two parts are representative of what Ciliberti (1990) defines as *descriptive* and *directive* subtexts respectively, the former including non-procedural content and serving a representative or explanatory function, and the latter being oriented to the task and having an activating function expressed by procedural information. Ciliberti's taxonomy of the subtexts in user manuals, also featuring the *cataloguing* subtext, is summarised in Table 1 below.

SUB-TEXT	TYPE OF INFORMATION	FUNCTION
directive	procedural (operational)	activating commentative
cataloguing	procedural (non-operational)	representative
descriptive	non-procedural	representative commentative pleasing publicising

TABLE 1. Sub-texts in user manuals, based on Ciliberti 1990

The original text was not edited, thus presenting a repertoire of typing and language mistakes, grammar ambiguities and an unsurprisingly high number of technical terms, as well as the original layout and images. Given the difficulty of the text and the time period of the study, each translator was allowed two days to complete the task after receiving the source text (ST) via email. To ensure ecological validity and in an attempt to be as close as possible to a professional environment, the participants were allowed to use the Internet as well as any other resources they wished and could work on their own computer virtually anywhere.

At the end of each translation, the ten participants also had to fill in a questionnaire investigating their profile, the perceived text difficulty and their attitude during all phases of the translation. The responses give an insight into the translation process, thus providing possible confirmations or explanations of the actual performances of the participants.

Finally, external evaluators, all holding an MA degree in Translation and professional experience in the field, assessed the ten translations.

STAGE 2. TECHNICAL TRANSLATION SEMINAR

The participants were provided with a 4-hour specific seminar on technical translation aimed at improving the quality of the TTs in the second translation assignment (Stage 3, below). The seminar consisted of three main sections:

1. Technical translation and communication as two converging training and professional trajectories;
2. Corpus-based genre analysis of user manuals;
3. Trends and common mistakes in the first translation task.

Especially during the third stage, only methods to improve the TTs were suggested rather than final solutions, so as to help the participants develop a better working methodology.

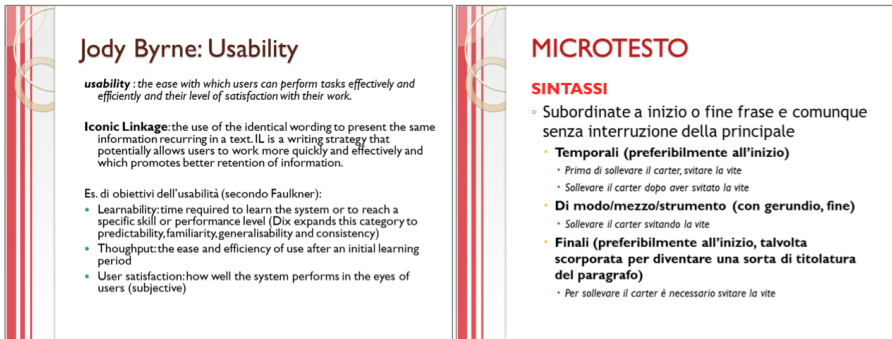


FIGURE 1. Two of the slides shown during the seminar

As mentioned, four of the participants were not present in person during the seminar as the study took place at the beginning of the summer break; however, the PowerPoint presentation shown during the seminar and later updated to include further aspects and questions raised during the seminar was sent to all the participants one week before the second translation assignment, which took place one month after the Stage 1. In addition, all participants were given the opportunity to ask further questions.

STAGE 3. TRANSLATION OF TEXT 2

Just as in Stage 1, the ten participants were sent a 330-word extract from the same User Manual to be translated from English into Italian in two days. Both parts constituting the second ST were a continuation of the two subtext extracts chosen for Stage 1. This made it possible to directly assess any improvement on the very same textual features that might have resulted problematic in the previous translation. A questionnaire and external revision followed.

2.3. ANALYSIS OF THE CORPUS

Informed by the relevant literature review (Cazzola, 2008; Muzii, 2008; Serra Borneto, 1992), the writing conventions of the procedural genre were identified and confirmed through the analysis of a small-scale monolingual corpus (19,943 tokens) of automotive service manuals written originally in Italian in the last 10-15 years. The full list of the manuals analysed is given in Table 2 below.

SERVICE MANUAL	TOKENS
ALFA 2004	1,593
APRILIA 2004	2,084
DUCATI 2004	2,699
FERRARI 1999	1,546
FIAT 2007	1,750
LOMBARDINI 2003	2,138
MALAGUTI 2000	2,293
MASERATI 1999	2,140
MOTO GUZZI 2002	2,119
PIAGGIO 2005	1,581

TABLE 2. Composition of the instructional corpus

In general, since instructional texts describe procedures that need to be carried out in a specific sequence, the syntactic structure of this genre should present information in a logical or chronological order (cf. Byrne, 2014: 129). Berrettoni (1992: 135) notes that the superficial syntactical structure of instructional texts fundamentally relies on the deeper logical structure based on the three parameters of *contingent temporal succession*, *agent orientation* and *projection* (cf. Longacre, 1996: 8-9).

For this reason, the canonical word order (in both Italian and English), i.e. subject-verb-object (SVO), should not be altered and paratactic constructions should be preferred, as highlighted in approximately 60% of the sentences of the reference corpus. Of the 320 coordinated clauses analysed, only 15 are disjunctive introduced by the conjunctions *o* and *altrimenti*; 302 are (a)syndetic copulatives, 78% of which are connected by the conjunction *e*. In this context, the conjunction *e* has no symmetrical function, but rather temporal: the two coordinated clauses in a compound sentence are separate instructions that have to be carried out in sequence. In other words, they are not interchangeable or simultaneous, but are rather marked by “backward presupposition” and “forward implication” (Givón 1972, in Berrettoni, 1992: 144).

As regards the 747 subordinate clauses in the corpus, some trends have been highlighted in terms of their recurring positions in the sentence, as summarised in Figure 2 below.

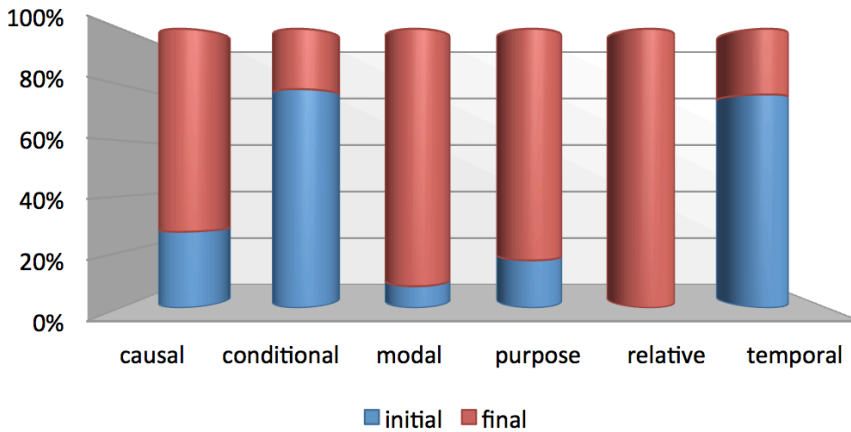


FIGURE 2. Initial and final position of the subordinate clauses in the instructional text corpus

In this genre, the foregrounding of specific information is a rhetoric device not only connected to the sequentiality of the procedure, but also used to denote given and new information. The analysis of the corpus yields the following results:

– causal clauses (11) usually follow the main clause and are thus unmarked, adding *secondary* information to the sentence, such as an explanation external to the procedure, as in the following example:

Eeguire le operazioni di smontaggio solo a motore freddo *in quanto il sistema di scarico raggiunge temperature molto elevate con il funzionamento del motore.*
(Moto Guzzi 2002)

– relative clauses (272), only occur in an unmarked position, i.e. following the main clause, whether they are explicit, introduced by a *relative pronoun* (11), or implicit, with a *present* (14) or *past* (175) *participle*, or containing the structures ‘*come*’ + *past participle* (13) or ‘*da*’ + *infinitive* (11), as shown in the following examples:

Ruotare l’albero motore con l’attrezzo *precedentemente montato* fino a portare il cilindro interessato al P.M.I.
(Alfa Romeo, 2004)

– conditional clauses (39) mostly occur at the beginning of the sentence, presenting a condition which needs to be met before the action in the main clause can be performed:

Se la deformazione risulta superiore a 0,03 mm, procedere alla rettifica.
(Malaguti, 2000)

Conditional clauses only occupy the final position when used to limit the scope of applicability of the main clause, as in the following example:

Pulire il filtro aria ogni 6000 km (3728 mi) o 12 mesi, *più frequentemente se il veicolo è utilizzato su strade polverose o bagnate.*
(Aprilia, 2004)

– modal and instrumental clauses (117 + 17) mostly occur with a gerund in unmarked position after the main clause:²

Posizionare la testa cilindri (1a) in morsa utilizzando l'attrezzo (1b).
(Fiat, 2007)

Logically speaking, postponing the modal or instrumental information to the end of the sentence might alter the chronological sequencing of the description, as the action is simultaneous, if not prior, to that in the main clause. As Puglielli (1992: 176) puts it, though new, modal information is hierarchically subordinate to the main action, so its final position reflects a semantic modification of the main verb phrase rather than of the main clause.

– temporal clauses (35) are mostly (80%) in a marked initial position and are a projection of the ensuing phases of the procedure, so as to set the scene for the *new* information presented in the main clause (cf. Longacre, 1996: 8-9; Puglielli, 1992: 174). This entails that the alteration of the normal chronological structuring of the information, when introduced by '*prima di*', seems to be signalling to the reader's attention a critical phase of the procedure:

Prima di effettuare le operazioni di smontaggio della cinghia di distribuzione ruotare l'ingranaggio dell'albero a camme.
(Lombardini, 2003)

– purpose clauses (132) in the instructional genre have a rather high number of occurrences in a marked position, i.e. sentence-initial.

Per rimuovere le sedi dei cuscinetti dal telaio utilizzare l'apposito attrezzo come mostrato in figura.
(Piaggio, 2005)

In the analysed corpus, over 20% of the purpose clauses (and purpose phrases) introduced by the preposition *per* are sentence-initial; such percentage is comparable to the results obtained by Puglielli (1992: 176) and Mazza (2010: 79), who

2 In this analysis, modal and instrumental clauses are considered together, especially when introduced by a gerund, as such verbs do not perform an openly modal or instrumental function, but their interpretation is dependent on the semantics of the sentence (Puglielli, 1992: 176).

noted 30% of purpose clauses in a marked initial position, a rather significant proportion as compared to the less than 10% occurrences in normal language use (cf. Thompson, 1985). As in the example above, initial purpose clauses establish a set of expectations on the part of the reader, thus serving as a contextual framework for the main clause (when not the whole paragraph); hence, though in the *thematic* position, they do not necessarily present *given* information, but rather information that is at least partially *new* (cf. Mazzoleni, 1991; Prandi, 2006; Puglielli, 1992).

In conclusion, not unlike thematic temporal and conditional clauses (Schmidtke-Bode, 2009: 125), foregrounded purpose clauses constitute a link in the “expectation chain” of the procedure described in instruction manuals (Thompson, 1985: 61). The syntactic patterns highlighted so far should thus be implemented in the TT, even when the ST is not well written, “with the result that information which should have been presented in a particular order, even for the SL audience, appears in some other sequence” (Byrne, 2014: 130).

3. RESULTS

As previously mentioned, the data presented in this paper only pertain to two specific aspects, i.e. syntax and IL, which usually affect not the acceptability of the translation but rather its adequacy. Nevertheless, a correlation may be identified when mapping the participants’ adherence to the relevant genre conventions on their acceptability scores (Section 3.3).

3.1. SYNTACTIC STRUCTURE

In the framework of this study, the syntactic analysis considers any changes at sentence level in the TTs as compared to the sentence structure of the ST, both in terms of split and merged sentences, and of information structuring. Unless actually resulting in factual errors, syntactic changes (or lack thereof, see below) are considered not in the translation quality assessment, but rather with reference to adherence to the writing conventions of the instructional genre.

The computation and assessment of syntactic variation was conducted by observing the following categories:

- positive or lack of changes of the ST sentence structure in sentences where it was necessary to improve the adherence of the TT to the genre conventions in Italian; these are counted out of ten;
- positive or negative changes of the ST sentence structure which were not strictly necessary to improve the TT; these are counted individually.

The synchronic analysis of the TTs in the two assignments is summarised in Figures 3 and 4 below, respectively.

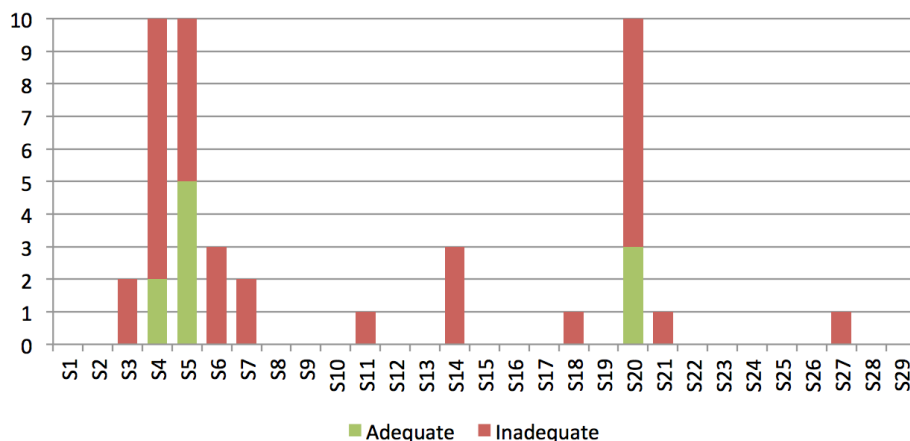


FIGURE 3. Syntactic changes in the first translation task

From a quantitative perspective, out of a total of 290 sentences only 3.4% underwent an improvement in terms of adherence to the genre conventions; by contrast, a significant 11.8% of the syntactic changes made the TT less adequate.

Qualitatively, the main problems occurred with reference to final (sentence S4) and time clauses (S5 and S20), where the TT was improved overall only in a third of the cases.

S4: Persons using this manual should have a sound knowledge of mechanical theory, tool use, and shop procedures *in order to perform the work safely and correctly*.
 TR04: *Al fine di garantire sicurezza e correttezza nelle operazioni*, il manuale si rivolge a coloro che possiedono una buona conoscenza di teoria meccanica, di utilizzo degli strumenti e delle procedure adottate nelle officine.

TR03: Gli utenti che utilizzano il presente manuale devono avere un'ottima conoscenza della meccanica, delle modalità di utilizzo degli strumenti e delle procedure da adottare all'interno dell'officina, *per eseguire il lavoro in modo corretto e sicuro*.

In the example above from the descriptive subtext of the first ST, considering only syntactic structure and with no regard to translation acceptability, the shift chosen by TR04 (and another translator) where the purpose information is moved to the initial marked position is to be preferred; by contrast, eight translators (including TR03) out of ten did not change the structure of the ST. Similarly, most translators did not foreground the time phrase in the example below from the directive subtext, where genre conventions are even more stringent because the execution of the procedure, thus failing to establish the expectation chain on the part of the reader.

S20: Lubricate the crankseal *prior to installation*.

TR01: *Prima dell'installazione*, lubrificare la guarnizione dell'albero.

TR02: Lubrificare l'albero motore *prima dell'installazione*.

In other cases, the translators opted for unnecessary syntactic changes, which in some cases resulted in or were caused by meaning transfer errors, as in the examples below:

S14: Prior to assembly, make sure that you have all of the oil pump shims *when the oil pump was removed*, and that the shims are installed in the correct order.
 TR03: Prima di procedere all'assemblaggio, *una volta rimossa la pompa dell'olio*, assicurarsi di disporre di tutti gli spessori della pompa e verificare che gli spessori siano installati nell'ordine corretto.

S21: Apply 3-Bond™ sealer to top half of crankcase.
 TR04: Applicare una guarnizione 3-Bond™ *per ricoprire la metà del basamento*.

No further positive change was observed in the first assignment.

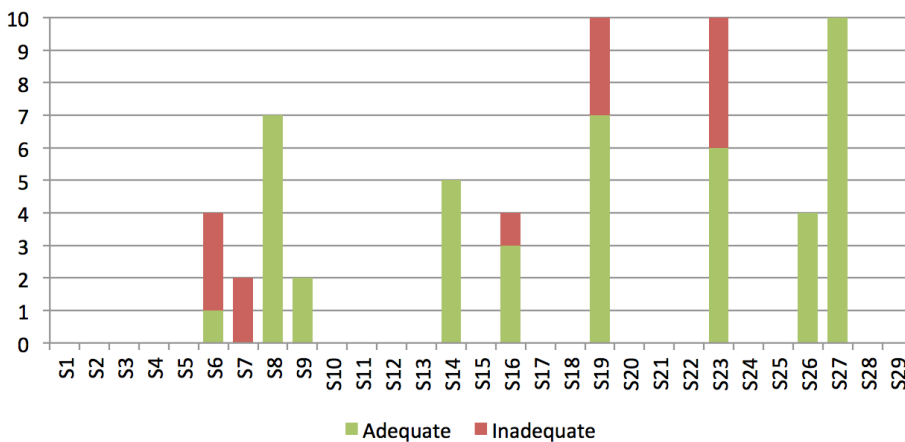


FIGURE 4. Syntactic changes in the second translation task

In the second translation assignment, which followed the training seminar, a striking improvement can be observed overall in the syntactic structure of the TTs. Quantitatively speaking, an improvement rate of 78% outweighs the minor 22% of pejorative changes (or lack of changes).

From a qualitative perspective, on average 70% of the participants adhered to the genre conventions with reference to the foregrounding of purpose information (S19 and S23), as in the examples below.

S19: Refer to picture *for proper installation of alignment dowels*.
 TR09: *Per la corretta installazione dei perni di centraggio fare riferimento alla figura*.

S23: *During the procedure, use a flywheel holding wrench to prevent the flywheel from rotating*.
 TR07: *Per impedire la rotazione del volano nel corso dell'operazione, utilizzare la chiave bloccavolano*.

In particular, though still preceding the main clause, the temporal information in TR07's translation of S23 is no longer the main focus of the sentence, as a result of the foregrounding of the purpose information.

As for modal and instrumental clauses, all participants followed the guidelines presented during the seminar by changing the syntactic structure of the ST and positioning the subordinate clause at the end of the sentence (S27):

S27: *Using a new o-ring, reinstall the oil pump.*

TR03: *Reinstallare la pompa dell'olio utilizzando un nuovo anello toroidale.*

The following examples illustrate discretionary changes that ultimately result in (more) adequate Italian TTs. In the first example, two participants turned the safety section heading which presented an -ing form into a purpose clause (S9), as often observed during the genre analysis of the corpus; by contrast, the two subsequent examples show a more paratactical structure of the TTs resulting from the omission of unnecessary temporal subordinate clauses (S13-14 and S26).

S9: *UNDERSTANDING SAFETY LABELS AND INSTRUCTIONS.*

TR10: *PER COMPRENDERE LE ETICHETTE DI SICUREZZA E LE ISTRUZIONI.*

S13-14: *Install the reed valves in the crankcase. After installing the reed valves, insert the base gaskets.*

TR03: *Installare le valvole lamellari nel basamento e inserire le guarnizioni di base dei cilindri.*

S26: *Reinstall the two fan shrouds making sure that they interlock before fastening tightly.*

TR07: *Reinstallare le due cappe del ventilatore e, dopo essersi assicurati che siano incastrate correttamente, effettuare il fissaggio.*

The only negative changes observed in the second test pertain to an unnecessary shift of the temporal information to the end of the sentence (S6) in three TTs and an ungrammatical merge of S6 and S7 in an attempt to enhance a paratactical structure in the TT.

S6-7: *At the time of publication all information contained in this manual was technically correct. However, all materials and specifications are subject to change without notice.*

TR10: *La correttezza delle informazioni contenute nel presente manuale è stata accertata al momento della pubblicazione, ciò nonostante, i materiali e le loro caratteristiche sono soggetti a cambiamenti senza notifica.*

Overall, in a diachronic perspective, the -8% rate of adherence of the first set of TTs to the writing conventions of instructional texts in Italian is contrasted by a striking increase of +11% in the second translation assignment, where translators more actively modified the syntactic structure of the ST in line with the guidelines they were provided with.

3.2. ICONIC LINKAGE

In the questionnaire accompanying the second assignment,³ with the only exception of TR09 all participants stated that they did adopt the Iconic Linkage technique in their translations. The implementation of this strategy was assessed in both tasks, by observing whether similar information was presented in a similar fashion. In both STs, two clusters of sentences were selected from both the descriptive and the directive subtexts. If in the latter a faithful reproduction of the ST would have helped the translators achieve such effect, it is in the descriptive subtext that the participants were supposed to make actual changes to improve the usability of the TTs. The part of both STs where such changes were necessary in order to meet the relevant genre conventions is the section dealing with safety labels and instructions, where symbols representing different levels of risk are accompanied by a definition of such risks. However, ten out of ten participants merely reproduced the structure of the (badly-written) ST, which resulted in a rather disjointed paragraph, as in the example below:

ST: - The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

- Failure to follow DANGER instructions will result in severe injury or death to the operator, bystander or person inspecting or servicing the snowmobile.

TR06: - Il simbolo che indica un pericolo vuol dire ATTENZIONE! FARE ATTENZIONE! LA VOSTRA SICUREZZA È IN PERICOLO!

- Pericolo di morte o di lesioni gravi per l'operatore, il passante o la persona che controlla o provvede alla manutenzione della motoslitte in caso di mancata osservanza delle istruzioni di PERICOLO.

By contrast, five participants out of ten managed to unpack the syntactic structure of the ST and formulate the corresponding information of each sentence in a similar, normalised manner, as illustrated in the example below:

ST: - Failure to follow WARNING instructions could result in severe injury or death to the operator, bystander or person inspecting or servicing the snowmobile.

- A CAUTION indicates special precautions that must be taken to avoid personal injury, or snowmobile or property damage.

- A NOTE provides key information to clarify instructions.

TR03: - L'indicazione AVVERTENZA segnala una situazione di pericolo. La mancata osservanza delle istruzioni può causare lesioni gravi o la morte dell'operatore, dell'addetto al controllo e alla manutenzione della motoslitte o di altre persone presenti.

- L'indicazione ATTENZIONE segnala le precauzioni da prendere per evitare lesioni personali o danni materiali (compresi eventuali danni a motoslitte).

- L'indicazione IMPORTANTE segnala informazioni utili a chiarire le istruzioni date.

3 The specific question on IL was not asked in the questionnaire administered after the first translation task as the participants were not expected to be familiar with it.

As for the directive subtext, the analysis focused on whether the TTs presented the standard syntactic structure SVO, without resorting to the use of synonyms for equivalent instructions. Synonymy should indeed be kept to a minimum, to maximise transparency of the information and avoid confusion in the execution of the procedure. By way of example, the translation of the imperative verbs 'Install' and 'Insert' were observed in the two tasks – the former occurring 4 times in ST₁ and 9 times in ST₂, the latter twice in ST₁ and 3 times in ST₂. From a quantitative perspective, 17.5% of the sentences analysed in the first set of translations were not usable, whereas this proportion improved by 2 percentage points in the second task. Qualitatively speaking, in the first task several translators changed their translation of the two verbs above throughout their TT. For instance, to translate the verb 'Install' TR01 used interchangeably 'Installare', 'Applicare' and 'Apporre' without any apparent reason (in some cases, also compromising factual meaning through such changes) and TR04 translated 'Insert' as either 'Installare' or 'Posizionare'. From a diachronic perspective, it was the same translators who resorted to similar patterns, though at an inferior rate. Few other isolated cases of synonymy can be observed in the second task; however, from a qualitative perspective, it should be noted that, in contrast to the first test, the few translators who opted for two different translations of the same verb actually did this consistently throughout the text and did not fall into factual errors. Taking into account these observations, the 15.5% percentage for inadequate translations decreases significantly.

3.3. POSSIBLE CORRELATION TO TRANSLATION QUALITY

Though assessing the overall translation quality of the TTs does not fall within the scope of this paper,⁴ some further considerations will be presented in this section to determine whether a possible correlation exists between the TTs' usability and their quality.

Overall, the performance of the ten participants shows a significant improvement in the second translation task, which followed the seminar, as can be deduced from Table 3 below, showing the Translation Quality Index assigned to each TT. In brief, such index (1 being the lowest and 5 the highest) takes into account both the number of errors and their severity. Errors have been classified on the basis of the four main categories devised by Mossop, i.e. meaning transfer, content, language and style, and physical presentation (2007: 125–139), and assigned a negative score following the severity scale formulated by Scarpa (2008: 240–241), who distinguishes between minor, major, and critical errors. It should be noted that such index does not include syntactic variation and IL, unless either resulted in a content error. Hence, the non-adherence of the TTs to the

4 For further reference, cf. Orlando 2011.

relevant genre conventions is not considered in the quality index.

	TRo1	TRo2	TRo3	TRo4	TRo5	TRo6	TRo7	TRo8	TRo9	TRo10
Test 1	1	1.3	3.5	2	2.7	2.4	3.7	1.5	2.7	2.4
Test 2	3.3	3.1	4.7	3.9	3.2	3.4	4.2	2.8	4.5	3.4

TABLE 3. Evaluation of the target texts in the first and second assignment

In general, following the ad hoc seminar, the second set of TTs was of a higher quality than the first batch for all participants by an average of +50.2%. In order to make assumptions on a possible correlation between the usability of the TTs and their quality, the means of the two variables analysed in this paper are reported in Figure 5 below, paralleled with the translation quality index mean.

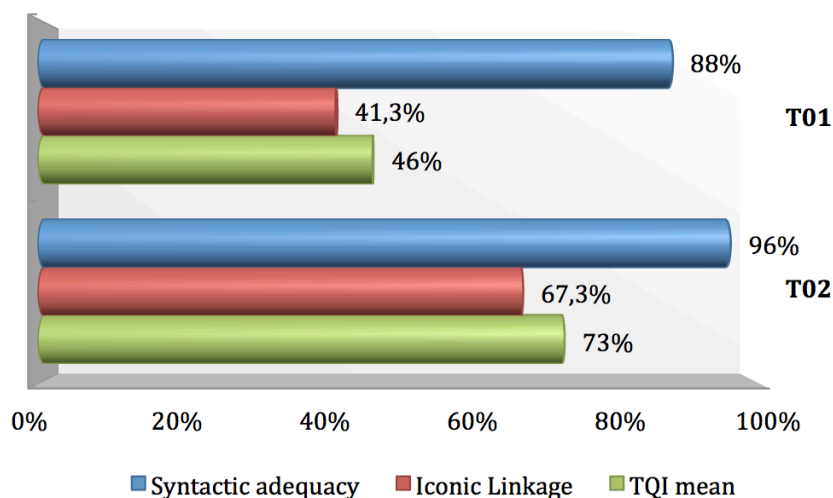


FIGURE 5. Results of the empirical study

The contrastive analysis of the results seems to suggest that an increased usability of the translation – obtained by resorting to syntactic changes and IL – goes hand in hand with an improved overall translation quality, as assessed above. This is the case for all participants despite 1) their different performance levels in the first test, and 2) their prior experience with technical translation. In fact, in the questionnaire all participants stated that they had already translated similar texts as part of their university training; however, several added that such training was limited to specific language pairs and mostly focused on terminology, rather than on other important textual features of instruction manuals. None of them had attended a course in technical writing/communication in their own mother tongue, which in a few cases resulted in the adoption of a rather convo-

luted, obscure writing style typical of Italian bureaucratic documents. This seems to confirm the findings of a recent study on the employment outlooks of graduate translators and interpreters, suggesting that translation graduates lament a lack of adequate preparation in languages for special purposes (Gnecchi et al., 2011: 179). In addition, when observing the individual performances of each participant, the most significant improvement in terms of syntactic structure and IL were obtained by those participants who attended the seminar in person, despite all of them having received the same reference material. Though the sample might be too small and the duration of the study too short to allow for generalisations, these results might help make assumptions on the actual effectiveness of training solely through e-Learning.

4. CONCLUSION

This paper reported the results of a longitudinal empirical study on the acquisition of translation competence as concerns technical translation. Though the study analyses several variables, this paper only focused on syntactic variation and IL as measurement tools to assess the TTs in terms of usability and adequacy to genre conventions. Following an ad hoc technical translation seminar, the overall performance of the ten participants has registered a significant improvement in the second translation task.

The author can certainly lay no claim on either having trained the participants exhaustively in a 4-hour seminar on technical translation – which needs the thorough development of several sub-competences before trainees can produce fully *usable* target texts –, or having assessed the participants' overall translation competence – which is way beyond the scope of this study. Nevertheless, when contrasting the results of syntactic and error analyses, a possible relation between the translations' usability and quality seems to exist, which suggests that the participants' translation competence may have benefited from an enhanced awareness of the relevant genre conventions. Clearly, though the positive effect of ad hoc training on translation performance is by no means surprising, the results of this empirical study might provide some insights into the acquisition of technical translation competence and translator training, e.g. the specific competences to aim for when training translators. Based on the responses to the questionnaire, what the study might have achieved is a bigger interest in technical translation on the part of the ten participants, who used to regard it as a mere translation exercise and only second best to literary translation. Overcoming such misconceptions (cf. Byrne, 2006: 2-7) in translation trainees can only be attained through proper training, which should also address other issues linked to technical translation such as cognetics, legal responsibility and writing creativity.

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