FIRST RESULTS OF A TRANSLATION COMPETENCE EXPERIMENT: 'KNOWLEDGE OF TRANSLATION' AND 'EFFICACY OF THE TRANSLATION PROCESS'

PACTE GROUP

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INTRODUCTION

The aim of the PACTE Group (Process in the Acquisition of Translation Competence and Evaluation) is to study translation competence and its acquisition in written translation. Our research is divided into two main phases: (1) a study of translation competence (TC), currently under way; (2) a study of the acquisition of translation competence. Six language combinations are involved: German, French and English (as foreign languages) and Spanish and Catalan (as mother tongue languages). This is basic research, the ultimate aim of which is to improve the quality of applied research into the teaching of translation: knowledge about how translation competence works and how it is acquired will provide a solid basis for future curriculum design and

development in translator training (learning objectives, content, methodology and assessment).

The PACTE study of TC is an empirical-experimental research project that studies both the translation process and the translation product using a multi-methodological approach so that the results can be triangulated. Given the lack of empirically-tested translation competence models and validated data-collecting instruments, exploratory and pilot tests were carried out before embarking on the final experiment. Thus, in 2000 an observational exploratory test was carried out with six professional translators (PACTE 2002a, 2002b). As a result of this test, the PACTE model of translation competence was modified, as was the research design. In 2004 a pilot study was carried out with 3 translators and 3 foreign language teachers to test the revised research design and to evaluate the instruments used (PACTE 2005a, 2005b). The experiment to study translation competence was carried out between October 2005 and March 2006. Thirty-five translators and twenty-four foreign language teachers participated in the experiment. The data obtained is now being analysed.

This article presents the design of the experiment for the validation of the PACTE TC model, and the first results obtained for two of the dependent variables – 'Knowledge of translation' and 'Efficacy of the translation process.'

TRANSLATION COMPETENCE: DEFINITIONS AND THEORETICAL MODEL

Proposals related to the functioning of translation competence has been made by authors such as Lowe (1987), Bell (1991), Hewson and Martin (1991), Nord (1992), Pym (1992), Presas (1996), Hurtado Albir (1996a, 1996b), Beeby (1996), Hansen (1997), Hatim and Mason (1997), etc. Other proposals made after the beginning of the

PACTE project are: Risku (1998), Campbell (1998), Neubert (2000), Martínez Melis (2001), Kelly (2002), Gonçalves (2003, 2005), etc. These models focus attention on the various components of translation competence but have not been empirically tested.

The aim of the first stage of our research is to carry out an empirical study of translation competence, given the lack of empirically-tested translation competence models. Whilst our main aim is to determine the characteristics of TC, we have two subsidiary aims: (1) to validate our holistic TC model; (2) to validate our measuring instruments.

The first version of the PACTE TC model was presented in 1998 (PACTE 1998a & 1998b, 2000, 2001) but was revised in the light of the results of the 2000 exploratory test (PACTE 2003). In this model, TC is considered to be the underlying knowledge system of declarative and procedural knowledge needed to translate. It has four distinctive characteristics:

(1) TC is expert knowledge that is not possessed by all bilinguals.

(2) TC is mainly procedural rather than declarative knowledge.

(3) TC is made up of several interrelated sub-competences.

(4) The strategic component of TC is of particular importance, as in all types of procedural knowledge.

The TC model proposed comprises 5 sub-competences as well as psycho-physiological components (PACTE 2003):

- *Bilingual sub-competence.* Predominantly procedural knowledge required to communicate in two languages. It comprises pragmatic, socio-linguistic, textual, grammatical and lexical knowledge.

- *Extra-linguistic sub-competence*. Predominantly declarative knowledge, both implicit and explicit, about the world in general, and field-specific. It comprises bicultural, encyclopaedic, and subject knowledge**.**

- *Knowledge about translation sub-competence*. Predominantly declarative knowledge, both implicit and explicit, about translation and aspects of the profession. It comprises knowledge about how translation functions (translation units, processes required, methods and procedures used and types of problems); and knowledge of professional translation practice (the work market, types of translation briefs, target audiences, etc. Other aspects intervene, such as knowledge of translation associations, tariffs, taxes, etc.

- *Instrumental sub-competence*. Predominantly procedural knowledge related to the use of documentation resources and information and communication technologies applied to translation (dictionaries of all kinds, encyclopaedias, grammars, style books, parallel texts, electronic corpora, search engines, etc**.)**

- *Strategic sub-competence*. Procedural knowledge to guarantee the efficiency of the translation process and solve problems encountered. This is an essential sub-competence that affects all the others since it creates links between the different sub-competences as it controls the translation process. Its function is to plan the process and carry out the translation project (selecting the most appropriate method); evaluate the process and the partial results obtained in relation to the final purpose; activate the different sub-competences and compensate for any shortcomings; identify translation problems and apply procedures to solve them.

As well as these sub-competences TC comprises psycho-physiological components that may be defined as different types of cognitive and attitudinal components and psycho-motor mechanisms. They include: cognitive components such as memory, perception, attention and emotion; attitudinal aspects such as intellectual

curiosity, perseverance, rigour, critical spirit, knowledge of and confidence in one's own abilities, the ability to measure one's own abilities, motivation, etc.; abilities such as creativity, logical reasoning, analysis and synthesis, etc.
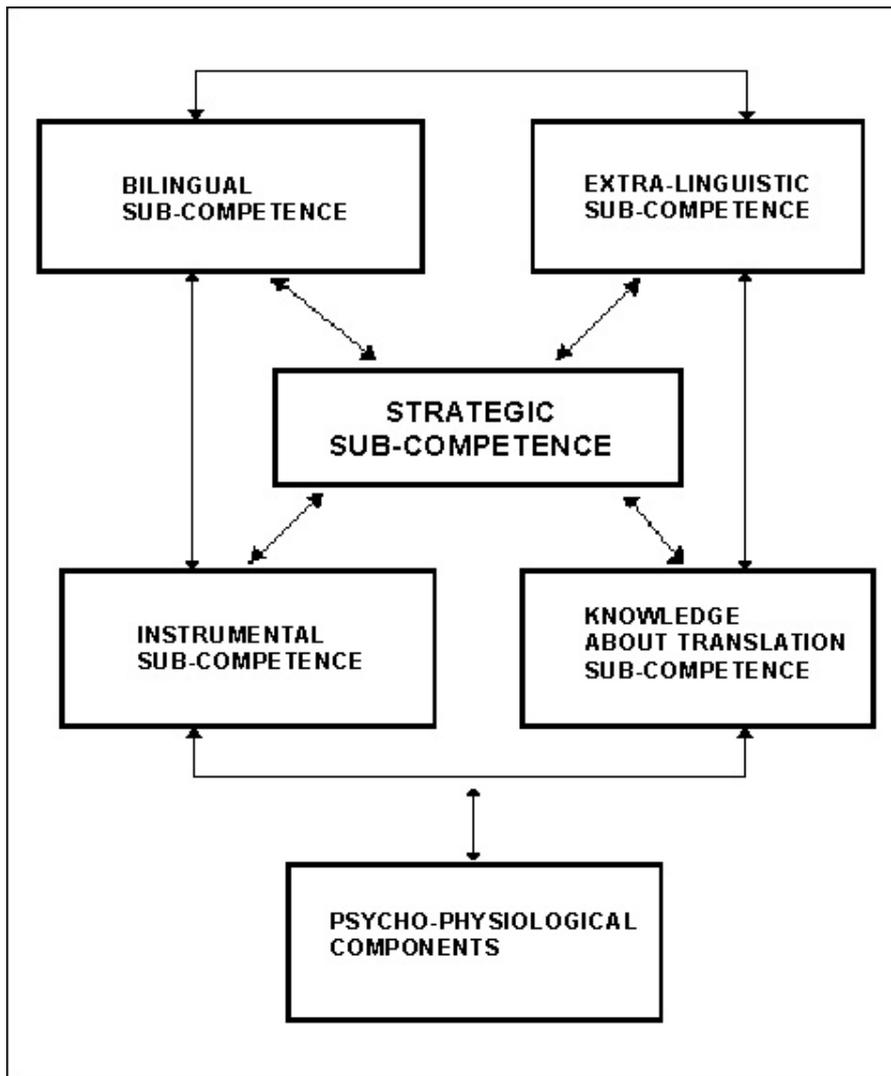
Fig.1. A holistic model of Translation Competence (PACTE 2003 : 60)

All these sub-competences interact together during the translation process. Strategic competence is the most important since it controls the translation process,

activating each of the other competences to compensate for shortcomings in specific competences when these are detected.

DESIGN OF THE TRANSLATION COMPETENCE RESEARCH PROJECT

Since all bilinguals possess knowledge of two languages and may also possess extra-linguistic knowledge, we consider the sub-competences that are specific to translation competence to be: strategic competence; instrumental competence and knowledge of translation. Our research, therefore, focuses on these three competences.

Hypothesis

Empirical and working hypotheses have been established based on the PACTE Translation Competence model. Our general hypothesis is that the level of expertise in translation affects both the process and the product of translation. For the purpose of this study our definition of expertise is based on (1) years of experience as a translator; (2) translation as a main source of income (3) experience in translating a wide range of texts.

Universe and sample

The universe from which our sample is taken is that of professionals working with foreign languages. Two groups of subjects were selected from this universe: expert translators (translating from German, French and English) and teachers of foreign languages (German, French and English), all of whom were native speakers of Spanish and Catalan. Teachers of foreign languages were selected because, whilst sharing some of the characteristics of expert translators, confounding variables (such as levels of

linguistic and extralinguistic knowledge and being in contact with 2 languages) could be controlled.

For our purposes, 'expert translators' were considered to be translators with at least 5 years' experience in a variety of fields[1] and for whom translation was their main professional activity (at least 70% of their income). 'Teachers of foreign languages' were considered to be teachers with at least 5 years of experience in language schools and with no professional experience as translators.

Thirty-five professional translators and twenty-four foreign language teachers participated in the experiment. All fulfilled the selection criteria established. The translators included in the study had an average of seven and a half (7.51) years of experience translating; the average percentage of their income from translating was 86.43%; and their experience included translating a wide range of texts into their mother tongue.

Variables used in the study

One independent variable and five dependent variables have been established for our study of translation competence. The independent variable is the degree of expertise in translation, defined in terms of years of experience of translating as the subject's main professional activity. Following these criteria, two experimental groups were selected: one in which the subjects had more than 5 years experience translating (expert translators), and the other in which the subjects had no experience translating (teachers of foreign languages). In our study, the two categories for expertise in translation are:

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[1] Translators with these characteristics were selected to ensure that the sample was homogenous and that the results of our experiment would not be biased by using translators specialised in specific fields. This does not mean that we consider expert translators to be only those that translate texts from a variety of fields, have been practising for over five years etc.

(+) "expertise": Translators with at least 5 years translation experience in a variety of fields and for whom translation is their main professional activity;

(-) "expertise": Teachers of foreign languages with at least 5 years teaching experience in language schools and with no professional translating experience.

The dependent variables established for our study of Translation Competence are: translation project; identification of translation problems; decision-making; knowledge of translation; efficacy of the translation process. For each variable we have defined: the objective; the conceptual definition; the working definition; the working hypothesis; indicators; materials and instruments; the data observed and how they are measured.[2] The most relevant aspects of these variables (adapted from PACTE 2005a and 2005b) are presented below.

♦ DECISION-MAKING is the most complex variable. It is related to strategic and instrumental sub-competences, and provides data on subjects' procedural behaviour.

- Conceptual definition: Process during which TC sub-competences are activated when carrying out a translation task. Both internal and external support is involved (Alves, 1995,1997). Internal support: use of automatic and non-automatic cognitive resources. External support: use of any sources of documentation

- Indicators: Types and sequences of actions; acceptability of results

- Instruments: Translations, direct observation charts, PROXY, recordings, retrospective interviews, charts for registering types of actions and consultations carried out, "rich points" in the ST and criteria for the acceptability of results.

- Data source: Sequences of actions leading to results that are acceptable and unacceptable in relation to rich points.

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[2] For further information about the indicators of the variables and the instruments used, see PACTE 2006, 2007.

♦ IDENTIFICATION OF TRANSLATION PROBLEMS: This variable is related to the sub-competence 'knowledge of translation'.

- Conceptual definition: Difficulties encountered by the subjects when carrying out a translation task.

- Indicators: Nature of problems identified, conceptualization of problems, sub-competency activated, subject's degree of satisfaction with the solution found, degree of difficulty of the text.

- Instruments: Translation problems questionnaire, retrospective interview.

- Data source: Problems identified and subjects' comments

♦ TRANSLATION PROJECT: Related to the strategic sub-competence.

- Conceptual definition: Mental representation or expectations of what the translation of a given text should be like.

- Indicators: Degree of elaboration and coherence of the translation project.

- Instruments: Translation problems questionnaire and retrospective interview.

- Data source: Elements taken into account by the subject in relation to the translation project.

♦ KNOWLEDGE OF TRANSLATION: Related to the sub-competence 'knowledge of translation'.

- Conceptual definition: The subject's implicit knowledge of the principles of translation and aspects of the translation profession.

- Indicators: Dynamic index and coherence coefficient.

- Instruments: Questionnaire about knowledge of translation.

- Data source: Subjects' answers to the questionnaire.

♦ EFFICACY OF THE TRANSLATION PROCESS: Related to the strategic sub-competence.

- Conceptual definition: Optimum relationship between the time spent on the completion of a translation task and the acceptability of the solution.

- Indicators: Total time spent; time spent on each stage of the translation process (orientation, development, revision); acceptability of the results.

- Instruments: Translations, direct observation chart, PROXY recordings. Criteria for the acceptability of the results.

- Data source: Total time and time spent on each stage of the translation process, in relation to the acceptability of the results obtained.

Data-collecting materials

Different types of materials have been used to collect data about the translation process and product so that results may be triangulated.

1. *Texts and translations*. Subjects are required to translate two texts; one into their mother tongue (translation B-A) and one into the foreign language (translation A-B). Selection criteria for texts are as follows: (1) texts of the same genre and field for all the languages combinations involved; (2) texts with a variety of translation problems; (3) short texts (175 to 300 words); (4) genres translated by professional translators in Spain.

2. *Translation protocols*: Translation protocols (Neunzig, 2002) are recorded using the commercial software programs PROXY and Camtasia. PROXY is a program (compatible with Windows) designed for the remote control of computers and users connected to a network. Camtasia records the subject's actions on the computer in real time and stores these recordings for subsequent study and data collection

3. *Direct observation*. Direct observation is used to ensure that all data relative to the translator's actions during the translation process are recorded, including those which cannot be recorded electronically: pauses and external consultations.

4. *Questionnaires*. Three questionnaires are used: (1) an initial questionnaire to ensure subjects selected for inclusion in the experimental groups fulfil selection criteria; (2) a questionnaire eliciting information on translation problems encountered during the process of translation; (3) a questionnaire to obtain information on the subject's knowledge of translation (see Appendix). All questionnaires were presented in Spanish.

5. *Retrospective interviews*. Retrospective interviews constitute a further source of data. Interviews are designed to complete and contrast information obtained in the questionnaire on translation problems and the way in which they are solved.

2.3. Experimental tasks

Tasks carried out by subjects are:

(1)   B-A Translation;

(2) Completion of a questionnaire about the problems encountered in the translation;

(3) A-B Translation;

(4) Completion of a questionnaire about the problems encountered in the translation;

(5) Completion of a questionnaire about translation knowledge;

(6) Participation in a retrospective interview.

FIRST RESULTS OF THE TRANSLATION COMPETENCE EXPERIMENT

The results presented here are related to the variables 'Knowledge of Translation' and 'Efficacy of the Translation Process'.

Knowledge of Translation

This variable provides data on the subcompetence 'Knowledge of Translation'. Defined in terms of the subject's implicit knowledge of the principles of translation and

aspects of the translation profession, the indicators observed are the dynamic index and the coherence coefficient. The data is obtained from subjects' answers to the questionnaire on 'Knowledge of Translation', presented in the Appendix.

Instrument: Translation Knowledge Questionnaire

This questionnaire is based on 7 factors related to knowledge about translation: concept of translation and translation competence, translation units, translation problems, phases in the translation process, methodology required, procedures used (strategies and techniques, etc.), role of the translation brief, and the role of the target reader.

For each factor, statements were formulated based on two paradigms or ways of thinking about translation. One was labelled "dynamic" (D): textual, communicative, functionalist concepts, and the other "static" (S): linguistic and literal concepts. An example of a pair of items related to the concept of the 'methodology required' are:

(D) *A text should be translated in different ways depending on who the target reader is* (item 10).
(S) *The aim of every translation is to produce a text as close in form to the original as possible* (item 4).

A questionnaire of 36 items was drawn up using test theory and item-theory criteria. The subjects' opinions were measured using Likert scaling in a forced choice method: *I strongly disagree*; *I disagree*; *I agree*; *I strongly agree.*

After trialling the questionnaire amongst lecturers and students in the Faculty of Translation and Interpreting of the Autonomous University of Barcelona, a pilot study was carried out using the questionnaire with three types of subjects: three translators

and three foreign language teachers participating in the 2004 pilot study (PACTE 2005a, 2005b), and ten translation users. Following scale construction theory, those items that did not provide relevant information in the pilot study were eliminated. The final version of the questionnaire (see Appendix) comprises 27 items, 12 of which indicate a dynamic concept of translation and 15 indicate a static concept.

Since the overall results of the questionnaire pilot study did not clearly differentiate between the opinions expressed by the groups of subjects, the decision was taken to select five pairs of items that were conceptually clearly opposed. These five pairs of items are mutually excluding from a conceptual point of view and are those that best reflect differences in the opinions of the subjects participating in the pilot study of the questionnaire.[3] Our analysis of the results obtained in our experiment is based on the answers given to these five pairs of items.[4]

Findings

The subjects' answers were analyzed for evidence of general tendencies among translators and teachers (these were later confirmed by statistical analysis of the data). These tendencies can be illustrated by returning to the example quoted above of a pair of items related to the concept of the 'methodology required' (item 10, dynamic; item 4, static).

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[3] The five pairs of items are: Pair I= 3 (D) and 24 (S); Pair II=10 (D) and 4 (S); Pair III=23 (D) and 11 (S); Pair IV=14 (D) and 5 (S); Pair V= 27(D) and 16 (S).

[4] This procedure provides additional advantages: on the one hand, only 10 items are analysed (thereby saving time and effort) , and on the other, it is a more effective means of controlling 'missing' items since, when an item remains unanswered, its pair is automatically eliminated thus ensuring the reliability of the data obtained.
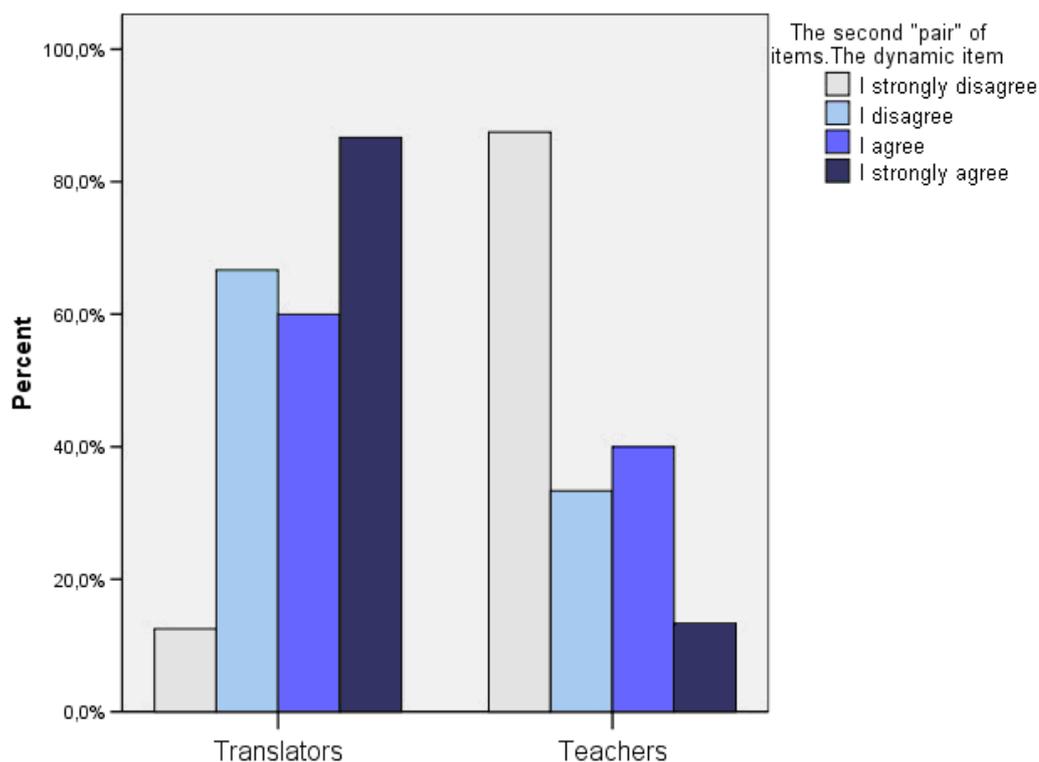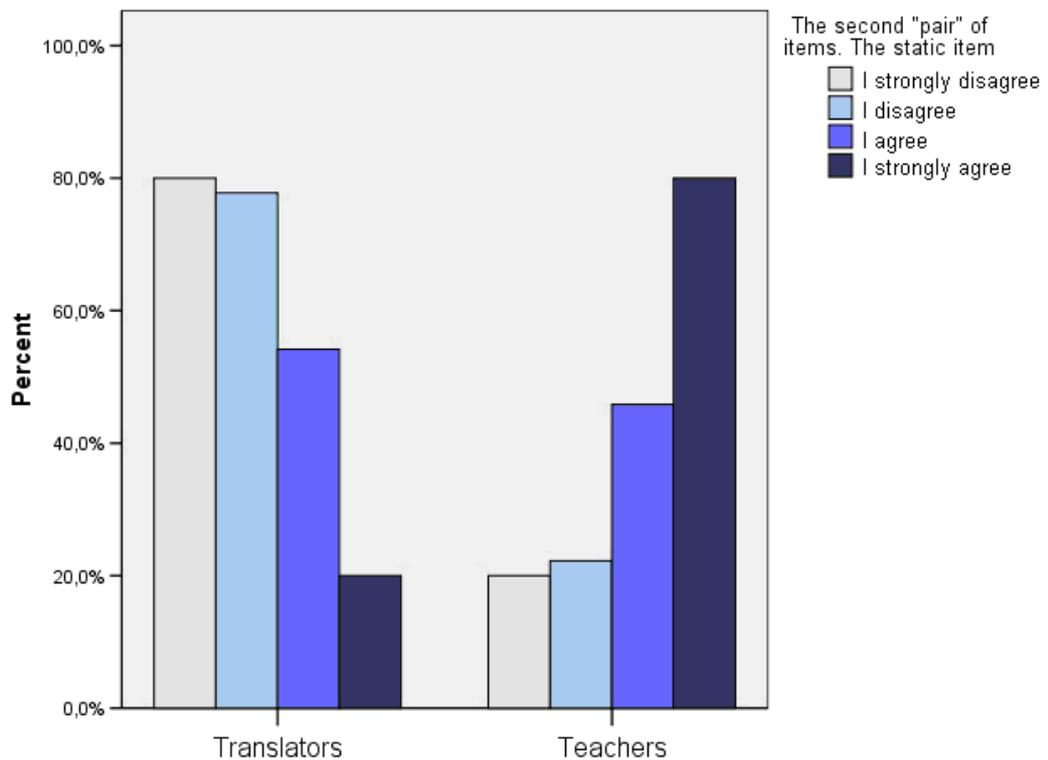
Fig.2. Results obtained for item 10 (D)

Figure 2 shows that the translators have a much more dynamic concept of translation methods than the teachers. For the dynamic item, *A text should be translated in different ways depending on who the target reader is*, the category 'I strongly agree' was chosen mainly by translators (13) and by only 2 teachers, whereas the category 'I strongly disagree' was mainly chosen by teachers (7) and only 1 translator.

For the static item belonging to the same pair, *The aim of every translation is to produce a text as close in form to the original as possible,* teachers tended to select the categories 'I agree' (11) and 'I strongly agree' (8). Translators tended to select the

category 'I disagree' (14). The responses to the static item are shown in percentages in Fig. 3.


Fig.3. Results obtained for item 4 (S)

Dynamic index and coherence coefficient

The two indicators of the 'Knowledge of Translation' variable observed were the dynamic index and the coherence coefficient. The dynamic index allows us to see if a subject's implicit knowledge about translation functions is more dynamic or more static, whereas the coherence coefficient allows us to see if the subject's vision of the different functions is coherent or not. Both indicators were attributed numerical values. For the

dynamic index, numerical values (-1 to +1) were attributed to the 4 adverbial phrases. For the coherence coefficient, numerical values (0 to 1) were attributed to 3 categories of coherence. First, each indicator was calculated for pairs of items for each subject and then for the experimental group. A comparison was made between the values of these indicators in the two experimental groups.

Figure 4 shows the dynamic index of the subjects in the two groups.

TRANSLATORS   TEACHERS
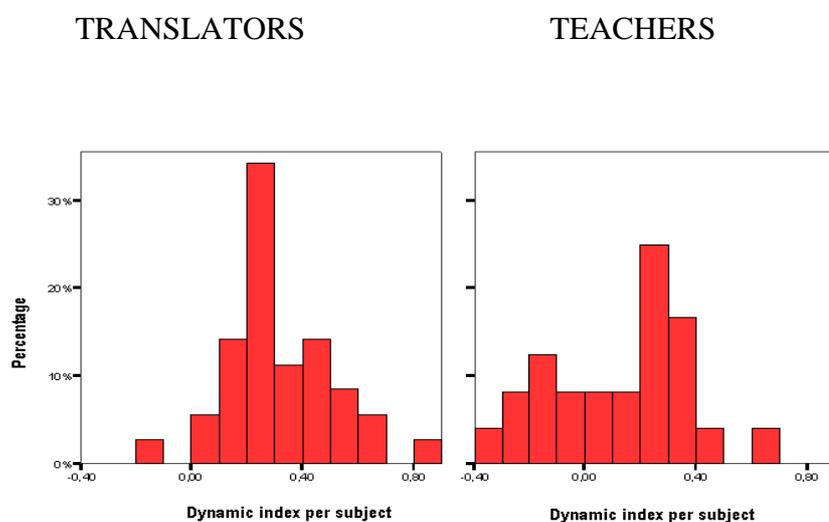
Fig. 4. Distribution of the mean dynamic index of the subjects in the two experimental groups

The results of the statistical analysis of the dynamic index distribution are:

	Mean	Median	Maximum	Minimum	Standard deviation
Translators:	0.273	0.200	0.900	-0.200	0.204
Teachers:	0.088	0.150	0.625	-0.400	0.261

The significance of the dynamic index per subject using different test statistics is as follows:

Mann-Whitney U:	259.500
Wilcoxon W:	559.500
Z:	-2.511
Asymp. Sig. (2-tailed):	**0.012**

The dynamic index of the translators is significantly higher than that of the teachers, 0.012 at the significance level of 5%, therefore it would seem that the translators as a group have a more dynamic concept of translation.

There is no significant difference in the coherence coefficient between the two groups, both are positive, even though one may be more dynamic and the other more static.

C-square test	Value	Degree of freedom	Significance
Pearson C-square	3.028	2	.220
Likelihood	4.459	2	**.108**
Valid cases	59		

Therefore it would seem that both groups, as language professionals, have a coherent concept of what it means to mediate between two cultures, although the teachers tend towards a literal, linguistic concept of translation and the translators towards a more communicative and functional concept.

Efficacy of the translation process

This is one of the variables that give us information about the strategic sub-competence and is defined as the optimum relationship between the time spent on the completion of a translation task and the acceptability of the solution. Therefore, the

indicators observed are acceptability of the results obtained and the time spent (total time taken and time taken at each stage of the process). The data obtained has been crossed. So far we have only analyzed the A-B translations. We started with this because all the translators were working from the same ST (into English, French or German) and this made it easier for us to reach a consensus about the criteria used to analyze the data.

Translations acceptability and rich points

In order to facilitate the experiment, it was decided to focus on some relevant elements in the text that have been labelled 'rich points'. The elements selected all present a variety of translation problems. The Spanish text used for the A-B translation can be seen below with the 5 'rich points' marked.

La Plana Novella

La Plana Novella es una antigua heredad adquirida por el **1**Indiano Pere Domenech i Grau en 1885 que se encuentra en una pequeña planicie en el centro del Parc Natural del Garraf y pertenece al municipio
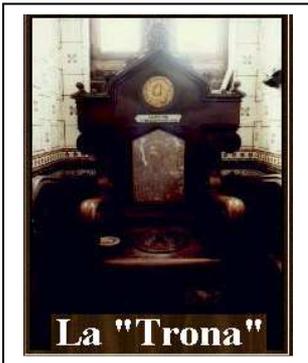
de Olivella. La Finca fue declarada colonia agrícola 10 años más tarde por el **2**gobierno alfonsino, pero de aquella época perdura una leyenda de **3**desenfreno y dilapidación que hizo desaparecer la **1**fortuna del americano. El estilo arquitectónico del Palacete es ecléctico, es decir que mezcla diferentes estilos. **4**La geografía

comarcal de Cataluña lo califica de "Castillo de Bambalinas" como si fuese un decorado de teatro. Sin ningún tipo de duda la construcción estilísticamente más original de Palau Novella es el lavadero gaudiniano, pero una de las piezas más características y llamativas del Palau es el **5**común, conocido como **5**"la trona".

(http://www.laplananovella.es)

Each 'rich point' has been defined in terms of: the type of problem, the function of the translation, relevant characteristics, acceptable and semi-acceptable solutions. The acceptability criteria have been classified according to: (1) meaning of the ST; (2)

function of the translation (translation brief, readers' expectations, genre conventions in the target culture); (3) appropriate language use. These criteria have been used to identify acceptable, semi-acceptable and not acceptable solutions.

- *Acceptable solution* (A): The solution activates all the relevant connotations of the ST in the context of the translation related to the meaning of the ST, function of the translation and language use.

- *Semi-acceptable solution* (SA): The solution activates some of the relevant connotations of the ST and maintains the coherence of the TL in the context of the translation related to the meaning of the ST, function of the translation and language use.

- *Not acceptable solution* (NA): The solution activates none of the relevant connotations of the ST or introduces connotations that are incoherent in the context of the translation related to the meaning of the ST, function of the translation and/or language use.

Thus, acceptability is defined as the degree of acceptability (A, SA, NA) of these 'rich points' following the criteria of meaning, function and language use. 27 possible permutations are reached by crossing these categories. For example, an acceptable solution can result from the following combinations.

| ST meaning	TT function	Language use
A	A	A
A	A	SA
A	SA	A

SA	A	A
A	SA	SA[5]

The categories A, SA, NA were assigned the numerical values 1, 0.5 and 0, respectively. These values were used to obtain each subjects acceptability index (the mean of all the solutions analyzed), as well as the acceptability index of each experimental group. The data was analyzed to compare the acceptability level of the two groups.

When the data from the two complete groups was studied (35 translators and 24 teachers), no relevant differences were found. Average acceptability for the translators was 0.52 and for the teachers, 0.47. However, comparisons of the 15 'best' subjects in each group indicated significant differences in the acceptability index: 0.79 for the translators and 0.58 for the teachers. This result from the 'best' subjects is relevant for us because we are more interested in discovering 'good practices' than in simply describing the universe. The following graph shows the total number of solutions to the five 'rich points' for each group (75), distributed as A, SA or NA.

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[5] This final permutation is considered acceptable in A-B translation but not in B-A translation, as it for example in the EU's recommendations for the European Master in Translation: 'Similarly translation from the first language into at least one (foreign) language would be useful. As far as such translation from language A into B or C is concerned, the object of the training should be an ability to produce translations which with reasonable ease can be checked/revised by a native speaker to be used as functionally adequate and commercially acceptable target language texts.' (http://ec.europa.eu/dgs/translation/external_relations/universities/master_curriculum_en.pdf)
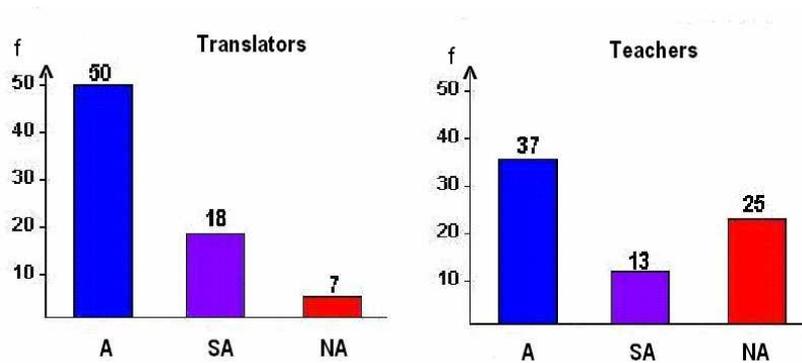
Fig. 5. Acceptability distribution for the 15 'best' translators and the 15 'best' teachers in A-B translation

As can be seen in the graph, the translators only propose 7 NA solutions compared with the 25 NA solutions of the teachers. The acceptability level of the translators is higher than that of the teachers in A-B translation. We consider this to be relevant for the study of translation competence because only 48% of the translators claimed some experience in A-B translation. Therefore, most of them are not involved in text production in the foreign language on a regular basis, whereas the teachers are. This may indicate that the translators compensate for their lack of practice in the foreign language by activating a more developed strategic sub-competence and so achieving a higher level of acceptability than the teachers.

Efficacy of the translation process: time taken and acceptability

In order to analyze the efficacy of the translation process, we have crossed the data related to acceptability with the time the subjects spent translating, both the total time and the time taken at each stage of the process. The process has been divided into three stages (based on the distinction made by Jakobsen, 2002): orientation (from the

moment the subjects are given the text to the moment they start to translate),

development and revision.

In relation to the total time taken, no significant differences have been observed

between the 15 'best' translators and the 15 'best' teachers: the average time taken by

the translators was 57 minutes and by the teachers, 53 minutes. Neither are there any

significant differences between the percentage of time spent at each stage by all the

subjects and the percentage of time spent at each stage by the 15 'best' translators of

each group. It is interesting to note the relatively small percentage of time spent at the

orientation stage by all subjects (7.2%) and that the 'best' subjects spend even less time

(5%).

	All subjects	"Best" subjects
Orientation:	7.2%	5%
Development:	76%	75%
Revision:	16%	20%

A positive correlation has been observed between acceptability and the total time

taken by all subjects in both groups. The subjects were divided into five sections

according to their acceptability levels, the subjects with the highest level were put in the

first section and those with the lowest level in the fifth. The average total time taken by

each section was calculated. We were interested to see that the 'best' subjects, those in

sections 1 and 2 for their acceptability levels, were those that spent most time (Pearson r

= 0.90). Nevertheless, looking at these two top sections more closely a difference can be

seen in the acceptability index between section 1 (0.83) and section 2 (0.62) but this

difference is not reflected in the total time taken: section 1 (58.9 minutes) and section 2

(59.2 minutes).

	1 (12 subjects)	2 (12 subjects)	3 (12 subjects)	4 (12 subjects)	5 (11 subjects)
Acceptability (index)	0.83	0.62	0.44	0.36	0.22
Total time (minutes)	58.9	59.2	47.3	50.2	44.5

Fig. 6. Total time taken and acceptability

As can be seen in Figure 7, no correlation has been observed between acceptability and the time taken at each stage by all the subjects (Pearson $r < 0.07$).
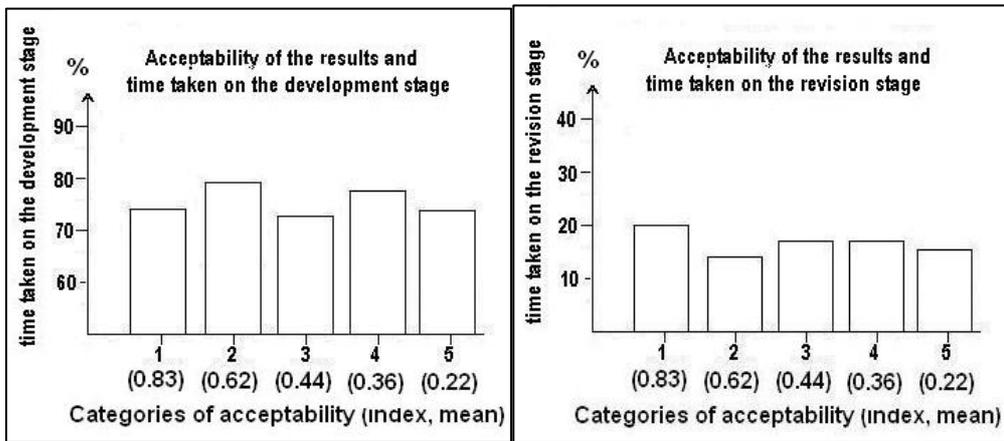

Fig. 7. Acceptability and time taken at each stage

To sum up, the crossing of the data related to acceptability and the time taken has given the following results:

- No differences have been observed between the 15 'best' translators and the 15 'best' teachers in the total time taken.

- No correlations have been observed between acceptable translation solutions and the time taken at each stage.

- A positive correlation has been observed between acceptable translation solutions and the total time taken for both translators and teachers.

- The difference in the acceptability index between sections 1 and section 2 is not reflected in the total time taken.

Our research group is now analyzing the efficacy of the process in the B-A translation task and we will be able to compare the data with that presented here for the A-B translation task and see whether the same tendencies are maintained.

CONCLUSIONS

The results presented here shed some light on two variables in our Translation Competence Model: knowledge of translation and efficacy of the translation process in A-B Translation. However, this descriptive data is insufficient to explain how translation competence works. We still have to analyze the other variables (decision making, identification of translation problems and translation project) as well as the efficacy of the B-A translation process. When we have analyzed the indicators and crossed the data, we may be in a better position to explain the causes of the results presented here. For example, we may know if certain documentation strategies influence acceptability and time taken; if the sub-competences that are activated are related to different concepts of translation; if directionality influences decision making and/or the sub-competences that are activated, etc. All this information will help us to a better understanding of translation competence, the ultimate goal of translator training

and the first stage in our research project. This will allow us to start studying the acquisition of translation competence, which is the second stage of our project.

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APPENDIX: QUESTIONNAIRE ON KNOWLEDGE OF TRANSLATION[6]

What is your opinion about the following statements?

1. As you are read the text you are going to translate, you are already thinking about how to translate it.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

2. Since words don't always have the same shade of meaning in different languages, something is always lost in translation.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

3. It is the client who decides how the translator has to translate a text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

4. The aim of every translation is to produce a text as close in form to the original as possible.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

5. Most translation problems can be solved with the help of a good dictionary.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

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[6] 'Dynamic' questions are: 1, 3, 6, 8, 10, 14, 17, 19, 20, 21, 23 and 27; 'Static' questions are: 2, 4, 5, 7, 9, 11, 12, 13, 15, 16, 18, 22, 24, 25 and 26. (For the purposes of this article, this questionnaire has been translated into English).

6. The most important thing when translating is to think of the target reader.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

7. To be able to understand a text you must find out what the words mean.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

8. If the original text is very different from the same type of text in the target language (e.g. instruction manuals, commercial letters, etc.) you should adapt the translated text to the requirements of the target culture.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

9. Since you can't know the meaning of all the words in a text, a bilingual dictionary is the best solution

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

10. A text should be translated in different ways depending on who the target reader is.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

11. All translated texts should keep the same paragraphs and divisions in the target text as in the original text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

12. The main difficulty when translating a text is to find typical expressions in the target language.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree*   ☐ *I strongly agree*

13. To be able to translate well, you should concentrate on the vocabulary and the syntax of the original and reproduce them in the target text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

14. When translating a specialised text, terminology is not the biggest problem.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

15. The best way to translate a text is to translate word-for-word except in the case of proverbs, set phrases and metaphors.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

16. As soon as you find a word or expression you don't know the meaning of , you should look it up straightaway in a bilingual dictionary

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

17. When translating a novel, one of the most difficult problems to solve is cultural references (e.g. institutions, traditional dishes, etc.).

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

18. When you translate, you translate first one sentence, then the next, and so on till you come to the end of the text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

19. When you translate, you should be aware of the norms and conventions of the target text language.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

20. It is not enough to know two languages to be able to translate well

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

21. The most important thing when translating a text is to make sure that the target readers react in the same way to the target text as the readers of the original text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

22. When you find a cultural reference in a text (e.g. a traditional dish) you should look for an equivalent in the target culture.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

23. If you begin to translate a text using certain criteria (e.g. respecting the format of the original text, adapting the text to target reader, etc.) these should be kept to throughout the text.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

24. When you translate a text , you should not be influenced by the target reader.

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

25. The best way to translate a text is sentence by sentence (line by line)

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

26. The problems you find when translating a text are the same no matter what kind of text you are translating

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*

27. If you find a word in a text that you don't understand, you should try to work out its meaning from the context

☐ *I strongly disagree* ☐ *I disagree* ☐ *I agree* ☐ *I strongly agree*