APPLYING THE SCIENTIFIC METHOD TO TRANSLATION STUDIES: PROBLEMS AND SOLUTIONS IN RESEARCH INTO TRANSLATION COMPETENCE

Grupo PACTE
Principal researcher: A. Hurtado Albir
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TRANSLATION COMPETENCE

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I. INTRODUCTION
OVERALL OBJECTIVE
Acquisition of Translation Competence

PHASES
1\textsuperscript{st} Translation Competence (TC)
2\textsuperscript{nd} Acquisition of Translation Competence (ATC)

RESEARCH
Empirical-experimental
Process and product

6 LANGUAGE COMBINATIONS
CT MODEL (PACTE 2003)

- BILINGUAL
- EXTRA-LINGUISTIC
- STRATEGIC
- INSTRUMENTAL
- KNOWLEDGE OF TRANSLATION
- PSYCHO-PHYSIOLOGICAL COMPONENTS
II. PROBLEMS RELATED TO EMPIRICAL RESEARCH IN TRANSLATION
Problems in all kinds of empirical research

- Define variables: conceptual and operative
- Define indicators
- Design instruments
- Guarantee viability of the research
  - During the experiment (Are the instruments and experimental tasks adequate?)
  - Does the data (observed tendencies) measure what we want to measure?
Specific problems in empirical-experimental research in translation

- Scarce research tradition lacking points of reference (previous results, instruments, hypotheses, etc.)

- Difficult to apply experimental methods and assure:
  - Ecological validity
  - Experimental economy
Specific problems related to empirical-experimental research in translation

• **Ecological validity:** the subjects aren’t aware of the experiment, the situation for them is as close as possible to what we want to measure, i.e. a real translation situation:
  
  – How can we disguise the situation: translation brief, instructions, payment?
  – How can we collect the data without interfering in the translation process?

• **Experimental economy:**
  
  – How can we design the experiment so the results are valid and can be extrapolated?
III. PREPARING THE PACTE TRANSLATION COMPETENCE EXPERIMENT
Preparation of the experiment

• Before the experiment:
  – Define type of study
    • Comparison of two representative samples
  – Formulate general hypothesis
    • The degree of expertise of the translator influences the translation process and product
  – Design experimental tasks and instruments
  – Exploratory tests
    • (June 2000-January 2001)
  – Pilot test
    • (February-April 2004)
Methodological consequences of the exploratory and pilot tests (I)

• **Data collected and tendencies noted**
  – actions, sequences of actions
• **Instruments Tested**
  – Proxy and Camtasia
  – Texts
    • comparability of French German and English texts
    • Need to concentrate on rich points
  – Questionnaires
    • Translation problems (B-A/A-.B)
    • Knowledge of Translation
  – Standardised retrospective interview
  – Direct observation of subjects reduced
Methodological consequences of the exploratory and pilot tests (II)

• **Experimental tasks established**
  • direct translation (B-A)
  • completion of a questionnaire about the problems encountered in the translation;
  • inverse translation (A-B);
  • completion of a questionnaire about the problems encountered in the translation;
  • completion of a questionnaire about translation knowledge;
  • participation in a retrospective interview.
IV. THE PACTE TRANSLATION COMPETENCE EXPERIMENT
THE TC EXPERIMENT

- Who is observed?
- What is observed?
- How is the data collected?
- How is the data represented?
- How is the data analysed?
Who is observed?

• Define the experimental universe
  – Professionals working with foreign languages:
• Establish the independent variable ‘expertise in translation’
  – Two categories of expertise
    • (+) ‘expertise’: Translators with 6 or more years professional experience of translating texts in a variety of fields
    • (-) ‘expertise’: Foreign language teachers with 6 or more years of professional experience, but no experience of translation
• Select the sample
  – Two initial questionnaires:
    • For translators
    • For foreign language teachers
What is observed?

Dependent variables

- Knowledge of translation
- Efficacy of the process
- Decision-making
- Translation project
- Problem-solving
- Use of instrumental resources
  - Variable added during the experiment
What is observed?

Indicators

- Knowledge of translation
  - Dynamic index and coherence coefficient
- Efficacy of the process
  - Total time taken; time taken at each stage of the translation process (orientation, development, revision)
- Decision-making
  - Types and sequences of actions
- Translation project
  - Dynamic index and coherence coefficient
- Problem-solving
  - Nature of problems identified,
  - Conceptualization of problems,
  - Solving procedure as explained by the subject (subcompetence activated),
  - Subject’s degree of satisfaction with the solution found, degree of difficulty of the text
- Transversal indicator
  - Acceptability
What is observed?

- **Types of Indicators**
  - *Data obtained directly from the data collection instrument*: Total time taken; time taken at each stage, etc.
  - *Data collected and interpreted by PACTE*: acceptability of results, dynamic index, coherence coefficient, sequences of actions, etc.

- **Importance of “acceptability”**
  This indicator is used to measure all variables
How is the data collected?

Instruments

- **Observation instruments:**
  - **Software:** Proxy and Camtasia
  - **Direct observation chart**

- **Questionnaires:**
  - **Initial questionnaires** (translators and teachers)
  - **Translation problems questionnaires** (BA and AB)
  - **Knowledge of translation questionnaire**

- **Retrospective interview**

- **Texts:**
  - ‘Rich points’
  - **Criteria for acceptability, semi acceptability and unacceptability of solutions**
How is the data collected?

Examples of instruments developed:

- Knowledge of translation questionnaire
- ‘Rich points’
How is the data collected?

Knowledge of translation questionnaire

BILINGUAL  EXTRALINGUISTIC

STRATEGIC

INSTRUMENTAL  KNOWLEDGE OF TRANSLATION

PSYCHO-PHYSIOLOGICAL COMPONENTS
How is the data collected?
Knowledge of translation questionnaire

• Search the literature:
  – Is there an existing questionnaire we can use?
  – No

• Decide to construct a questionnaire based on:
  – 6 categories:
    • Translation and translation competence
    • The translation unit
    • Types of problems
    • Stages in the translation process
    • Methods and procedures
    • The function of the translation brief and the reader
  – 2 approaches:
    • Static translation
    • Dynamic translation
How is the data collected?
Knowledge of translation questionnaire

- Collect items.

- Select items respecting the criteria of Item Response Theory.

- Choose a scale for the subjects to give their opinions on each item.

Likert Scale

<table>
<thead>
<tr>
<th>I strongly disagree</th>
<th>I disagree</th>
<th>I agree</th>
<th>I strongly agree</th>
</tr>
</thead>
</table>
How is the data collected?

Knowledge of translation questionnaire

- Exploratory tests to perfect the questionnaire
  - 1st exploratory test:
    - Testers: the other members of the research group
    - Results: seemed to work
  - 2nd exploratory test:
    - Testers: 25 3rd and 4th year FTI students
    - Purpose: to eliminate inadequate items (Scale construction theory)
How is the data collected?

Knowledge of translation questionnaire

- **Inadequate items (Scale construction theory)**
  (e.g., when a homogeneous sample gives a bimodal distribution, or a very high standard deviation, or the mode is in the centre and the standard deviation is very low, or many subjects do not answer, etc.)

- **Result: 36 items (6 for each category)**
  - 18 “dynamic”
  - 18 “static”
How is the data collected?

Knowledge of translation questionnaire

• **Pilot test (to prepare the experiment)**
  – **Subjects:**
    • 6 foreign language teachers (EOI)
    • 6 professional translators
  – **Method:**
    • Numerical values given to the replies: I strongly disagree = 0; I disagree = 1; I agree = 2; I strongly agree = 3
    • Sum values of dynamic items and subtract values of static items ($\Sigma$'dyn' – $\Sigma$'stat.') to obtain the index of dynamism.
  – **Result:** No significant difference between groups (slight tendency to dynamism)
  – **Correction:**
    • Eliminate items answered identically by 9/10 subjects (measuring the obvious)
    • Eliminate items not answered by more than one subject (badly formulated item)
  – **Result:** No significant difference between groups!
How is the data collected?

Knowledge of translation questionnaire

• Problems with the knowledge of translation questionnaire

  – Why doesn’t the knowledge of translation questionnaire show any difference between translators and teachers?

  – Hypothesis:
    • Foreign language teachers are just as likely to have a dynamic concept of translation because they are always changing from one language to another

  – Test to validate the hypothesis:
    • Subjects: 10 translation users (maths and physics professors)
    • Result: No differences
How is the data collected?

Knowledge of translation questionnaire

• Where have we gone wrong?
  • Questionnaire based on a value judgement, ‘dynamic is good and static is bad’?

– New hypothesis:
  • ‘Language experts’ are likely to have a ‘coherent’ concept of translation.’
How is the data collected?

Knowledge of translation questionnaire

• The original questionnaire does not distinguish between the three groups of subjects

BUT

Pruning the questionnaire (Scale and item response theories) and only measuring 5 conceptually contradictory pairs of items led to the Coherence coefficient.
<table>
<thead>
<tr>
<th></th>
<th>Dynamic questions</th>
<th>Static questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>It is the client who decides how the translator has to translate a text.</td>
<td>When you translate a text, you should not be influenced by the target reader.</td>
</tr>
<tr>
<td>II</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>A text should be translated in different ways depending on who the target reader is.</td>
<td>The aim of every translation is to produce a text as close in form to the original as possible.</td>
</tr>
<tr>
<td>III</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td>All translated texts should keep the same paragraphs and divisions in the target text as in the original text.</td>
</tr>
<tr>
<td>IV</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>When translating a specialized text, terminology is not the biggest problem.</td>
<td>Most translation problems can be solved with the help of a good dictionary.</td>
</tr>
<tr>
<td>V</td>
<td>27</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>If you find a word in a text that you don’t understand, you should try to work out its meaning from the context</td>
<td>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</td>
</tr>
</tbody>
</table>
How is the data collected?

Knowledge of translation questionnaire

• Result
  – The 5 conceptually contradictory pairs of items distinguish between the three groups of subjects

• Advantages
  – Economy of effort (only 10 items)
  – When one item is ‘missing’, its pair is eliminated
How is the data collected?

‘Rich Points’

• **Premise:** Translation is a problem-solving process.
• **Decision:** Focus data collection and analysis on text fragments considered translation problems or “Rich Points”.

• **Methodological advantages of ‘Rich Points’**
  
  – data collected on a range of conceptually representative translation problems
  – in-depth analysis of the results for the same ‘rich point’ obtained from several indicators.
  – the triangulation of data obtained from multiple sources facilitated
  – the same data analysis techniques can be used for B-A and A-B translation in all language combinations, thereby eliminating explicit distinction between language pairs
  – greater experimental economy guaranteed, and data analysis facilitated.
How is the data collected?

Rich Points

Types of translation problems taken into account when identifying the ‘rich points’ in each text:

- **Linguistic problems:** lexical (non-specialised) and morphosyntactic.

- **Textual problems:** coherence, cohesion, text type and genre, style, intertextuality.

- **Extralinguistic problems:** cultural, encyclopaedic and subject-domain knowledge.

- **Problems of intentionality:** difficulty in understanding the source text (*speech acts, presuppositions, implicatures*).

- **Problems relating to the translation brief and/or the target text reader** that, from a functionalist point of view, would affect all the ‘rich points’
How is the data represented?

Indicators and indexes

– Examples of indicators:
  
  • The transversal indicator of acceptability
  
  • Types of actions and sequences of actions
  
  • Index of dynamism and coefficient of coherence
How is the data represented?

Indicator of acceptability

- Three parameters of acceptability:
  - meaning of the ST
  - function of the TT
  - language use

- Three values of acceptability:
  - Acceptable solution (A)
    - Activates all relevant connotations in the ST
  - Semi-acceptable solution (SA)
    - Activates some of the relevant connotations in the ST and maintains the coherence of the TT
  - Non-acceptable solution (NA)
    - Does not activate any of the relevant connotations in the ST or those that it does activate are not coherent
## Indicator of acceptability

### Resulting permutations and categories

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Function</th>
<th>Language</th>
<th>Category</th>
<th>Numeric value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>SA</td>
<td>A</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>SA</td>
<td>SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>SA</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>NA</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>NA</td>
<td>SA</td>
<td>SA</td>
<td>0.5</td>
</tr>
<tr>
<td>SA</td>
<td>SA</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>SA</td>
<td>SA</td>
<td></td>
<td></td>
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<tr>
<td>SA</td>
<td>A</td>
<td>SA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>SA</td>
<td>NA</td>
<td>NA</td>
<td>0</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How is the data represented?

Types and sequences of actions

- **Exploratory test: Catalogue of actions** (PACTE 2002)

  - **Directly observed activities:**
    - first-time reading of the source text
    - re-reading of the source text
    - revising the target text; underlining
    - making notes
    - comparing source text and target text
    - consultation of printed materials

  - **Activities observed using PROXY:**
    - immediate solution to a translation problem
    - non-immediate solution to a translation problem (after a pause, consultation, etc.)
    - pause
    - no solution to a translation problem (postponed solution)
    - solution of a postponed solution
    - temporary solution
    - final solution of a temporary solution
    - on-line consultation
    - use of new technologies (Internet, text processing)
    - corrections (lexical items, grammar, cohesion, coherence, etc.)
How is the data represented?

Types and sequences of actions

- **Pilot test: Actions** (PACTE 2005a, 2005b)
  
  - **P**: pause (+ 5 seconds)
  - **PS**: provisional solution
  - **DS**: definitive solution
  - **CON**: consultation (classified as simple or complex)
How is the data represented?

Types and sequences of actions

- **Pilot test: Sequences of actions** (PACTE 2005a, 2005b)

1. **Internal support.** No external support is used. The Definitive Solution (SD) is reached by using internal support alone.

2. **Internal support predominant, with recourse to external support (ISD).** Complex documentation searches are made, but these do not lead to a definitive solution. The Definitive Solution is the result of internal support.

3. **Balanced interaction between internal and external support (IS-ES).** Both internal and external support is used and the Definitive Solution is the result of interaction between both.

4. **External support predominant, combined with internal support (ESD).** Complex consultations are the basis for a Definitive Solution which is the result of external support.

5. **Simple External Support (ES).** Bilingual dictionaries are consulted and the solution provided is accepted. The Definitive Solution is the result of external support alone.
Types and sequences of actions

- **Experiment: Actions** (PACTE 2009)
  - **PS**: Provisional solution
  - **DS**: Definitive solution
  - **CON**: Consultation
  - **CON BL** (Bilingual Dictionaries): less cognitive implication
    - **CONBL-C**
    - **CONBL-NC**
  - **CON AL** (All Others): greater cognitive implication
  - **CON-0**: No consultation
How is the data represented?

Types and sequences of actions

• Experiment: sequences of actions (PACTE 2009)

1. **Internal Support (Simple Internal Support).** The Definitive Solution is based on Internal Support only: CON-0.

2. **Predominantly Internal Support.** The Definitive Solution is based essentially on Internal Support: any combination of consultations that does not contain CONBL-C.

3. **Predominantly External Support.** The Definitive Solution is based essentially on External Support: any combination of consultations that contains CONBL-C.

4. **External Support (Simple External Support).** The Definitive Solution is based exclusively on CONBL proposals that are accepted by the subject: only consultations CONBL-C.
How is the data represented?

Experiment: sequences of actions
How is the data represented?

- **Dynamic index:**
  - Static: linguistic and literal concepts
  - Dynamic: textual, communicative and functional concepts

- **Coherence coefficient:**
  - This indicator measures the subject’s degree of coherence

- **The dynamic index and the coherence coefficient are used in two variables:**
  - Translation knowledge
  - Translation project
How is the data analysed?

Models of Analysis

– Example:
  • Knowledge of translation
How is the data analysed?

Knowledge of translation

Translation Knowledge Questionnaire Model of Analysis

Group 1

35 professional translators

Group 2

24 foreign language teachers (EOI)

Group 3

10 users of translations (Science professors)
How is the data analysed?

Knowledge of translation

- The translation knowledge questionnaire permits answers of the type:
  - I strongly disagree; I disagree; I agree; I strongly agree.
- To analyze the results of the experiment a fifth category was added, ‘missing’, and the numerical values of the answers were reclassified:
  - Missing = 0; I strongly disagree = 1; I disagree = 2; I agree = 3; I strongly agree = 4
- The dynamic index is calculated by using 5 ‘pairs’ of questions that reflect the static/dynamic contrast. If one of the items is ‘missing’, the other half of the pair is discarded.
### How is the data analysed?

**Knowledge of translation**

<table>
<thead>
<tr>
<th></th>
<th><strong>Dynamic questions</strong></th>
<th><strong>Static questions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>It is the client who decides how the translator has to translate a text.</td>
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</tr>
</tbody>
</table>
## DYNAMIC INDEX

### Categories of dynamism

<table>
<thead>
<tr>
<th>Reclassified answers</th>
<th>Values of scales</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dynamic; Static questions</strong></td>
<td><strong>Categories of dynamism/pair/subject:</strong></td>
</tr>
<tr>
<td>-1; -0.5; 0; 0.5; 1 points of dynamism</td>
<td></td>
</tr>
<tr>
<td>4; 4</td>
<td>0 points of dynamism</td>
</tr>
<tr>
<td>4; 3</td>
<td>0.5 points of dynamism</td>
</tr>
<tr>
<td>3; 4</td>
<td>1 points of dynamism</td>
</tr>
<tr>
<td>3; 3</td>
<td>- 0.5 points of dynamism</td>
</tr>
<tr>
<td>2; 2</td>
<td>- 1 points of dynamism</td>
</tr>
<tr>
<td>2; 1</td>
<td>1 points of dynamism</td>
</tr>
<tr>
<td>1; 2</td>
<td>- 0.5 points of dynamism</td>
</tr>
<tr>
<td>1; 1</td>
<td>- 1 points of dynamism</td>
</tr>
</tbody>
</table>

### Knowledge of translation

How is the data analysed?
How is the data analysed?

Knowledge of translation

Evidence

The second “pair” of items (related to translation methods)

Dynamic item: “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.
How is the data analysed?
Knowledge of translation

Evidence
The second “pair” of items (related to translation methods)
Static item: “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.
Dynamic index: descriptive statistics

Shows differences between the three groups of subjects

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Max.</th>
<th>Min.</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translators</td>
<td>0.273</td>
<td>0.200</td>
<td>0.900</td>
<td>-0.200</td>
<td>0.204</td>
</tr>
<tr>
<td>Teachers</td>
<td>0.088</td>
<td>0.150</td>
<td>0.625</td>
<td>-0.400</td>
<td>0.261</td>
</tr>
<tr>
<td>Users</td>
<td>-0.200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How is the data analysed?

Knowledge of translation

Dynamic index: contrastive statistics

<table>
<thead>
<tr>
<th>Dynamic Index per subject</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U-test</td>
<td>259.500</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>559.500</td>
</tr>
<tr>
<td>Z-test</td>
<td>-2.511</td>
</tr>
<tr>
<td>Significance</td>
<td>.012</td>
</tr>
</tbody>
</table>

CONCLUSION
The dynamic index of the translators is significantly higher than that of the teachers (at the significance level 5%).
How is the data analysed?
Knowledge of translation

## Coherence coefficient

<table>
<thead>
<tr>
<th>Reclassified replies: Dynamic - Static questions</th>
<th>Categories of concept of translation /pair/subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 – 4</td>
<td>Dynamic – Static (D – S)</td>
</tr>
<tr>
<td>4 – 3</td>
<td></td>
</tr>
<tr>
<td>3 – 4</td>
<td></td>
</tr>
<tr>
<td>3 – 3</td>
<td></td>
</tr>
<tr>
<td>2 – 2</td>
<td></td>
</tr>
<tr>
<td>2 – 1</td>
<td></td>
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<tr>
<td>1 – 2</td>
<td></td>
</tr>
<tr>
<td>1 – 1</td>
<td></td>
</tr>
<tr>
<td>4 – 2</td>
<td>Dynamic (D)</td>
</tr>
<tr>
<td>3 – 2</td>
<td></td>
</tr>
<tr>
<td>4 – 1</td>
<td></td>
</tr>
<tr>
<td>3 – 1</td>
<td></td>
</tr>
<tr>
<td>2 – 4</td>
<td>Static (S)</td>
</tr>
<tr>
<td>2 – 3</td>
<td></td>
</tr>
<tr>
<td>1 – 4</td>
<td></td>
</tr>
<tr>
<td>1 – 3</td>
<td></td>
</tr>
</tbody>
</table>
How is the data analysed?

Knowledge of translation

Categories of coherence

• Sum the categories D and S of the concept of translation /pair/subject. Calculate the coherence coefficient from the difference between the majority and minority concept (We are not interested in whether it’s dynamic or static, only if it’s coherent) following the formula:

\[
D < S \rightarrow \sum S - \sum D \quad \text{i.e.: } |\text{suma}_S - \text{suma}_D| \\
S < D \rightarrow \sum D - \sum S
\]

• the coherence coefficient is defined with 3 categories:

  - SUMA 0 – 1: 0 points; no coherence
  - SUMA 2 – 3: ½ point; average coherence
  - SUMA 4 – 5: 1 point; maximum coherence
Coherence coefficient: Comparing the groups

C-square test

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Degrees of freedom</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson C-square</td>
<td>3.028</td>
<td>2</td>
<td>.220</td>
</tr>
<tr>
<td>Likelihood</td>
<td>4.459</td>
<td>2</td>
<td>.108</td>
</tr>
<tr>
<td>Number of valid cases</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Confirms new hypothesis:
There is no significant difference in coherence between the groups of translators and teachers, but the users are different.
Methodological commentary

• The instrument and the methodology (indicators) were validated within the experiment, therefore:
  – Experimental economy
  – Results less likely to be distorted

• The dynamic index and the coherence coefficient are not only useful to measure Knowledge of Translation, but also the Translation Project
How is the data analysed?

- Crossing data:
  - Contrasting translators and teachers
  - Contrasting direct and inverse translation
  - Integrating acceptability indicator
  - Contrasting different variables
  - Contrasting global translation projects with ‘rich points’
  - Contrasting the ‘best’ and the ‘worst’ subjects
V. DESIGNING THE PACTE ACQUISITION OF TRANSLATION COMPETENCE EXPERIMENT
• What type of study?
• Who is observed?
• What is observed?
• How is the data collected?
• How is the data represented?
• How is the data analysed?
• A longitudinal study with repeated measurements?
  – Repeated measurements taken from one sample of students over 5 years
    • Technical problems
      – 5 years needed to collect the data
      – Parallel instruments needed for each measurement (texts, questionnaires, etc.)

• A simulacrum of a longitudinal study.
  – ‘Repeated’ measurements from samples of students taken from each promotion
    • Advantages
      – Data collected in one year
      – Validated instruments available from the TC experiment
    • Technical problem
      – Assure comparability of promotions
Type of study

Fourth year students
(end academic year = “6th year students”)

Fourth year students
(start academic year)

Third year students

Second year students

Novices

test 1 (Sept.)

pedagogical intervention
test 2 (Sept.)

pedagogical intervention
test 3 (Sept.)

pedagogical intervention
test 4 (Sept.)

pedagogical intervention
test 5 (June)

ATC

Professional translators

---
• To prepare the ACT experiment and validate the new instruments:
  – Exploratory test (15 students)
  – Pilot test (15 students)
Who is observed?

• **Experimental universe**
  – 150 students from different years of the FTI/UAB *undergraduate* degree in translation and interpreting
  – 6 Language combinations (= TC experiment)

• **How is the sample selected?**
  – Initial questionnaire to act as filter
    • (e.g. to have passed all the subjects in the previous year, to be a Spanish or Catalan NS, not to have transferred from another degree programme)
  – Students that have passed the filter
  – Random selection of 5 from each year

• **Control group**
  – The 35 professional translators from the TC experiment
What is observed?

- Independent variables
  - Experience in translation (six categories):
    - Novices
    - Second year students
    - Third year students
    - Fourth year students
    - Recent graduates
    - Professional translators
  - Types of pedagogical intervention:
What is observed?

• Dependent variables = TC experiment
  – Knowledge of translation
  – Efficacy of the process
  – Decision-making
  – Translation project
  – Problem-solving
  – Use of instrumental resources
How is the data collected?

- Instruments validated in the TC experiment
  - **Observation instruments:**
    - **Software:** Proxy and Camtasia
  - **Questionnaires:**
    - Translation problems questionnaires (BA and AB)
    - Knowledge of translation questionnaire
  - **Texts:**
    - ‘Rich points’
    - Criteria for acceptability, semi acceptability and unacceptability of solutions

- New instruments for the ATC experiment
  - **Questionnaires:**
    - Initial questionnaire
    - Standardised retrospective interview
  - **Corpus software:**
    - WordSmith Tools
How is the data represented?

- Indicators validated in the TC experiment
  - The transversal indicator of acceptability
  - Types of actions
  - Sequences of actions
  - Index of dynamism
  - Coefficient of coherence, etc.

- New indicators for the ATC experiment
  - Indicators based on corpus methodology to compare
    - ST and TT
    - TT from different language combinations
    - TT from students at different levels
    - TT by students and professional translators
How is the data analysed?

- Models of analysis validated in the TC experiment:
  - Efficacy of the process: total time taken and acceptability (division of the sample)
  - Knowledge of translation
  - Translation project, etc.

- New models of analysis for the ATC experiment:
  - Corpus methodology models of analysis
Áreas de la Ciencia (Aristóteles)

Sócrates  Platón

Gramática

Retórica  Dialéctica

Traductología

Astronomía  Geometría

Aritmética  Música

THE END

PACTE