First International Conference on Research in Multilingualism: Innovation and New Challenges
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Google Translate and DeepL: Breaking Taboos in Translator Training

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Google Translate and DeepL: Breaking Taboos in Translator Training

1. Motivation
2. Theoretical Framework of Machine Translation (MT)
3. Goals and Methodology
4. Discussion of Results
5. Conclusions and Future Prospects
To use or not to use MT in translator training?

Role of machine translation (MT): What has changed?

Research focus:
  - Potential and limits of MT and students' handling
  - Didactic use
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Theoretical Framework of MT

RBMT: Rule Based Machine Translation

(PB)SMT: (Phrase Based) Statistical Machine Translation

EBMT: Example Based Machine Translation

NMT: Neural Machine Translation
Potential and limits of MT and students` handling for post-editing:

- Identify errors
- Classify error tendencies

Didactic use:

- Knowledge about grammatical features to be emphasized
- Improve metacognitive competence
Post-editing:
Defined by ISO 18587:2017 as to “edit and correct machine translation output”.

Here:
“Light post-editing”: to correct only as far as “to obtain a merely comprehensible text without any attempt to produce a product comparable to a product obtained by human translation”.

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Goals and Methodology

Error categories:

- Pragmatics
- Grammar
- Lexicon/ terminology
- Equivalence
- Spelling
- Style
- Culture
Observational study:

- with 32 – 35 students from the 4th year of Translation Studies (German as a second language after approximately 225 hours)
- MT translation of five texts (126 - 313 words) from the financial section of a non-specialized publication from Spanish into German + light post-editing
- MT tool: *Google Translate* and *DeepL*
Goals and Methodology

- 45 – 90 minutes for MT + light post-editing
- access to online and paperback resources
- use of own translations, previously corrected in class
## Goals and Methodology

<table>
<thead>
<tr>
<th>Google T.</th>
<th>Error Category (Number and Percentage)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>DESEMPLEADOS 52+ (Google Translate)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prag</td>
<td>Gr</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>12,5 %</td>
<td>30,36 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DeepL</th>
<th>Error Category (Number and Percentage)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>DESEMPLEADOS + 52 AÑOS (DeepL)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prag</td>
<td>Gr</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>13,04 %</td>
<td>34,78 %</td>
</tr>
</tbody>
</table>
• Google Translate performance is below that of DeepL
Discussion of Results

‘Desempleados 52+’: Error Categories
### Discussion of Results

<table>
<thead>
<tr>
<th>DeepL</th>
<th>Error Category (Number and Percentage)</th>
<th>DESEMPLEADOS + 52 AÑOS (DeepL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prag</td>
<td>Gr</td>
<td>Equ</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>13,04 %</td>
<td>34,78 %</td>
<td>17,39 %</td>
</tr>
<tr>
<td>Spell</td>
<td>Lex/ Term</td>
<td>Sty</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>30,43 %</td>
</tr>
<tr>
<td>4,35 %</td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

### Error Category (Number and Percentage)

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Error Category (Number and Percentage)</th>
<th>DESEMPLEADOS + 52 AÑOS (Estudiantes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Prag</td>
<td>Gr</td>
</tr>
<tr>
<td></td>
<td>Equ</td>
<td>Spell</td>
</tr>
<tr>
<td></td>
<td>Lex/ Term</td>
<td>Sty</td>
</tr>
<tr>
<td></td>
<td>Cult</td>
<td>Error rate</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>794</td>
</tr>
</tbody>
</table>

| Media of Errors   |                                        |                                    |
‘Desempleados 52+’ Students’ error distribution within the group

Discussion of Results
Discussion of Results

Distribution of grammatical errors in terms of error frequency:

DeepL

- Gender: 13%
- (Un)determiner articles: 13%
- Syntax: 13%
- Inflection: 13%
- Time Use: 25%
- Prepositions: 25%

Students

- Syntax: 26%
- Inflection: 22%
- Prepositions: 15%
- Pronouns: 10%
- Conjunctions: 10%
- Subjunctive: 7%
- Passive Voice: 5%
- (Un)determiner articles: 2%
- Gender: 2%
- Subject Omission: 1%
- Time Use: 1%
- Conjugation: 0.4%
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Discussion of Results

Distribution of grammatical errors in terms of error category:

DeepL:
- Time Use: 25%
- Syntax: 13%
- Inflection: 13%
- Gender: 13%
- Prepositions: 25%
- (Un)determin. art.: 13%

Students:
- Subject Omission
- Subjunctive
- Time Use
- (Un)determin. art.
- Passive Voice
- Conjunctions
- Pronouns
- Gender
- Conjugation
- Punctuation
- Prepositions
- Inflection
- Syntax
- Punctuations
- Conjunctions
- Pronouns
- Gender
- Conjugation
- Punctuation
- Prepositions
- Inflection
- Syntax

In DeepL, Time Use errors are the most frequent (25%), followed by Prepositions (25%), Syntax (13%), and Inflection (13%). For Students, Subject Omission and Time Use are prominent categories, each accounting for significant percentages.
‘Inflación subyacente’: Error Categories
### Discussion of Results

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<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16,7 %</td>
<td>33,4 %</td>
<td></td>
<td></td>
<td>33,4 %</td>
<td>16,7 %</td>
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<td></td>
</tr>
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<th>Cult</th>
<th>Error rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>136</td>
<td>7</td>
<td>25</td>
<td>58</td>
<td>56</td>
<td>0</td>
<td></td>
<td>282</td>
</tr>
<tr>
<td>48,2 %</td>
<td>2,5 %</td>
<td>8,9 %</td>
<td>20,6 %</td>
<td>19,9 %</td>
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</tbody>
</table>
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Discussion of Results

Distribution of grammatical errors in terms of error frequency:

DeepL

- Prepositions: 50%
- (Un)determiner articles: 25%
- Conjunctions: 25%

Students

- Syntax: 35%
- Inflection: 22%
- Prepositions: 11%
- Conjunctions: 10%
- (Un)determiner articles: 7%
- Pronouns: 6%
- Subject Omission: 4%
- Gender: 3%
- Punctuation: 2%
- Time Use: 1%
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Discussion of Results

Distribution of grammatical errors in terms of error category:

DeepL

- Prepositions
- Conjunctions
- (Un)determin. articles

Students

- Syntax
- Inflection
- Conjunctions
- Pronouns
- Subject Omission
- Prepositions
- (Un)determin. articles
- Punctuation
- Gender
- Time Use
- Passive Voice
Conclusions and Future Prospects

- Post-editing machine translated texts can be useful if
  - target language is mastered
  - the quality of NMT-System is acceptable
MT allows to detect which grammatical aspect needs to be deepened => didactic use

The error tendencies we found in our research in 2006 were confirmed.

Students must learn about possibilities and limits of MT, and how they work.

Context is crucial for correct translation, and this is currently not being considered in MT.
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Conclusions and Future Prospects

• Professional translator profile is changing: Syllabus in translator training at universities should include more MT and PE
Future Prospects

- Studies on comparing translation quality of same target texts with and without MT
- MT into the mother language
- Examples of how MT can be used to promote metacognition among translation trainees and to strengthen their grammar skills
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