

**Measuring Translation Error in PISA-2006
Translated Items: Theoretical Foundations and
Empirical Evidence in Support of a
Multidimensional, Multidisciplinary Test
Translation Review¹**

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Basic premise

In order to improve the quality of test translations, we should be able to measure test translation quality.

The Carpenter item

Original English:

A carpenter has 32 metres of timber and wants to make a border around a garden bed. He is considering the following designs for the garden bed.

Meaning in the Spanish translation:

A carpenter has the timber he needs to make a border 32 metres long around a garden. He is considering the following designs for that garden.

(Un carpintero tiene la madera necesaria para hacer una cerca de 32 metros de largo y quiere colocarla alrededor de un jardín. Está considerando los siguientes diseños para ese jardín.)


Theory of test translation error

- Languages encode meaning in different ways.
- Translation error is inevitable: Preserving content, linguistic, and cognitive demands of items across languages is impossible.
- High quality translation can minimize translation error, not eliminate it.
- Translation error does not necessarily mean fatal error.
- Translation error is multidimensional.
 - *The panda eats shoots and leaves*
 - *The panda eats, shoots, and leaves*
- How acceptable or objectionable translated items are is determined by the frequency and

Translation error and the acceptability of translated items

	Severity	
Frequency	Low	High
Low	Acceptable	Questionable
High	Questionable	Objectionable

Most likely to negatively affect student performance



Translation error dimensions with examples

Design

Style. *Punctuation errors; subject-verb inconsistency.*

Format. *Changes in the size of tables; omission of graphic components.*

Conventions. *Grammatical inconsistency between stem and options or among options (MC items).*

Language

Grammar. *Literal translation; unnatural syntactical structure.*

Semantics. *Use of false cognates; inappropriate translation of idiomatic expressions.*

Register. *Technical terms translated correctly but in a way that is not common in the schools or textbooks in the country.*

Content

Information. *Inconsistent translation of a term that appears several times in the original; key terms appear fewer times in the translation than in the original.*

Construct. *Inaccurate translation of technical terms; insertion of technical terms.*

Culture. *Limited consistency of the contextual information used in the item with the characteristics of the culture in the target country.*

Origin. *More than one correct option (MC items); none of the options is entirely correct.*

Methods

- **Interdisciplinary translation review panel:**

Curriculum experts, content area experts, science and mathematics teachers, linguist, English-into-Spanish certified professional translator, English-into-French certified professional translator, psychometrician

- **193 analytical units examined:**

55 introductory texts; 138 items

- **Measures:**

- Number of different translation error dimensions (DED) observed
- Item difficulty (p -value)

Results

- 26 out of the 138 analytical units were identified by the committee as objectionable.
- A moderate but statistically significant correlation between DED and p -value ($r=-.387$) was observed when the dimensions included are Grammar, Semantics, Register, Information, Construct, and Culture.

Implications

- The theory allows to develop effective judgmental review procedures for operationalizing test translation guidelines.
- Judgmental review procedures based on the theory have a great potential as formative evaluation tools
 - during the process of test translation
 - for assessing and selecting test translators

Thanks!

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