

AN EXPLORATORY STUDY ON THE USE OF CONCEPT MAPS FOR SCIENTIFIC TRANSLATION LEARNING IN THE LANGUAGE PAIR ENGLISH-BRAZILIAN PORTUGUESE

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Abstract: This paper aims to discuss about the theme of translation of specialized languages for prospective English teachers, theoretically founded in the areas of Concept Mapping, Pedagogical Translation, Assimilation Theory and Translation Studies. This integration is imperative since there is a lack of autonomous disciplines whose subject matter is translation in the English teaching course curriculum and there are a few university courses in Translation in Brazil. In order to illustrate how to integrate both fields, a specific data collection methodology was conducted, which assumed that the concept map is an efficient teaching strategy. The data collection methodology was tested in four pilot studies, composed of different groups of students, invited to translate English scientific texts into Brazilian Portuguese. The pedagogical resources used such as the concept map showed to be beneficial, as they improved students' translated texts and collaborated, inclusive, with their own learning of English. The analysis of the translated texts revealed a positive change in their productions and showed that a qualified familiarization about translation is possible, leading them towards some depth of expertise.

Keywords: Concept Map, Translation, Specialized language, Micro textual Aspects, Risk Criteria.

1 General aspects of this research

This paper deals with the qualitative inclusion of the translation of specialized languages as a subject in the English teaching degree curriculum, illustrated by a specific data collection methodology, which took place in the School of Letters at the Pontifical Catholic University of Rio Grande do Sul (PUCRS), Brazil. The development of the specific methodology used was based on the areas of Concept Mapping (NOVAK, 2010; NOVAK & CAÑAS, 2008), Pedagogical Translation (HURTADO-ALBIR, 2005), Translation Studies (COSTA, 2005, PYM, 2008), Assimilation Theory (AUSUBEL, 2000) and Languages for Specific Purposes (CABRÉ, 1999). Both the theoretical and applied foundations of these areas provided us with some of the most relevant aspects for our research, as follows:

- The importance of being familiar *a priori* with the topic that would be translated, from simple concepts to the specific and more complex ones;
- The nature and role of concept maps (hereafter CMap and/or CMaps) when it comes to understanding the subject field to be translated, and in the reading comprehension of texts related to it.
- The constant incorporation of formative assessment tasks for the student (learning to measure their own possibilities) and the teacher (who can evaluate teaching and then modify it).

Hence, we aimed to uphold the validity of the topic of translation in teacher training in accordance with a set of strategies previously tested in pilot studies (hereafter PS) named PS Zero, PS One, PS Two and PS Three. These studies included the qualitative observation of the relevance of CMaps' use to enhance the performance of students when it came to the acquisition of English as a Foreign Language (EFL) and of the practice of translation.

These PS were composed of groups of students with pre-intermediate to intermediate proficiency level in English who were invited to translate English scientific texts about the Bipolar Disorder (hereafter BD) into Brazilian Portuguese. Their translations were accomplished with and without pedagogical-instrumental resources (conceptual maps)¹ and were compared to the translations of two professionals: a translator and a psychiatrist².

¹ Due to space constraints, we had to cut the examples which showed the concept maps made by the students. To access them, please go to <http://www.lume.ufrgs.br/handle/10183/56030>.

² Cristina Heuser and Dr. Carmen Vernetti, respectively.

Based on the belief that it is advantageous to include the topic of translation in English teaching training, and considering that translators and teachers need to develop distinct competencies, we based our research on the following questions:

- Did the methodology of data collection, presented during the pilot studies, positively modify the translations made by the respondent students?
- Can Concept Maps, constructed in a given source language, be a useful teaching tool to facilitate the pragmatic understanding of conceptual nodes of specialized texts, and, thereby, assist in building a viable target text?

2 Brief description of PS Two and PS Three

2.1 Introduction

Our object of study consisted of the translations of scientific texts on BD in the language pair English-Brazilian Portuguese, whose analysis took into account lexical, syntactic and pragmatic aspects concerning a micro textual perspective, and cohesion and consistency aspects regarding a macro textual perspective.

As for the first perspective, PS Zero (the first pilot-study conducted) showed an accumulation of problems related to nominal, verbal and adjectival collocations at lexical and grammatical levels. Based on this fact, we have come to the decision of investigating how these structures were presented in the specialized language of BD and how the respondents in the other three pilot studies (One, Two and Three) would reproduce them in Brazilian Portuguese.

Regarding the macro textual aspect, we sought to learn if the inadequacy in the equivalence of collocations would either have had negative influences on the establishment of cohesive relations in the translated texts or not. The results showed that the group who construct the maps produced translated texts (hereafter TTs) more natural and closer to the professional ones.

2.1.1 Pilot Study Two

This was the third stage of the data collection and analysis while still focusing on the validation of the CMap as a pedagogical resource for translation. This pilot study consisted of a series of procedures which provided the undergraduates – a total of six - with an autonomous contact through a series of tasks of reading and translation with graded levels of difficulty. The tasks included the familiarization with the thematic area (BD) and with the Cmaps as well as with the translation of a 139-word abstract on this topic entitled *The multidisciplinary team approach to the treatment of bipolar disorder: an overview* taken from the Psychiatry Brazilian Journal (2004).

We divided the group into two: the students who would use (and construct) maps for their translation activities – the With Map or WP group – and the students who would not use this resource – the No Map or NM group. The WM group constructed their maps based on the material about the BD (first, given in Brazilian Portuguese to make them familiarize with the terminology of the area in their native language) and about concept maps *per se*. The maps were reviewed and evaluated by the psychiatrist who suggested the modifications to be made.

Regarding demographic characteristics of the students, there were four female and two male, all of them were majoring in English Teaching (6th or 7th semesters), and except for one, the other five did not have any experience in translation.

As for the data analysis, we adapted Pym's *risk criteria* (2010) into a simpler categorization, which took into account learners' profiles, as follows:

- Equivalence: a problem in lexical matching at the level of the word or term (there are many definitions and opinions about the status of a *term*. Our purpose is not to conceptualize or limit it: we use the word *term*, however, only to refer to a word that is in specialized discourse and used by professionals in a particular subject area (not ruling out the possibility of also being used among nonprofessionals).
- Word class: a problem in identifying the grammatical category of the word;
- Word order: a problem in identifying the nucleus and its determiners (word arrangement).

Regarding the data results, both groups had similar performance and produced good translated texts, considering the number of micro textual problems identified (WM = 17; NM = 19), and the number of problems in each category (lexical equivalence, word class and word order). Although micro textual problems were produced by both groups, it seemed that the TTs of the WM group were more natural and closer to the psychiatrist's TTs, where translational solutions were more like "the way they are used" by the medical community (avoiding unnecessary words, using cognates instead of opting by synonyms, clearing out unnecessary repetitions, to name a few).

2.2 Pilot Study Three

This section describes the fourth and final stage of the data collection and analysis processes, which sought to extend our hypothesis about the CMaps as a useful teaching tool to increase translation competence in specialized languages. In the previous pilot studies, strategies and resources presented in our pedagogical proposal helped the two groups (WM and NM) in the qualification of their TTs. We wished, therefore, to obtain a larger number of investigative subsidies through the translation of a full article on BD (*Occupational status and social adjustment six months after hospitalization early in the course of bipolar disorder: a prospective study*), a 4,621-word text electronically published in 2010 by the *Bipolar Disorder Journal*. The methodology used for data collection consisted of similar steps as PS Two. Concerning data analysis, the only difference was the insertion of risks (low, medium, high) under Pym's *risk criteria*. We proposed a criteria adaptation based on Delgado's work (2012): a) Lexical equivalence of the word: *low risk*; b) Word class: *low risk*; c) Lexical equivalence of the term: *medium risk*; d) Word order: *medium risk*; e) Lexical equivalence of the term and word order: *high risk*.

It is important to highlight that we included the conceptual mapping in our familiarization methodology because it is also a risk managing resource: one who constructs a concept map can gradually improve it as new knowledge is grasped. Metaphorically speaking, this feature is the methodological backbone of our work: i) the construction of knowledge preceding the translation task, stemming from general concepts (with lower-density terminology) to specific concepts (with higher-density terminology); ii) gradual assimilation of contents; iii) learner autonomy for their learning; and iv) the possibility of revising and restructuring concepts that have been previously structured.

2.2.1 Data analysis

Our first intention was to find out whether this translation task of a complete scientific article showed problems similar to those presented by students in the previous steps, which consisted of the translations of parts of an article (the abstract and the introduction).

Observing the total number of problems encountered (regardless of the risk associated), we found that the WM group had a significantly lower number (22) as compared to the NM group (38), indicating a positive change in the TTs of the first group, regarding qualitative basis.

As for the similarity of the translation problem typology, we found that the concentration was in the lexical equivalence of the term³, differing from the previous pilot studies to some extent, in which most frequent problems occurred in the arrangement of the words in a collocation, but only occasionally in the terms.

With regard to the comparative data of this pilot study, we observed that the WM group had more risk-free segments⁴ (14) than the NM group (8): this also indicates a more positive change in the TTs of the first group.

We are aware, however, that, considering macro textual aspects, it is very important to understand the source text to produce an equivalent TT, as these aspects may include rhetorical patterns, for example, as well as the relationship of the text with the context. We could verify that the problems of micro textual order (lexical, grammatical) presented by the NM group (and less frequently by the WM group) have given rise to macro textual problems in some segments, and were less natural and less close to the psychiatrist's TTs. These problems were more perceived at the pragmatic level, resulting in inadequacies that do not mirror the language of the medical community, who takes the context of use into consideration.

³ We believe this happened because the source text in this PS presented even higher terminological density than in the previous ones.

⁴ Considering the suggestion of risk criteria presented in this study.

3 Final Remarks

In general, and taking into account the context of undergraduate students in Letters working on translation tasks, we can say that their TTs proved viable in most cases, especially in the last two experiments. The results of the data analysis provided us with affirmative answers to the research questions: “Did the methodology of data collection positively modify the translations made by the respondent students?” and “Can Concept Maps be a useful teaching tool to facilitate the pragmatic understanding of conceptual nodes of specialized texts, and, thereby, assist in building a viable target text?”. We verified that both the methodology of data collection (for both groups) gave a proper assistance to the respondents for carrying out the requested tasks. In addition, the inclusion of the concept map as a pedagogical resource of translation (for the WM group) helped the WM group produce TTs more natural and closer to the TT references.

We have shown, at least within the limits of this qualitative study, that there is the possibility for a prospective teacher of English to unite their teaching of the language with being a *possible* professional translator on the side, if properly qualified.

References

- Ausubel, D. P. (2000). *The Acquisition and Retention of Knowledge: A Cognitive View*. Kluwer Academic Publishers.
- Cabré, M. T. (1999c). *Terminología: Representación y Comunicación. Elementos para una Teoría de Base Comunicativa y otros Artículos*. Série Monografies, 3. Barcelona: Universitat Pompeu Fabra, Institut Universitari de Lingüística Aplicada.
- Cañas et al (2004). *The Theory underlying Concept Maps and how to construct them*. Disponível em: <http://cmap.ihmc.us>. Acesso em março de 2008.
- Costa, W. O. (2005). Texto Traduzido como Re-textualização. *Cadernos de Tradução*. Vol. 2, no. 16. Santa Catarina: UFSC.
- Delgado, H. O. K. (2012). *Proposta de um didática de tradução de linguagens especializadas para licenciandos em Letras*. Tese de Doutorado. Porto Alegre: UFRGS.
- Halimi, S. (2006). The Concept Map as a cognitive tool for specialized information recall. *Conference on Concept Mapping*. Costa Rica.
- Hurtado Albir. (2005). A Aquisição da Competência Tradutória. In: *Competência em Tradução*. Belo Horizonte: UFMG.
- Magalhães, C. (2009). Estratégias de análise microtextual. In: *Traduzir com autonomia: estratégias para o tradutor em formação*. Alves, F; Magalhães, C.; Pagano A. (Orgs.). São Paulo: Contexto.
- Novak, J. D.; Cañas, A. J. (2008). *The Theory underlying concept maps and how to construct and use them* (online). Florida: Institute for Human and Machine Cognition.
- Novak, J. D. (2010). *Learning, Creating and Using Knowledge: concept maps as facilitative tools in*
- Pym, A. (2008). Redefinindo competência tradutória em uma era eletrônica: em defesa de uma abordagem minimalista. *Cadernos de Tradução*. Santa Catarina: UFSC.