Project-Based Learning in the Languages for Specific Purposes Classroom

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Specialized communication skills, in combination with a multilingual professional competence, are crucial to address the demands of our today's complex reality. Over the last decades, institutions of higher education have more and more incorporated project-based learning (PBL) into their curricula, in a response to prepare students to new professional challenges and a wide range of employment opportunities. This paper presents a Project-based learning (PBL) approach by introducing Master's students of "Languages and Business Relations" at the University of Aveiro to two Translation Management Systems (TMS), i.e. memoQ and Memsource. Both TMSs allow students to explore a wide range of practical learning experiences, as they enable the creation of multilingual databases through term extraction, sentence alignment of bilingual corpora, the preparation of a project quote, among many other functionalities.

Keywords: project-based learning, higher education, Translation Management System (TMS), memoQ, Memsource

INTRODUCTION

This paper proposes a PBL approach by working with two Translation Management Systems, that is, Memsource and memoQ. Both TMSs provide an ideal platform for the adoption of innovative learning methodologies and are, therefore, incorporated into the subject "Applied Project German", which is part of the first year Master's course "Languages and Business Relations" at the University of Aveiro. We propose to explore how through PBL students can be familiarized with a multidisciplinary learning approach, enhancing their professional skills by offering them a set of practical and diversified exercises.

PROJECT-BASED LEARNING

There has been extensive research on the implementation of PBL in higher education and, although PBL is not new, it has been receiving more emphasis over the last years. This change is due to the fast transformation of today's labour market and a response to the effects of the "fourth industrial revolution", which "is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres" (Schwab, 2016). Such a whole-level transformation urges higher education institutions and industry to foster new perspectives and approaches towards collaboration and synergy. In recent years, due to the technological advancement, PBL has become a major methodology with an increasing presence in higher education curricula. As stated by Uden & Beaumont (2006, p. 26): "University education should, ideally, provide students with the necessary skills, values, and attitudes that are essential to cope with the dynamic complexities of the modern world. […] there is a lack of deep

learning about the complex issues and problems that graduates have to face in the real world". The term *PBL* centers on student-driven project work, which helps students to gain methodological competences in different areas, such as project management, teamwork and problem solving (Dahms, 2014). The teacher acts more as an advisor and guide, than a lecturer (Solomon, 2003). Bell (2010) underlines that PBL can be considered a key-strategy for deepening students' understanding of a topic and challenging them to solve advanced problems. Thus, PBL is herein used for a set of innovative teaching activities that focus on the implementation of project work in the classroom.

TRANSLATION MANAGEMENT SYSTEMS AND LANGUAGE LEARNING

In a previous classroom experience, students were challenged with small projects involving CAT technology (Herget 2020). By implementing CAT tool features in the language learning classroom, it was shown how students acquire transversal skills that allow them to adapt to ever-changing work requirements. The approach proposed in this study goes beyond the exploration of CAT tool features, it rather involves students in a more complex project management setting, allowing a collaborative translation workflow and real-time communication. TMSs combine several job profiles within the language industry, such as project managers, translators, localizers, DTPers, reviewers, etc. and offer an interesting methodology, familiarizing students with new job environments and providing them with a set of hands-on project management activities.

TMS – WHAT IS IT ABOUT?

A TMS combines several components, such as a Computer Assisted Translation tool (CAT), project management as well as workflow management. CAT tools, as an integral part of TMSs, include features, such as Translation Memory technology, database management and Machine Translation. In the specialized translation context, CAT tools are widely used, since they speed up the translation process and render it more efficient. As a means of example, the TM feature allows to recycle repetitive text patterns that are typical of specialized texts with domain-specific terminologies. Hereby, the source text is divided into smaller segments, which are individually displayed and provided with a previous translation during the translation process. TM systems are, thus, databases that store source segments with their translation equivalents for reuse. In combination with term recognition tools, alignment of corpora, autosuggest features, integrated termbases, project management, quality assurance, CAT tools are efficient and save the translator a lot of time. TMSs function as collaborative platforms, where translators, reviewers, project managers, localizers, etc. may all interact in different workflow stages. Since all users have access to the same platform, TMSs ensure consistency and quality control. They also facilitate communication among users and provide efficient content sharing.

THE CASE STUDY

The idea of implementing two Translation Management Systems in the Master's class and gaining practical experience with their different functionalities, arouse from the fact that TMSs are ideal platforms for collaborative learning, since they permit to carry out different workflow steps, involving several virtual project members. Another advantage of TMSs is that, although they are quite complex systems, they provide a very intuitive interface, which makes it easy for students without any prior knowledge of these tools, to use them. Since TMSs provide interesting and useful project management features for project work in the classroom, the idea was not to limit the PBL activities to the basic CAT tool features, but to expand the project work to the latest translation management technology, which, e.g., allows to create quotes for a translation job very quickly and allocate different resources within one project. In the following, we give a brief description of the PBL approach proposed for first year Master's students.

Students' Profile

The Master's students that attend the subject "German - Applied Project" at University of Aveiro come from two different Master programs, one being "Languages and Business Relations", the other being "Specialized Translation". Whereas in the past, this subject was exclusively assigned to students of "Languages and Business relations", a recent restructuring of the curriculum in the "Specialized Translation" course led to a merge of students from two different MA courses into the same subject. Based on this status quo, the creation and implementation of PBL activities turns out to be a real challenge for the teacher. The following proposed case study is based on the premise that a set of diversified project activities can meet different needs and abilities of students.

Project Management

First of all, students are introduced into the domain of project management and learn how to manage a project. As the importance of Project management skills is growing steadily, having a notion of creating a project workflow is crucial for today's work environment. Before PBL activities start, the teacher divides the class into two groups, one of which implements the TMS Memsource, and another one that works with memoQ. Since TMSs allow to implement a hierarchical workflow structure, such as translation, editing, proofreading, as well as to assign a specific person (e.g. linguist) for each step, students hereby learn to work in teams. When defining project resources and setting due dates for project activities, they get an insight into project management activities.

In a first step, they teacher hands out a project description to the students, in which, among others, the translation job is explained. The translation job consists in localising a Portuguese website (http://www.lactogal.pt/content.aspx?menuid=30) into German. Students are said to import the html file into memoQ or Memsource, respectively. They then have to dwell on the number of resources assigned to each step. Memsource allows to create 15 different workflow steps, which can be added to the default setting. A clear and concise definition of all the involved workflow steps is of utmost importance for the project's success. In this context, it would be interesting to add a term extraction phase at the beginning of the project preparation as well as a stage for corpus building, which can be assigned to some of the group members. One person may be in charge of the project management, whereas other group members work as linguists, reviewers or quality assurance managers.

FIGURE 1
DEFAULT WORKFLOW STEPS IN MEMSOURCE

On the basis of the imported file, students responsible for the translation work, then create an analysis report, which detects internal fuzzy matches from TM leverage and indicates the total word amount to be translated. Such analysis is fundamental for project planning (See Figure 2).

FIGURE 2
ANALYSIS REPORT IN MEMOQ

Statistics for file(s) [por-PT-ger-DE]Apresentação_Lactogal.html

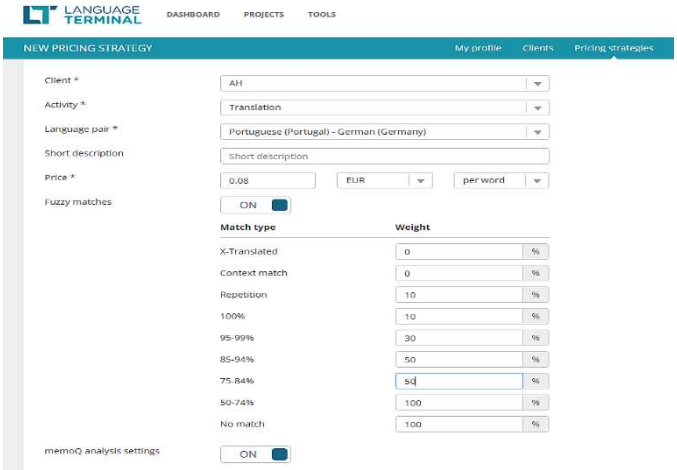
Analysis

Scope *"Apresentação_Lactogal.html" ("C:\Users\User\Documents\artigo\Apresentação_Lactogal.html")*
Resources *Every TM and corpus, Homogeneity*

Type	Segments	Source words	Source chars	Source tags	Percent
All	101	296	1742	115	100,00
X-translated / double context	0	0	0	0	0,00
Repetition	18	32	216	0	10,81
101%	2	1	8	3	0,34
100%	13	27	173	0	9,12
95%-99%	13	10	76	20	3,38
85%-94%	0	0	0	0	0,00
75%-84%	1	2	9	2	0,68
50%-74%	4	11	71	14	3,72
No match	50	213	1189	76	71,96

Once the analysis report has been created, students need to define a pricing strategy or a so called net rate scheme, which is used for calculating a quote. Whereas in Memsource the net rate scheme is part of the workflow management, students that work with memoQ have to access the Language Terminal, a platform for translation management, where they can manage quotes, share translation memories and databases, etc. (Figure 3). When setting a quote for the translation job, they are obliged to reflect on real market prices. This part is particularly interesting, since it means that they get a notion on how to calculate the cost of a specific workflow step (e.g. translation or revision) and learn to work with fuzzy match grids. Students are asked to dwell on discount rates for fuzzy word matches, with their attention being drawn to the fact that even lower fuzzies still require translation and revision. The calculated cost can then be mailed to the client and only after approval, the linguistic work starts. By writing formal emails to potential German clients, students learn to enhance their written communication skills, and also acquire an intercultural competence in the field of business communication.

FIGURE 3
CREATING A PRICING STRATEGY IN MEMOQ'S LANGUAGE TERMINAL

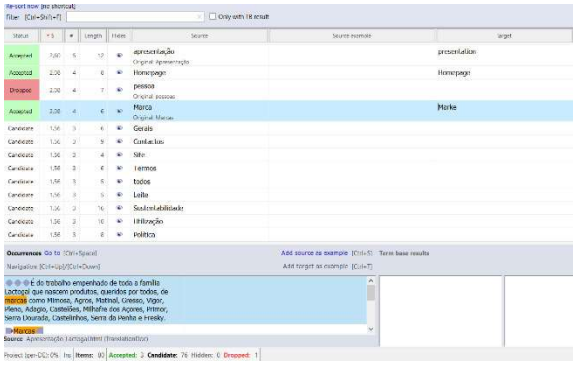


Information Retrieval

In times of datafication, in which all kind of data is computerized, the web turns out to be a primary and important source for terminology extraction and corpus building. There is a huge amount of bilingual and multilingual text corpora freely accessible on the web that can be very useful for language learning. Specialized text corpora play an important role in the teaching of languages for specific purposes, since they provide terminological knowledge in a specific domain and a better conceptual understanding of a

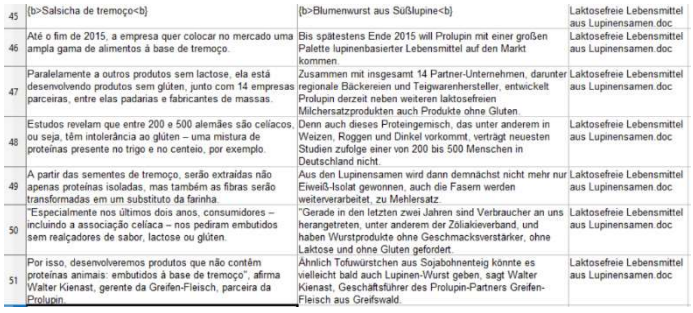
given area of study. Before the actual translation job starts, students in charge of terminology preparation are asked to retrieve useful data and import selected term candidates into the project's termbase. Both TMSs provide a term extraction feature, where term candidates can easily be analysed and validated. The extraction phase is of particular interest in the context of language learning, as it makes students dwell on terminological issues. Through term extraction they learn to determine term candidates and eliminate such lexical units that are deemed to be of no interest for termbase import.

FIGURE 4
TERM EXTRACTION IN MEMOQ



Another interesting feature that may be explored in PBL activities is the corpus building through the alignment feature, since it allows the creation of bilingual (or multilingual) text corpora that are stored in a project TM. At the beginning of the alignment task, students are provided with a bilingual text in German and Portuguese from the area of Life Sciences. They are then introduced into the work with the alignment function, which automatically aligns corresponding text segments. Once all segments are aligned, they are imported into the TM, where they are stored as a bilingual translation unit for reuse of translation.

FIGURE 5
ALIGNMENT IN MEMSOURCE



45	{b>Salsicha de tremoço<b}	{b>Blumenwurst aus Süßlupine<b}	Laktosefreie Lebensmittel aus Lupinensamen.doc
46	Até o fim de 2015, a empresa quer colocar no mercado uma ampla gama de alimentos à base de tremoço.	Bis spätestens Ende 2015 will Prolupin mit einer großen Palette lupinenbasierter Lebensmittel auf den Markt kommen.	Laktosefreie Lebensmittel aus Lupinensamen.doc
47	Paralelamente a outros produtos sem lactose, ela está desenvolvendo produtos sem glúten, junto com 14 empresas parceiras, entre elas padarias e fabricantes de massas.	Zusammen mit insgesamt 14 Partner-Unternehmen, darunter regionale Bäckereien und Teigwarenhersteller, entwickelt Prolupin derzeit neben weiteren laktosefreien Milchersatzprodukten auch Produkte ohne Gluten.	Laktosefreie Lebensmittel aus Lupinensamen.doc
48	Estudos revelam que entre 200 e 500 alemães são celíacos, ou seja, têm intolerância ao glúten – uma mistura de proteínas presente no trigo e no centeio, por exemplo.	Denn auch dieses Proteingemisch, das unter anderem in Weizen, Roggen und Dinkel vorkommt, verträgt neuesten Studien zufolge einer von 200 bis 500 Menschen in Deutschland nicht.	Laktosefreie Lebensmittel aus Lupinensamen.doc
49	A partir das sementes de tremoço, serão extraídas não apenas proteínas isoladas, mas também as fibras serão transformadas em um substituto da farinha.	Aus den Lupinensamen wird dann demnächst nicht mehr nur Eiweiß-Isolat gewonnen, auch die Fasern werden weiterverarbeitet, zu Mehlersatz.	Laktosefreie Lebensmittel aus Lupinensamen.doc
50	"Especialmente nos últimos dois anos, consumidores – incluindo a associação celíaca – nos pediram embutidos sem realçadores de sabor, lactose ou glúten.	"Gerade in den letzten zwei Jahren sind Verbraucher an uns herangetreten, unter anderem der Zöliakieverband, und haben Wurstprodukte ohne Geschmacksverstärker, ohne Laktose und ohne Gluten gefordert.	Laktosefreie Lebensmittel aus Lupinensamen.doc
51	Por isso, desenvolveremos produtos que não contêm proteínas animais: embutidos à base de tremoço", afirma Walter Kienast, gerente da Greifen-Fleisch, parceira da Prolupin.	Ähnlich Tofuwürstchen aus Sojabohnenteig könnte es vielleicht bald auch Lupinen-Wurst geben, sagt Walter Kienast, Geschäftsführer des Prolupin-Partners Greifen-Fleisch aus Greifswald.	Laktosefreie Lebensmittel aus Lupinensamen.doc

The students responsible for the linguistic part, then start to translate the document by the help of the project's translation memory and termbase. During the translation process, they learn that similiar segments from the TM are automatically recognised and can easily be inserted into the target text. They can also select domain-specific terms and add them to the project's termbase, which helps to build consistent terminology.

Quality Assurance – Improving Linguistic Skills

Once the document is translated, students are introduced to the basic features of the Quality Assurance (QA) process. Both TMSs provide QA checks, by which translation errors and terminological

inconsistencies in source and target segments, wrong formatting as well as missing tags are detected. Thus, the QA feature provides learners of a foreign language with a whole set of attributes that contribute to the improving of text production quality, and also increases students' awareness towards the importance of reviewing and proofreading in today's professional environment.

CONCLUSIONS

This paper explored the implementation of two TMSs into the language classroom and aimed at identifying specific project activities that can be carried out to foster foreign language learning in the LSP classroom. The described PBL methodology is meant to add value to language learning and better prepare students for professional practice. Both Memsource and memoQ provide a whole set of interesting features that can be explored by the help of problem-solving and collaborative strategies in real-world scenarios, providing students with knowledge in a different area of study and promoting the creation of transversal competences. Both TMSs provide an ideal work environment for practical project management activities, since all project's stakeholders have the possibility to interact during a project life cycle. The performance of project management activities gives students the opportunity to gain work experience by carrying out a set of hands-on exercises. The described classroom activity aims at familiarizing students with TMSs and provides them with a basic understanding of a translation project's workflow. Given the importance of adopting PBL methodologies in higher education settings, the exploration on how TMSs can be used in the language classroom to raise students' linguistic proficiency, constitutes an interesting research question.

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