Thematic analysis of technological contents in Translation and Interpreting degrees in Spain

Análisis temático de contenidos tecnológicos en los grados de Traducción e Interpretación en España

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Abstract

This paper describes a case of the practical application of thematic analysis to organise and interpret qualitative data on the presence of technological contents in the field of translator training in Spain. Thematic analysis allowed us to identify and interpret key ideas (themes) within the data sample obtained from a corpus of module syllabi from undergraduate degrees in Translation and Interpreting (T&I) in 2019-2020. This paper presents the study from a purely methodological perspective. It explains in detail the different phases of thematic analysis according to the model proposed by Braun and Clarke (2006), together with the decisions taken in each phase. This is part of a broader research project that aims to map the current situation of technologies in the academic field (undergraduate degrees in T&I) and in the professional market of translation in Spain, when digitisation is directly impacting the demands of the translation industry.

Keywords: Thematic analysis; Translation technologies; Translation and Interpreting undergraduate degrees

Resumen

Este artículo describe un caso de aplicación práctica del análisis temático de los datos como medio para organizar e interpretar datos cualitativos sobre la presencia de contenidos tecnológicos en la formación de traductores y traductoras en España. El análisis temático nos ha permitido identificar e interpretar ideas clave (temas) entre la muestra de datos, obtenida a partir de la explotación de un corpus de guías docentes de asignaturas de los grados de Traducción e Interpretación (TeI) para el curso 2019-2020. En este artículo se presenta dicho estudio desde un punto de vista puramente metodológico, explicando en detalle las fases del análisis temático según el modelo propuesto por Braun y Clarke (2006), así como las decisiones que se han tomado en cada una de ellas. Forma parte de una investigación más amplia con la que se pretende cartografiar la situación actual de las tecnologías en el ámbito académico (grados de TeI) y en el sector profesional de la traducción en España, en un momento en el que la digitalización está impactando de forma directa sobre los perfiles profesionales que demanda el mercado.

Palabras clave: Análisis temático; Tecnologías de la traducción; Grados de Traducción e Interpretación

INTRODUCTION AND METHODOLOGICAL CONTEXT

Our current era, characterised, among other things, by globalisation, automation, immediacy, technological ubiquity, and the omnipresence of English as a lingua franca, has seen radical changes in the language industry, especially in recent years. When technologies first appeared in humanities and social sciences, they were the cause of major disruption. As a result, we have witnessed an evident change in our methods of reading, searching for and storing information, researching, teaching, producing, and publishing our work (López Poza, 2019, p. 127). Under the umbrella term of 'digital humanities', researchers and trainers worldwide already structure and complement their discourse and practices around different questions related to using (new) computing tools and research methodologies (Drucker, 2021).

Digital culture is a pervasive reality. The language industry in general and the translation market in particular demand professionals that belong to the more technological sectors in the field, with skills that have evolved significantly in recent years. From the beginning of the technologisation process in language teaching and learning, and in translation, the evolution of technologies —despite their evident and time-tested benefits— has always been the cause behind all kinds of mixed feelings: fear of the unknown, fascination or suspicion, with a clear predominance of negative perceptions (Pérez-Macías, 2019). However, technologies have proved to be an ally in many fields, both from the perspective of professionals and end clients, and also concerning the training process (Alcina Caudet, 2008).

The latest guidelines published in 2004 by ANECA, the National Agency for Quality Assessment and Accreditation of Spain on the development of the undergraduate degree curricula[1] for T&I in Spain (*Libro Blanco: título de grado en traducción e interpretación* [White Book of the Bachelor Degree in Translation and Interpreting]) established, among other aspects, a series of minimum technological competencies that must be included in the curriculum. Since then, no further official recommendations have been published to establish a minimal set of technological contents to keep up with the unstoppable advance of technologies in all the productive sectors. Despite this lack of official guidelines, the development of technological content seems to have been acknowledged, albeit only in part, in the different modifications of the curricula of the T&I undergraduate degrees that have

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[1] In the context of this chapter, "curricula" means the entire study programmes of T&I (known in Spanish as "plan de estudios"), which may vary by university (*cf*. Sánchez-Castany, 2022, p. 30 for a more detailed list of terminology equivalences between Spanish and English university education systems).

been introduced in Spain (Sánchez-Castany, 2022). It is worth mentioning that the lack of formalised and systematised curriculum review and development processes, and the rigidity of the Spanish university system that hampers the implementation of changes in its curricula, appears to be delaying and hindering the much-needed adaptation of undergraduate studies in T&I to professional practices in the language industry (Arafeh, 2016; Austermühl, 2013; López Poza, 2019, p. 142). This industry has already widely adopted disruptive technologies (Buysschaert et al., 2018; Pym & Torres-Simón, 2021; van der Meer, 2021), such as neural text to speech, real-time voice cloning, natural language processing, neural machine translation, artificial intelligence dubbing, and remote interpreting, among others. Within the framework of undergraduate training, the curricula of T&I undergraduate degrees still approach technologies independently and as a complement, and their relationship with the professional practice of translation is usually neglected (Mellinger, 2017; Rico, 2017).

There are several —and varied— studies that have been published in the field of translation that focus on a similar subject to this, such as O'Brien and Rossetti (2021) on the introduction of machine translation (MT) in localisation lessons; González Pastor (2021) on the introduction of MT and post-editing (PE) in translation lessons; Cid-Leal et al. (2019) on profiles and competencies in MT and PE in translator training programmes in Spain; Plaza Lara (2014) on the integration of computer-assisted translation (CAT) in the translation classroom; and Piqué Huerta and Colominas (2013) on translation technologies[2] in the undergraduate training of translators and interpreters in Spain. Concerning the methodological approach that was adopted in this study, i.e. thematic analysis, we can find similar works by O'Brien and Rossetti (2021) or Wu et al. (2019), although the latter does not focus on technologies, but on translation competence in general. As we can see, most of the works cited above have approached much more specific aspects. In contrast, our study aims to carry out a comprehensive and integrative analysis of technological elements[3] in T&I undergraduate degrees in Spain and, more specifically, in practical translation modules. This study focuses on translation technologies alone; i.e. discussion of interpreting technologies falls outside the scope of this

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[2] For the purpose of this study, the concept and definition of "translation technologies" is based on O'Brien and Rodríguez Vázquez's (2019) proposal: "In its broadest sense translation technology is understood to include a large array of computer tools that help translators do their jobs, including word processors; spell, style and grammar checkers; the World Wide Web; corpus compilation and analysis tools; terminology management tools; translation memory tools (TM); translation management systems (TMS); and machine translation (MT)."

[3] Within the framework of this study, "technological element" means any reference to a technological aspect, be it skills or competencies related to technologies, a mention of specific software, etc.

research. The references to "T&I" throughout the paper are due to the fact that undergraduate degrees in Spain generally combine both disciplines: Translation and Interpreting. This paper attempts to expand and complement the research insights on this topic, from the point of view of both the subject of the study and the methodology.

This study is part of a larger research project whose main goal is to assess technological training in T&I undergraduate degrees in Spain through the combination of different empirical studies. More specifically, one of these involved the analysis of a corpus of texts with qualitative and quantitative methods to collect information related to the technological elements currently present in the curricula of T&I undergraduate degrees in Spain for the year 2019-2020. The source for gathering data were the syllabi of the modules included in the degrees. This paper aims to analyse that study from a purely methodological perspective and explain the phases of the thematic analysis (Braun & Clarke, 2006) that were part of the analytical study and the decisions adopted in each of them. A more detailed analysis that covered data correlations can be found in Sánchez-Castany (2022).

THEMATIC ANALYSIS

As Saldanha and O'Brien (2014, p. 189) established, it is very common to find methodologies in Translation Studies that code qualitative data, such as qualitative content analysis, ground theory, or thematic analysis. In our case, we initially ruled out the first two methods for several reasons. On the one hand, qualitative content analysis was discarded because we do not intend to provide interpretations of the texts in the corpus beyond a semantic or explicit analysis. On the other hand, grounded theory was also excluded because we do not want to produce a 'theory' about the phenomenon under study but rather a description of it.

In the words of Matthews and Ross (2010, p. 373), thematic analysis is a method used to identify and interpret key ideas or patterns (themes) in a dataset. In this regard, a theme is defined as any relevant element the researcher finds in the data sample by following an iterative process (Morgan & Nica, 2020) related to the study's research question(s). Its size or extension depends, among other factors, on the level at which the themes are identified, and it may be a paragraph, a sentence, a phrase or even isolated words or terms (Saldanha & O'Brien, 2014, p. 189-190). In the case of this research, themes were identified at a semantic or explicit level because it was considered appropriate to identify themes related to the explicit or superficial meaning of the data. There was no further search or interpretation

of what is written in the texts. The identification of themes can be performed deductively (top-down) or inductively (bottom-up) (Braun & Clarke, 2006, pp. 82-84), and this study used the latter approach because there was no previously established framework to code the sample.

Regarding the advantages that justify the choice of this method, Braun and Clarke (2006, p. 97) mention several, including the fact that it is a flexible method, it is relatively easy and quick to learn and implement, it easily summarises the main characteristics of a large amount of data, and it provides a broad description of the data set. In addition, it can also highlight similarities and differences in the data set and generate unanticipated ideas. Therefore, it seems logical that this qualitative method of analysis should be used due to the many advantages it provides.

As regards the development of the thematic analysis itself, an analytical strategy in six phases was followed, as proposed by Braun and Clarke (2006, p. 87), as explained in greater detail below.

EMPIRICAL STUDY

The study presented here follows a mixed research methodology that combines qualitative and quantitative methods in a single study. In the words of Saldanha and O'Brien (2014, p. 23): "[this] sequence has the advantage of allowing the researcher to explore data qualitatively and to follow this exploration up with a more focused quantitative analysis of the topic or sub-topic". Therefore, the study was divided into two stages: in the first (stage A), with a qualitative method, the thematic analysis is conducted to identify, organise, and analyse in detail the technological elements that appear in the syllabi of T&I undergraduate degrees in Spain for the year 2019-2020. Data collection was based on a corpus of syllabi of the modules included in those degree courses. We considered that a first qualitative stage was necessary because not all module syllabi refer to technological content in the same way. For instance, references to technological content may be found in several sections of the syllabi. This first stage is complemented with a second quantitative stage (stage B), in which the results obtained in the first stage were quantified.

This study aims to obtain complete and updated information on the technological elements currently included in the syllabi of T&I undergraduate degrees in Spain, and how these elements are integrated in specialised and non-specialised translation modules. In order to achieve this goal, the following research questions are presented:

Q1. What technological content is included in technology-based modules?

Q2. In which practical translation modules is technological content taught?

Q3. What technological content is included in such practical translation modules?

Selection and collection of the data sample

Regarding the criteria to select the data sample, from a geographical perspective, the study was limited to Spain because it is the scope the researcher is more familiar with. The starting point for selecting this first sample was to identify the public and private universities part of AUnETI (Association of Spanish Universities with Official Degree Programmes in Translation and Interpreting, http://auneti.org/) offering T&I undergraduate degrees in the year 2019-2020, according to information on its website. Finally, the field of analysis was expanded beyond the universities that belong to this association to include the whole range of undergraduate translation programmes in Spain for that period. As a result, this data set comprises 29 universities.

Next, the curricula of T&I undergraduate degrees of the selected universities were analysed. According to article 26 of the Spanish Royal Decree 1393/2007 of 29 October, which lays down the organisation of official university programmes, Spanish universities must publish their curricula both in the Official Spanish Gazette and in the Official Gazette of the region they belong to. Many of them also publish these on their websites, which means that they are a source of data that provided valuable and varied materials to the researcher. However, although all the universities that were studied made their curricula available to the general public, the level of contents actually available is very varied. In total, 32 curricula for translator training were found in Spain, with 2931 modules that can be found in Appendix 1.

The sample selection followed an intentional approach, i.e. all the available module syllabi were selected, and the sample was limited to those cases in which the syllabus was publicly available on the Internet. On the other hand, the sample size was also conditioned by the time and resources available to the researcher. The module syllabi that are part of the corpus in the study were selected according to the following criteria:

- The syllabus must belong to one of the curricula that had been previously identified.

- The syllabus must be openly available online.

- With regard to the nature of the modules, those that were purely theoretical were ruled out (including Translatology, Translation History, etc.), as well as those related to language teaching and interpreting. The rest of the modules were included.

At this stage, it is necessary to point out that, for methodological reasons, the selected modules were divided into (i) *technology-based modules*, whose contents are based on teaching technologies, and (ii) *practical translation modules*.

The selection and collection of the sample presented different challenges that will be described below. As mentioned above, Spanish law makes it compulsory for universities to publish their curricula. However, it does not mention the availability of the module syllabi that are part of those curricula. We observed that not all universities make their syllabi available to the general public. In fact, out of the 32 curricula analysed, barely more than half of them (53%) had published all their syllabi on their websites.

Moreover, we observed that, in some cases, the syllabi for the year 2019-2020 could not be accessed, although the syllabi for the previous or the following year were available. Therefore, although we are aware that the contents of the syllabi may have changed slightly from one year to another, that risk was measured, and we decided to include those syllabi in our sample.

Another challenge we faced in collecting the sample was that some syllabi were published in languages other than Spanish. On the one hand, we identified 99 syllabi[4] that were published either in Catalan, Galician or Basque, because the universities in which the modules are taught are part of an autonomous region with a co-official language other than Spanish. On the other hand, we also observed that there are 77 modules[5] with their syllabi published either in whole or in part in the language or languages in which they are taught. The same neural machine translation engine[6] was used to obtain the necessary information in all of these cases.

We also detected some special features that must be addressed here, such as shared curricula for more than one university (as in the case of the curricula of the European University of Madrid and the European University of Valencia). In those

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[4] 67 in Catalan (University of Alicante, University of Valencia, Open University of Catalonia and Pompeu Fabra University), 22 in Galician (University of Vigo) and 10 in Basque (University of the Basque Country).
[5] 64 in English (Alfonso X el Sabio University, University of Alcalá, University of Las Palmas de Gran Canaria, International University of Valencia, San Jorge University and University of Lleida), 7 in German (Alfonso X el Sabio University) and 6 in French (Alfonso X el Sabio University).
[6] Google Translate. Available at: https://translate.google.es/?hl=es. Last accessed: 20-01-2021.

cases, the syllabi were included in the study as many times as the number of degrees in which they appear. There are also double degrees in which many modules are beyond the scope of this study (such as the degrees at the University of Lleida). In this case, only modules that belong to the area of Translation Studies were included. In cases in which the downloaded syllabi could not be edited, they were converted to an editable format with optical character recognition (OCR)[7] software to analyse them.

Finally, it is worth pointing out that the selection of the sample did not include the addenda in the module syllabi for the second semester of the year 2019-2020 and the year 2020-2021 arising from the need, in some cases, to teach and assess the modules with blended or online learning due to the COVID-19 pandemic restrictions.

In total, the sample in this study includes 994 module syllabi that were publicly available online, and 1937 syllabi were ruled out.

Stage A: qualitative

As mentioned above, the qualitative stage used the thematic analysis of data to study the selected sample. To do so, an analytical strategy was developed with the six phases set out by Braun and Clarke (2006, p. 87). These are Phase 1: Familiarising the Data; Phase 2: Generating Initial Codes; Phase 3: Searching for Themes; Phase 4: Reviewing Themes; Phase 5: Defining and Naming Themes; and Phase 6: Final Report of the Findings.

Throughout this study, *phase 1* of the thematic analysis involved familiarising ourselves with the data. This initial contact with the data was vital, because becoming familiar with the texts that were to be analysed increased the researcher's confidence to approach the subsequent in-depth study of the corpus. Therefore, a previous phase of notetaking was conducted based on a general reading of the syllabi to identify their macrostructure and make an initial assessment of the degree of homogeneity between different universities.

In this regard, we observed that there is a very significant disparity in the criteria related to the format and sections included in the syllabi in the case of Spanish universities, probably because, once again, Spanish law does not specify anything in this regard. We could say then that there is not much homogeneity between universities or between the contents of the syllabi or their format, and that

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[7] Omnipage Professional 17.

there are only a few sections shared by all the texts, namely those on "Competencies", "Content"[8] and "Assessment", as well as those that include general information on the module (year, number of credits, etc.), which are usually found at the beginning of the texts.

Regarding the module's teaching methodology, not all the syllabi include a section that specifies the trainer's methodological approach ("Methodology", "Teaching activities", "Timing diagram", "Materials", "Module plan", etc.). Nevertheless, these sections are considered vital for the objectives of the study to analyse and interpret the results from syllabi in which this information was included. Other relevant sections, such as "Objectives" or "Learning outcomes" were also initially included in the analysis, even though they are not present in all the syllabi.

Afterwards, the elements that are part of the corpus were arranged in a system of folders and subfolders, with one folder for each curriculum from each university. The data was then exported to Atlas.ti 8, a computer-assisted qualitative data analysis software (CAQDAS) tool commonly used in qualitative research (Friese, 2019; Saldanha and O'Brien, 2014) to manage relatively large corpora with a systematic approach.

Next, after becoming familiarised with the data, *phase 2* was started and gave way to what could be considered the main part of the thematic analysis, i.e. coding the corpus texts. In this case, the starting point was the macrostructure (sections) of the syllabi identified previously, and we generated an initial list of ideas related to the technological statements in the text. These statements were then coded by selecting these text fragments and assigning them one or more codes. In this regard, a first classification of the codes was established with the following groups (listed alphabetically): Assessment, Competencies, Content, Credits, Field, Learning approach, Learning outcomes, Methodology, Objectives, Others, Software, Type of module, and Year.

As an example, Table 1 shows the initial non-refined codes within the group "Competencies" assigned to one of the statements found in one of the syllabi in the corpus. It is worth pointing out that the statements identified and coded in this phase are different from the units of analysis —i.e. the themes, which were ultimately much broader.

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[8] Within the framework of our work, we used "Content" as an umbrella term for the Spanish concept "temario", which could be described as a set of teaching units proposed for a module.

Table 1. Statement with associated codes during phase two of the thematic analysis

Statement	Codes
Competencia instrumental. Integra el uso de fuentes documentales, la búsqueda de terminología y la gestión de glosarios, bases de datos, etc., y también la utilización de las aplicaciones informáticas más útiles para el ejercicio de la profesión (tratamiento de textos, autoedición, bases de datos, Internet, correo electrónico, programas de traducción o edición, memorias de traducción, etc.), además de otros instrumentos como el fax, el dictáfono o los mecanismos y los aparatos necesarios para la interpretación (cabinas, etc.).	- Documentation - Terminology - Glossaries - Text processing - Databases - Internet - Translation software - Translation memories

Once the initial coding process was complete and the list of codes was created, *phase 3* began. The elements that could be considered themes among the codes marked in the texts were identified and classified into the groups initially established in the previous phase. Several figures are included below to illustrate this example. Figure 1 shows the codes identified under the "Content" theme. Also, given the lack of context for some of the statements in the texts, the code "undefined statement – translation 'tools'" was created. This includes statements that refer to "tools" or "resources", which do not clearly refer to computer tools or resources. This subdivision was repeated to code the contents in other sections of the syllabi, such as Competencies, Assessment, Methodology, Objectives, Others and Learning outcomes. In addition, and even though many syllabi make a specific reference to the use of computer programs, the texts do not always mention which software is being used. This level of generalisation may be understandable since the syllabi are not necessarily updated every academic year, while the recommended programs or the software licences of the universities, faculties or departments may change from one year to another. Adding these details to the syllabi would represent an extra workload for the trainers, who would have to update the list of software used in their modules every year. This could also imply making changes in the contents, the teaching methodology or the assessment process.

The example in Figure 2 shows the codes associated with the area in which the modules are classified, with a subdivision within the specialised translation modules. Moreover, whenever it was considered necessary to refine the classification further, more subcategory levels were added, as can be seen in Figure 3, which presents the classification of the codes from the example in Table 1, related to certain technological and information mining skills.

Figure 1. Codes in the "Content" group

Figure 2. Codes in the "Field" group
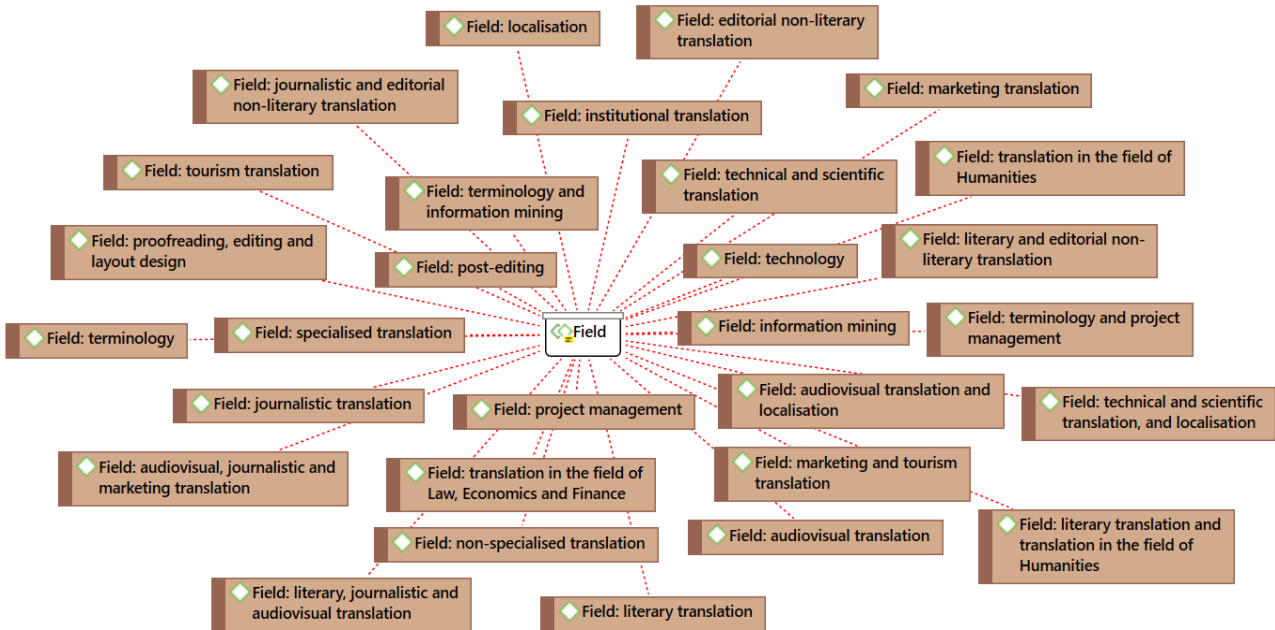
Figure 3. Example of classification of the codes (right) associated with a statement (left)

Competencia instrumental. Integra el uso de fuentes documentales, la búsqueda de terminología y la gestión de glosarios, bases de datos, etc., y también la utilización de las aplicaciones informáticas más útiles para el ejercicio de la profesión (tratamiento de textos, autoedición, bases de datos, Internet, correo electrónico, programas de traducción o edición, memorias de traducción, etc.), además de otros instrumentos como el fax, el dictáfono o los mecanismos y los aparatos necesarios para la interpretación (cabinas, etc.).
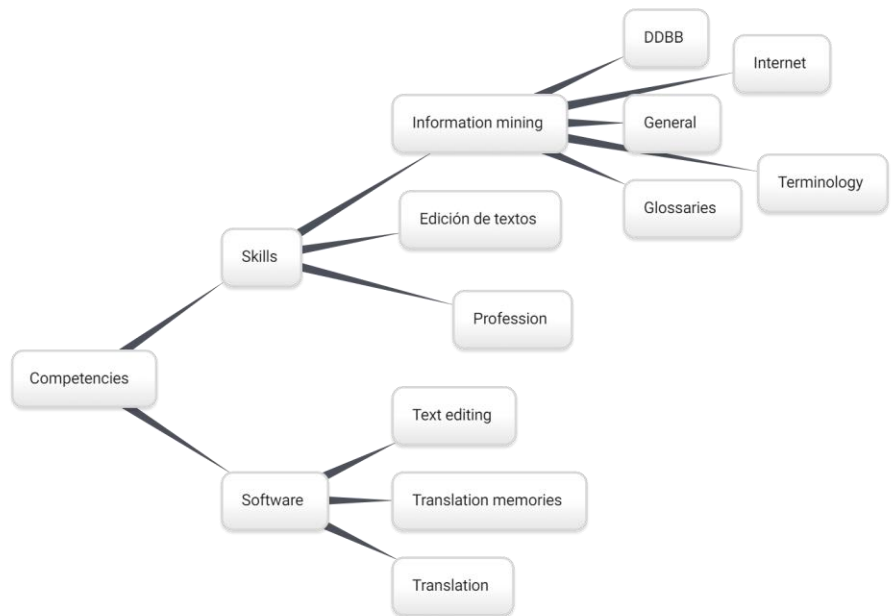
To facilitate the process of coding, identifying and grouping the themes in Atlas.ti 8, and the subsequent interpretation of the results, different colours were assigned to each code group, which made it possible to obtain a comprehensive

overview of each of the syllabi. Figures 4 and 5 show two examples of a syllabus as it is presented in Atlas.ti 8, with the text on the left part of the screen and its associated codes on the right, with their corresponding colours and the group of codes they are part of below each code (in white).

Figure 4. Coding of a syllabus from Alfonso X el Sabio University with Atlas.ti 8

Figure 5. Coding of a syllabus from University of Córdoba with Atlas.ti 8

Phase 3 also involved a higher level of abstraction, and the identified codes were then classified into potential themes. Also, each of the names previously assigned to the codes and code groups was revised, and a short description was added, as can be seen in Table 2. With an iterative process, some of the codes initially identified became main themes, whereas others were transformed into subthemes, and others were discarded.

Table 2. Description of certain code groups

Code group	Description
Field	The code group "Field" includes codes associated with statements that code the field of the module analysed.
Methodology	The code group "Methodology" includes codes associated with technological statements in the "Methodology", "Teaching activities", "Working plan", "Timing diagram" and "Materials" sections found in the syllabi of the modules in the analysis.

Phase 4 started after the previous phase had provided a set of candidate themes, and it involved refining and further classifying them. As is often the case in this phase of the thematic analysis, some initially proposed themes were finally discarded. For example, a code was used from phase 1 for statements that attempted to identify the learning approach of the trainer for each module, and the subcodes "Practical", "Theoretical" and "Theoretical-Practical" were grouped under the code "Learning approach". However, phase 4 revealed that this information is not available in many of the syllabi in the analysis.

Moreover, we observed that some themes formed a coherent pattern and they were merged. In other cases, it was necessary to divide them into further subcategories. In this case, with the example of Figure 1 as a reference, the subclassification into "skills", "software" and "theoretical" led to a division of the technological statements in some sections of the syllabi into two main themes: "Procedural elements" and "Conceptual elements", which were, in turn, divided into technologies that are "General and common to other fields" and "Specific to the translation field", as can be seen in Appendix 2. These groups made it possible to interpret the results and come to conclusions based on them. In addition, this arrangement of themes led to one of the first results in the study: the classification of the translation technologies present in the curricula of T&I undergraduate degrees in Spain.

Still within phase 4, the next step involved reviewing once again all the texts in the corpus and validating the themes that had been identified in order to create a "thematic map". This made it possible to determine that some of the themes that had been identified were a good fit for the corpus, while some others were not. This process also allowed us to code additional data within the identified themes that were overlooked in previous phases of the coding process.

Once the thematic map had been created, a global overview of the corpus contents was obtained, and *phase 5* started. In this phase, we defined and studied in depth the themes that were later selected to interpret the results. As mentioned above, it was essential to consider the themes by themselves and how they related to all the others in this phase. The decision regarding whether a theme must include subthemes or not was taken at this point. In fact, establishing themes and subthemes was very useful in structuring particularly broad and complex themes. Although titles had been assigned to the codes and to potential themes throughout all the coding phases, the final names of the themes that were part of the final analysis were decided at this stage. Efforts were made to create short, accurate and precise names, which immediately showed readers the idea behind each theme.

The last step in the thematic analysis was *phase 6*, and it started once we had a set of themes that were completely finalised and classified. This phase focused on producing the final report that was later used to interpret the results. Once again, using a program such as Atlas.ti 8 to encode the syllabi facilitated this task because the final report could be generated automatically. For research reliability purposes, a second coder reviewed a sample of the syllabi with the coding scheme defined by the researcher. Although a complete second coding would had been desirable, having a small percentage of the data recoded can still indicate how reliable the coding and the theme selection process were (Saldanha & O'Brien, 2014).

Stage B: quantitative

After coding and analysing all the syllabi with Atlas.ti 8, the same program was used to convert the qualitative data obtained in the previous stage into quantifiable units with results that could be analysed statistically (Saldanha & O'Brien, 2014, p. 195). Therefore, the goal of this stage was to transform the themes that were identified in the previous one into quantitative variables. It must be noted that this stage was comparatively briefer than the previous one.

Atlas.ti 8 allows users to extract the exact number of times that a theme appears in the corpus. Therefore, the themes were already quantified at the end of the previous stage, as seen in the figure below. As an example, Figure 6 shows the frequency of instances of different themes related to CAT in the "Content" group in the modules of Audiovisual translation, translation in the field of Law, Economics and Finance, Technical and Scientific translation, and Localisation in our corpus. Figure 7 shows these same results exported to MS Excel so that tables and figures could be created for their subsequent statistical interpretation.

This procedure yielded precious information about the presence of technological elements in both practical translation and technology-based modules, depending on the codes that were ultimately identified as themes. In fact, from analysis of the final report extracted from Atlas.ti 8 and a general overview of the data sample we observed that technology-based modules include very detailed technological contents. In addition, we found that most of the practical translation module syllabi included in the sample include some technological elements in the sections that were finally analysed, i.e. those that were shared by all the syllabi: "Competencies", "Content" and "Assessment". However, it is essential to point out that, in many cases, the technological elements identified in the analysis were rather general and not as specific to the field of translation as might be expected. The number of relevant themes that explicitly refer to translation technologies that could be

considered part of the specialised tools in our field of study is low, with very general references to CAT, terminology, project management and, to a lesser extent, MT.

Figure 6. Cros-selection of certain themes related to CAT contents and modules of Audiovisual translation, translation in the field of Law, Economics and Finance, Technical and Scientific translation, and Localisation in Atlas.ti 8
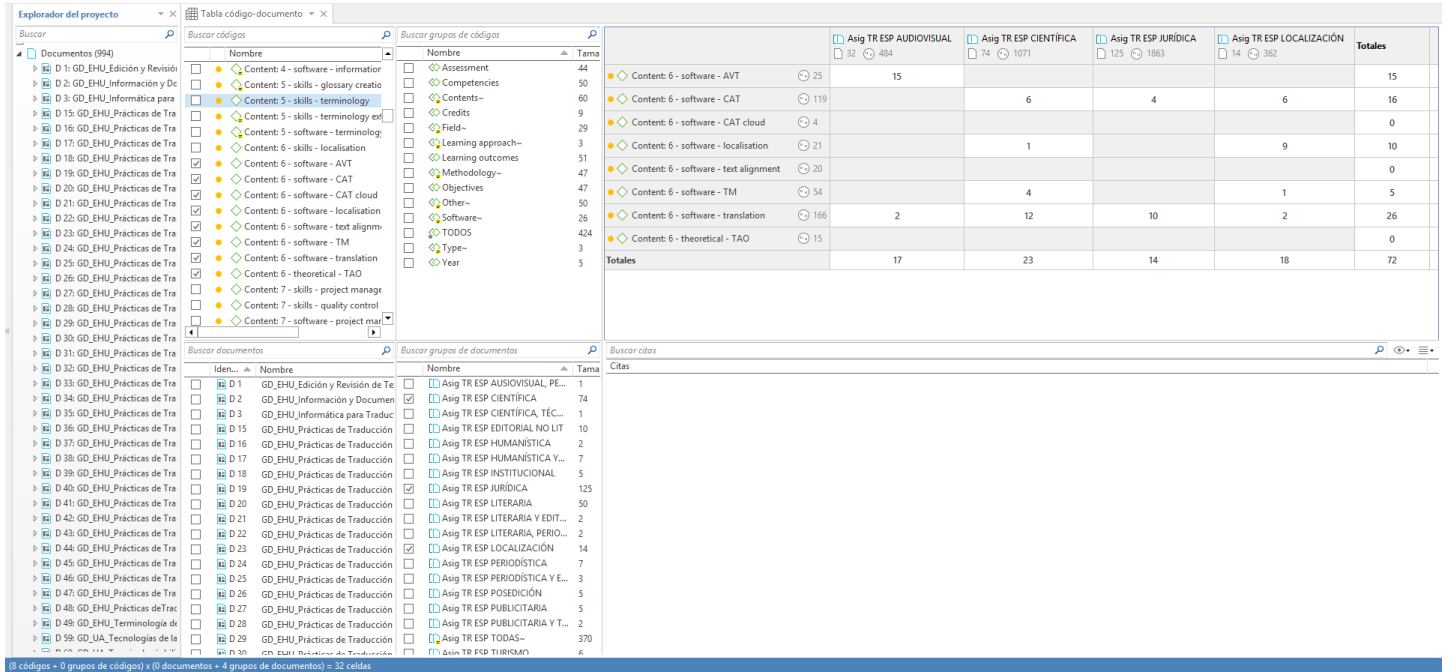

Figure 7. Results from Figure 6 exported to MS Excel

	Asig TR ESP AUDIOVISUAL Gr=484; GS=32	Asig TR ESP CIENTÍFICA Gr=1071; GS=74	Asig TR ESP JURÍDICA Gr=1863; GS=125	Asig TR ESP LOCALIZACIÓN Gr=362; GS=14	Totales
• Content: 6 - software - AVT Gr=25	15	0	0	0	15
• Content: 6 - software - CAT Gr=119	0	6	4	6	16
• Content: 6 - software - CAT cloud Gr=4	0	0	0	0	0
• Content: 6 - software - localisation Gr=21	0	1	0	9	10
• Content: 6 - software - text alignment Gr=20	0	0	0	0	0
• Content: 6 - software - TM Gr=54	0	4	0	1	5
• Content: 6 - software - translation Gr=166	2	12	10	2	26
• Content: 6 - theoretical - TAO Gr=15	0	0	0	0	0
Totales	17	23	14	18	72

CONCLUSIONS

The use of thematic analysis in qualitative studies in translation is broadly consolidated. It provides various advantages that have been listed throughout this paper, including simplicity in extracting and summarising a large amount of data —as in the case of the sample analysed here— and the ability to highlight similarities and differences in the data set and generate unanticipated ideas. However, this analysis methodology also presents one main obstacle. Since its flexibility makes it possible to use many different analytical approaches, the potential range of information that can be inferred from the data analysis is extensive. Although this may be interpreted as an advantage, it may also make it difficult to define specific guidelines for analysis in the later phases, in which a higher level of abstraction is required. This may be detrimental to the researcher, who must decide on which aspects of the data sample to focus.

Concerning the limitations of the data sample selected for thematic analysis, it is worth mentioning that the sample may not comprehensively reflect the reality of the curricula for T&I undergraduate degrees in Spain because, as mentioned above, the sample only included publicly-available syllabi. In addition to the work presented in Sánchez-Castany (2022), we aim to conduct more advanced statistical analysis, such as investigating other correlations between other variables within the data sample —including module year, ECTS credits, status and field. However, this analysis tool allowed us to obtain an overview of technological elements in the T&I curricula in the sample. This factor strongly supports the validity of the research because it complements the other empirical and conceptual studies conducted within the framework of a broader research project. Furthermore, this made it possible to contrast different types of data and information, thus minimising potential bias as it was coming from a single source. One of these ongoing studies has as its main objective to analyse the impressions of the trainers who teach the modules that are part of the data sample in this work. This study will provide a comprehensive picture of the subject of study and will allow us not to base our conclusions solely on what has been extracted from analysis of the syllabi corpus. Our main aim is that the results of this broader research can be used as a reference and inspiration for those responsible for modifying and updating T&I curricula to take decisions that meet the current needs of the market and academia.

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