Terminology training at translation and interpreting departments in Turkey and beyond¹

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Abstract

The lack of curriculum oriented courses in Translation and Interpreting Departments required steps to be taken in the academic field. The views of the lecturer, the students' views, and the curriculum analysis constitute the three pillars of the research. The study has been conducted among the lecturers (N=33) of the department of Translation Studies and Translation & Interpreting in Turkey as well as the junior and senior students (N=131) of theses departments. Two questionnaires were prepared for academic staff and students as a data collection tool. Their responses were analyzed through SPSS 26 program. In the qualitative phase, six instructors and six students in the study group voluntarily answered the structured interview questions. The responses obtained from these interviews were transferred to NVivo 11 program. In addition, secondary data on curriculum oriented courses were obtained and the inventory collection concerning courses given by the departments of Translation Studies, and Translation & Interpreting was gathered. The contents of the courses in the curriculums of these departments based in our country and in other countries were examined. Terminology courses were classified accordingly. In order to show the importance and the place of the terminology in the field of translation, this research is expected to be a guide to the need for a special place in terminology in translation training.

Key words: Terminology, translation studies, translation and interpreting, translation technologies, term management tools, translation training, terminology training

Türkiye'de ve diğer ülkelerde bulunan mütercim tercümanlık bölümlerinde terimbilim eğitimi

Öz

Mütercim Tercümanlık Bölümlerinde terimbilim odaklı derslerin eksikliği, akademik alanda adımlar atılmasını gerekli kılmıştır. Öğretim elemanı görüşleri, öğrenci görüşleri ve öğretim programı analizi çalışmanın üç sacayağını oluşturmaktadır. Veri toplama aracı olarak öğretim elemanlarına ve öğrencilere yönelik iki adet anket hazırlanmıştır. Türkiye'deki Çeviribilim ve Mütercim Tercümanlık bölümlerinde görevli 33 öğretim elemanı ve ilgili bölümlerin üçüncü ve

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dördüncü sınıfında öğrenim gören 131 öğrenci ile anket çalışması yürütülmüştür. Ankete verilen yanıtlar SPSS 26 programı ile analiz edilmiştir. Nitel aşamada, çalışma grubundaki altı öğretim elemanı ve altı öğrenci yapılandırılmış görüşme sorularını gönüllü olarak yanıtlamıştır. Yapılandırılmış görüşmelerden elde edilen veriler NVivo 11 programına aktarılmıştır. Araştırmada ayrıca doküman inceleme yöntemi kullanılmış ve Çeviribilim, Mütercim-Tercümanlık bölümlerinin ders programları dikkate alınarak Terimbilim dersine yönelik envanter toplama çalışması gerçekleştirilmiştir. Ülkemizde ve diğer ülkelerde çeviri eğitimi veren bölümlerin öğretim programlarında yer alan terimbilim ders içerikleri incelenmiş ve tasnif edilmiştir. Terimbilimin çeviri alanındaki yerini ve önemini göstermesi açısından bu araştırmanın çeviri eğitiminde terimbilime özel bir yer ayrılması gerektiği hususunda yol gösterici olması beklenmektedir.

Anahtar kelimeler: Terimbilim, çeviribilim, mütercim tercümanlik, çeviri teknolojileri, terim yönetim araçlari, çeviri eğitimi, terimbilim eğitimi

1. Introduction

This article deals with Terminology training at Translation and Interpreting Departments in Turkey and beyond. Terminology policies of countries carried out in the field can be examined within a comparative framework. In other words, Terminology field is researched from a theoretical and practical perspective. It is time to consider how to teach Terminology and how it is learned, how terminology is used in translation training and how it should be used. This research includes some suggestions for teaching-learning methodology of terminology. Official university programs include Terminology courses in many countries. Advancing technology enhance terminology training, computer aided translation systems, terminology management tools are the contents of terminology courses. It is true that there is a wide range of tools that appropriate for terminology work and there have been significant developments in terminological area.

It is known that there have been a wide range of literary translations and technical translations. Technical, scientific, specific field texts have been translated for centuries and deal with terminology world. It is a common agreement that technical translations and specific field translations meet a great deal of demand in translation industry. A term refers to a specific field like science, art, technic and represents a specific concept. "If terminology is the discipline dealing with methodologies and principles for the study of terminology, terminography is the practice of systematically describing terminological data" (Temmerman, 2000, p.230). An onomasiological approach is used in terminography. Terminology involves not words but terms belonging to a specialized subject. "(...) terminology is a social construct by definition, the creation and formation of individual terms are the result of human cognitive processes" (Kageura, 2002, p.55). Terminology, computer aided translation, machine translation, localization, cloud translation has been evolved through informative age. These are widely used in translation world. In this context, it could be considered that examining current applications of information technologies in technical translation could contribute to the technical translation studies. That's why, this research gives some thought to terminology environment. "Because of globalization trends all over the World as well as the demand for rapid dissemination of new knowledge and technology, millions of new terms enter terminological pool" (Yazıcı, 2019, p. 37). As a consequence, terminology formation is essential need for translators training.

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Terminology is a necessary course at universities in many countries. Language technologies, knowledge engineering are part of the terminology training programs. There are several applications such as teaching terminology for special purposes. Terminological research based on not only linguistic but also informatics, documentation science and classification science. Technological developments raise awareness within terminology studies.

1.2. Historical evolution of terminology

The Austrian Eugen Wüster, the Latvian Ernst Drezen and the Russian Dmitrij Lotte are considered as founders of terminology. Louis Guilbert, Alain Rey, Rotislav Kocourek have contributed to terminology industry which has improved considering a social change and a linguistic need.

It is possible to indicate that terminology has a three schools: Austrian School (Vienna School), Czech School (Prague School), Soviet School (Moscow School).

Systematic interest in terminology arose simultaneously in several European countries (Austria, the former Soviet Union, and the former Czechoslovakia). It is from these three centres that terminological practice first expanded to the West (France, Canada, Quebec) and North (Belgium and Scandinavia) then in a second, more recent period to the South (Northern Africa, sub-Saharan Africa, Central and South America, Portugal, Spain) and, even more recently, to the East (China and Japan) (Cabré, 1999, p.12).

The human should contribute to the development of the language, maintain the language and transfer it to future generations. Accordingly, nations tend to lexicography and terminology, developing international relations and agreements and this attitude accelerates the terminology works. The existence of translation studies is the reason for the need for terminology. Canada, which adopts an active terminology policy, have a great number of term banks. In 1962, the periodical *"Mieux dire"* was published. In 1968, *"Actualité terminologique"* started to be published monthly for translators. In 1969, a computer science program was developed. In 1966, an autonomous terminology bureau was established to supply the needs of the national railway staff.

During the Tanzimat Period (1839-1908), French is adopted as a medium of instruction. The intellectuals of the Tanzimat period, defended the transfer of terms to Ottoman Turkish. After the Tanzimat Period, a close relationship was established with France and many terms have been passed from French to Turkish. At the Second Constitutional Period (1908-1923), language and term problem was adopted as a government policy and numerous commissions were established. Republican Period (1923-1932) was a period of crucial developments in terminology. "Turkish Law" was proposed to the The Grand National Assembly of Turkey. Ziya Gökalp conducted studies to produce terms during the Republican Period. Şemsettin Sami included terms in his dictionaries *Kamus-i Türki* and *Kamus-i Fransevi*. The founder and first president of the Republic of Turkey, Mustafa Kemal Atatürk defended the Sun Language Theory proposed that all human languages are derived from Proto-Turkic language. The institutions working in the field of terminology in the Republican Period are as follows: Turkish Language Association, the Turkish Armed Forces, the Turkish Academy of Sciences, Ministry of Culture and Tourism, the Turkish Standards Institution, Informatics Association of Turkey, the Turkish Radio and Television Corporation, the Ministry of Education and Universities, various institutions, organizations, individual studies and researchers.

There have been fundamental theories of terminology: socioterminology, communicative theory of terminology, cognitive theory of terminology, socio-cognitive theory of terminology. M. Teresa Cabré (1999), emphasizes the communicative theory of terminology as well as its cognitive and lingusitic aspects. Didier Bourigault and Monique Slodzian (1999) describes textual terminology. François Gaudin (1993) suggests taking into account the social dimension of terminology. Rita Temmerman (2000) defines a socio-cognitive model, recommends taking into account the diachronic and social dimensions of terms.

The central elements of terminological theory are the object, the concept, the specification, terminography and terminotic. Terminotic is the meeting point of terminology, computational linguistics and linguistic engineering. These interrelated disciplines enable to practice terminography with technologies, terminology management systems and computer assisted tools. Computational terminology and terminotic have two different objectives: computational terminology looks at automatic processing which will be useful in terminography. Terminotic wants to integrate computer tools in the creation of specialized dictionaries. Each discipline benefits from the advances of the other.

We can define terminologist as a person who uses terminology, especially in professional translation project management. According to L'Homme (2004), terminologists have seven tasks: creating a compilation, marking terms, gathering data, analysis and synthesis of data, coding of data, editing terminological data, management of terminological data (p. 46)4. "One of the most important aspects of the translator's job is the management of terminology: being exposed to it, evaluating its correctness or appropriateness in specific contexts, storing and retrieving it" (Robinson, 1997, p.112). It is a common discussion that terminologists have to possess some standards. Therefore, European Certification and Qualification Association (ECQA) offers the certification of participants for numerous professions. ECQA is Certifying Terminology Manager Worldwide and the European Commission DG for Languages and Translation. Certified Terminology Manager contains six major modules. In order to have the relevant certificate, it is sufficient to complete successfully six modules. This certification provides great convenience to translators, to experts in terminology and ensures personal development in terminological area.

Baker (1996) states that the techniques and tools are used in translation "not in order to criticize or evaluate individual translations but in order to understand what actually happens in the process of translation" (p.175).

Below is a list of some terminology tools which could be used in translation process:

- term records, term banks, term bases: FranceTerme, IATE, TERMDAT, TERMIUM, WTOTERM
- terminology management systems: AcrossTerm, AntConc, Flashterm, SilvaTerm, Wordbee
- term extraction tools: Anchovy, Fivefilters, OneClick Terms, TerMine, TermTreffer, Termflow, Vocab Grabber, WordFish
- machine translation systems: Google translate, Yandex translate

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⁴ Unless otherwise stated, all translations into English are the Zeytinkaya's own.

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- corpora and corpus tools: Keyword Tool, Sketch Engine, WebCorp
- cloud translation systems: Memsource, Nubuto

According to Mareschal (1988), translation process includes global reading a translation text, analyzing and understanding the text, transfer from target language to source language, reconstructing the sentence, re-reading and review. Documentation and term creation process refers to determining the field of expertise, choosing the appropriate document, first reading, punctual research and equivalence research.

In today's world, it is indispensable to use terminology management tools. Therefore, being familiar with computer skills is essential for a translator to do terminological work. Terminology management systems identify, store and manage terminology that occurs in a translation process. "When the work done by pragmatic (non-literary) translators is classified by text type, four classes and four main approaches can be distinguished: documentation of industrial equipment and processes, use of parallel texts, technology transfer, evolving technologies" (Champe, 2001, p.503-504). "The easier availability of terminology management tools has lead to a greater interest in systematic collection and consultation of terminology by both the general public and specialist mediators" (Sager, 1990, p.11). It is easier to store and recall from memory previous translations thanks to terminology. "Effective terminology management can help to cut costs, improve linguistic quality, and reduce turnaround times for translation, which is very important in this age of intense time-to-market pressures (Bowker, 2002, p.77).

Terminology management systems are preferable among Translation and Interpreting departments' students, professional translators. Consequently, these systems must be included in curriculum of these departments. Their objective is to use computer tools such as terminology management tools, benefit from modern education technics to train future translators and interpreters. They should be aware of using these essential tools in that terminology management systems are standard equipment for most translators. According to Auger, Drouin and L'Homme (1991), there is a great difference between traditional and computer based method of a terminographic research. Documentary search, counting, choice of absolute terms and treatment parts differ from the other part.

It is essential to make certain the differences between term banks and term databases. For future translators, being aware of the differences between term banks and term databases is a crucial knowledge to go the extra mile. Generally, terminologists use term banks but translators manage term databases. Terminologists' data composes term banks while translators personal term base constitutes term databases. For the most part, term banks research model is thematic, term databases research model is technic. Term banks involve a wide range of areas but term databases are limited to a one domain. Term banks have detailed records while term databases have variable records. Term banks are often prescriptive; term databases are generally descriptive. Original language materials are the preferred resources of term banks, on the other hand, original language materials and bilingual resources like translation memory databases are the preferred resources of term databases. The onomasiological approach creates term banks; the onomasiological and semasiological approaches create term databases. Term banks' integration degree to other tools is limited and usually alone while term databases integrate frequently with terminology extraction tools, translation memory systems and word processors.

2. Terminology training

Terminology resources and articles are limited while there are several reference books and articles written by terminology researchers on the subject of terminology. Alcina's (2011) teaching design can be adjusted for terminology teaching which includes objectives, contents, methodology and assessment parts. Under the title of objectives, the person who teaches expect the results of his/her teaching activity. The contents of courses involve what to teach. Teaching methodology comprises training strategies and the resources. The level of students, the extent of the subject should take into consideration while teaching terminology. The teaching-learning process should be controlled and measured correspondingly.

In the 1960s and 1970s, there was a need for the development of terminological teaching materials and terminology manuals. "In Western countries, the first teaching of the theoretical foundations of terminology was offered by Wüster in 1972 in Vienna" (Picht, 2011, p.20). Several terminology teaching materials and manuals have been developed from past to present.

It is known that translation studies involve technical, medical, legal, commercial terms. Robinson (1997, p.112) states that learning specialized terminology is one of the main emphasis in any course on legal, medical, commercial, or other technical translation.

Pilar Sánchez-Gijón, P., Aguilar-Amat A., Mesa-Lao B., Pahisa Solé M. (2011) suggest three different learning objectives about terminology training within the framework of translator training:

- acquire the theoretical knowledge needed to understand and carry out terminological work
- acquire the methodological skills needed to carry out a systematic terminological study
- acquire the methodological skills needed to solve specific terminological problems (p.111-112).

We can state that there are remarkable institutions and universities which are interested in terminological works. International Network for Terminology (TermNet) offers the Terminology Summer School in cooperation with universities. International and National Term Centers, International and National Blogs in Terminology may serve as examples.

Translation clubs improve students' skills, enhance their knowledge, and develops communication between companies and future translators. There is a list of translation clubs in Turkey and their foundation years: Boğaziçi University Translation Club (1999), Hacettepe University Translation Club (2000), Sakarya University Translation Club (2009), Ege University Translation Club (2010), Trakya University Translation Club (2010), Marmara University Translation Club (2011), Arel University Translation Club (2011), İstanbul University Translation Club (2012), Dokuz Eylül University Translation Club (2012), Yaşar University Translation Club (2012), Yeni Yüzyıl University Translation Club (2014).

In this part of the research, some international universities of Translation and Interpreting Departments are tried to be questioned and it is focused on Terminology-related courses by giving concrete examples in the national and international dimension.

2.1. Terminology training in Turkey

Below is a table, showing terminology courses in Translation and Interpreting Departments in Turkey: **Table 2.1.1.** Terminology Courses in Turkey

Province	Institution University	Department	Course name	Course type	Semester	E C
				Compulsory Elective		T S
Ankara	Atılım University	Translation and Interpreting English	Terminology Studies	Elective	7	5
Ankara	Çankaya University	Translation and Interpreting English	Lexis and Terminology I	Elective	1	3
			Lexis and Terminology II	Elective	2	3
İzmir	Ege University	Translation and Interpreting English	Terminology	Elective	6	5
		Translation and Interpreting German	Terminologisches wissen	Compulsory	6	5
Ankara	Hacettepe University	Translation and Interpreting German	Terminology	Elective	5	5
		Translation and Interpreting French	Terminology Studies	Elective	6	4
İstanbul	İstanbul University	Translation and Interpreting German	Terminology	Compulsory	6	4
İstanbul	İstanbul 29 Mayıs University	Translation and Interpreting English	Term management	Elective	7	5
Kırıkkale	Kırıkkale University	Translation and Interpreting English	Terminology	Compulsory	7	5
		Translation and Interpreting French	Terminology and Translation I	Compulsory	7	4
			Terminology and Translation II	Compulsory	8	4
Kırklareli	Kırklareli University	Translation and Interpreting German	Terminology	Elective	4	3
İstanbul	Marmara University	Translation and Interpreting English	Terminology I	Compulsory	3	4
	Oniversity	Interpreting English	Terminology II	Compulsory	4	4
Mersin	Mersin University	Translation and Interpreting French	Profession Knowledge and Term Studies I	Compulsory	7	5
			Profession Knowledge and Term Studies II	Compulsory	8	5

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İstanbul	Yıldız Technical University	Translation and Interpreting French	Terminology	Compulsory	1	4
İstanbul	İstanbul Yeni Yüzyıl	Translation and Interpreting English	Term and Glossary Studies	Compulsory	3	3
	University		Term and Glossary Management	Compulsory	4	4

Terminology courses could involve initiation to terminology, history of terminology, terminology theories, terminology documentation, uses of terminology management tools, term banks and termbases. Within this scope, students learn fundaments of Terminology, the distinction between word, term, and terminology, objectives of standardization of terminology, the scope of terminology processing, new uses of terminologies, some theories of Terminology such as sociological approach, communicative approach, cognitive approach, ethnic approach, text-discursive approach, multilingual terminology approach. Students learn also differences between Translation and Technical Translation. Lecturers are also encouraged to learn to use terminology management tools and related strategies.

2.2. Terminology training in an international dimension

It is a fact that Terminology courses are included in different countries and in different universities: University of Minnesota in the United States, University of Heidelberg in Germany, University of Saint-Joseph Beirut in Lebanon, University of Geneva in Switzerland, Manchester University in England, Athens Metafrase Translator School in Greece, Lithuania Kaunas University of Technology, University of Malta, Agder University in Norway, International Islamic University in Pakistan, Odesa National Mechnikov University in Ukraine, University of South Africa, Translation and Interpreting Institute in Mexico, Canada University of Montreal in Quebec. It is possible to state that education activities are carried out in the relevant field within Savoie Mont-Blanc University in Laval University, Paris Diderot University, Rennes II University, France.

Province	Institution University	Department	Course name
Austria	University of Innsbruck	Terminologie am Institut für Übersetzer- und Dolmetscherausbildung der Universität Innsbruck	Terminologielehre und Terminologiearbeit
	University of Vienna	Zentrum für Translationswissenschaft	Terminologie
Argentina	Universidad Católica de Salta	Traductor Público En Inglés	Terminologia
Belgium	Vrije Universiteit Brussel	Centre for Special Language Studies and Communication	Terminology
	Université Libre de Bruxelles	Faculté de Lettres, Traduction et Communication	Centre de recherche en traduction, interprétation, didactique et traitement automatique des langues - TRADITAL

Table 2.2.1. Terminology Courses in Different Countries

Canada	Laval University	Département de langues, linguistique et traduction	Terminologie et terminographie
	Montreal University	Département de linguistique et de traduction	Terminologie et terminographie
	University of Ottawa	School of Translation and Interpretation	Technology. Translation. Terminology
Columbia	Universidad de Antioquia, Escuela de Idiomas	Escuela de Idiomas	Grupo de Investigación en Terminologia y Traducción
	Universidad Autónoma de Manizales	Instituto de Idiomas	Grupo de Investigación en Terminologia y Traducción
Denmark	Copenhagen Business School	Department of Management, Society and Communication	MA in Translation and Interpretation
	University of Southern Denmark	Institut for Design og Kommunikation	Terminology
Finland	University of Vaasa	Department of Communication Studies	Terminology
	University of Helsinki	Translation Studies	Translation technology from term banks to machine translators
	University of Tampere	Faculty of Information Technology and Communication Sciences	Computer-based Studies of Specialised Texts and Terminology (COSSTT)
France	Université Rennes 2	Centre de Formation de Traducteurs, Terminologues & Rédacteurs	Traduction spécialisée, ingénierie linguistique et terminologie
	Universite Lumiere Lyon 2	La Faculte des Langues	Centre de Recherche en Terminologie et Traduction CRTT
	Université Sorbonne Nouvelle	Ecole Supérieure d'Interprètes et de Traducteurs	Traduction et terminologie juridiques et financières
	University Savoie Mont Blanc	Institut Universitaire Formation Continue	Terminology
Germany	Cologne University of Applied Sciences	Institute of Translation and Multilingual Communication	MA Terminologie und Sprachtechnologie
	Heidelberg University	Institut für Übersetzen und Dolmetschen	Terminology management and localization Lexicology and terminology
	University of Saarbrücken	Department of Language Science and Technology	Terminology and Applied Language Technology
Greece	Metafrasi School of Translator Training	School of Translator Training	SDL Trados Studio Professional

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Hungary	Budapest University of Technology and Economics	Centre for Modern Languages	Translation and interpreter studies, terminology
Lebanon	Saint-Joseph Beirut University	Translation Studies	Terminologie: Réflexion et Pratique
Lithuania	Kaunas University of Technology	Faculty of Social Sciences, Arts and Humanities	Translation and Localization of Technical Texts
Malta	Malta University	Translation, Terminology & Interpreting Studies	Translation, Terminology and Oral Translation Studies
Mexica	Instituto Superior de Intérpretes y Traductores	Traducción e interpretación	Especialidad en Terminologīa
Norway	Agder University	Department of Foreign Languages and Translation	English-Norwegian Special Field Translation
	University of Bergen	Technical language and terminology	Master class on terminology
	NHH - Norges Handelshyskole	Department of professional and intercultural communication	Terminology, Corpora and Language
Pakistan	International Islamic University	Department of Translation & Interpretation	Translation of variety of terminology
Portugal	Universidade NOVA de Lisboa	Faculdade de Ciências Sociais e Humanas	Tradução e Terminologia
	Universidade de Lisboa	Faculdade de letras	Introdução à Terminologia
Slovakia	University of Constantine the Philosopher in Nitra	Department of Translation Studies	Terminology Management, Translation Tools and Techniques
South Africa	University of South Africa, Pretoria	Department of Translation Studies	Terminology
Spain	Universitat Pompeu Fabra	Institut universitari de linguistica aplicada	Máster Online en Terminologia
	Universitat Autònoma de Barcelona	Facultat de Traducció i Interpretació	Terminology Applied to Translation and Interpreting
	Universidad Pontificia Comillas	Facultad de Ciencias Humanas y Sociales -Escuela de Traducción e Interpretación	Terminologia
Sweden	University of Stockholm	The Institute for Interpretation and Translation Studies	Terminology
Switzerland	University of Geneva	Department of Translation & Interpretation	Translation Technologies: Translation memories, post editor, localization, term management
United Kingdom	University of Surrey	Centre For Translation Studies	Translation Technologies

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	University of Manchester	Translation and Intercultural Studies	Translation Technologies
Ukraine	Odesa National Mechnikov University	Translation Department	Term Studies
USA	Brigham Young University	Translation, Training/Education, and Testing	Machine Translation, Terminology Management
	Kent State University	Institute for Applied Linguistics	Terminology and Computer applications for Translation
	University of Hawaii	Center for Interpretation and Translation Studies	Computer-Assisted Translation
	Monterey Institute of International Studies	The Graduate School of Translation and Interpretation	Introduction to Computer- Assisted Translation
	Translation school Babel University, Honolulu, Hawaii	Patent, Technical and Medical Translation Major	Technical Translation

It is an obvious fact that some countries adopt terminology policy and teach a use of terminological tools within a terminology courses. A comprehensive terminology course model is taking both theoretical and practical grounds of terminology into account. The terminological tools, systems are indispensable contents of these courses.

While designing a Terminology course plan, relevant tools and terminological systems should be introduced to students. The connection between Terminology and Translation Studies is not negligible. The objective of the course should include terminology project that is created by aid of term banks by the students with their own term bases. Term banks, terminology management tools, machine translation systems, translation memories are the crucial components of translator's workstation. That's why, future translators should be aware of the use of these electronic tools and should create their own monolingual, bilingual or multilingual term lists.

3. Methodology

This section of the research covers the methods analyzed in the research. Within the scope of the research, qualitative data and quantitative data were analyzed. The findings were interpreted in accordance with the mixed method research. In the scope of the research, a mixed method research model, which combines qualitative and quantitative research methods, was chosen for both the evaluation of quantitative survey results and the examination of data on qualitative interview forms. As a matter of fact, it is possible to evaluate the perspective of lecturers and students. Lecturer opinions, student opinions and curriculum analysis are the three pillars of the research. In this way, exploratory sequential mixed method pattern was used. In this pattern, which aims to discover and explain qualitative findings in detail, the research is organized by associating two databases with a sequential approach and building on each other. In this approach, timing takes place when qualitative data collection.

The research population consisted of Translation Studies, Translation and Interpreting Departments in Turkey are comprised of lecturers and students. The sample of the questionnaire that will be applied

to students is Abant İzzet Baysal, Atılım, Çankaya, Ege, Hacettepe, İstanbul, İstanbul 29 Mayıs, Kırıkkale, Kırklareli, Marmara, Mersin, Yıldız Teknik University. As part of the qualitative phase of the study, a total of 6 lecturers, 3 from Marmara University, 1 from Sakarya University and 2 from Yıldız Technical University, and 4 students studying at Marmara University, 2 students studying at Yıldız Technical University voluntarily answered the structured interview questions.

4. Findings

A mixed method research model was preferred because this model integrates both quantitative and qualitative data. In the context of the exploratory design, firstly, quantitative data was collected, and analyzed quantitatively using analytical approaches that were most suitable for the quantitative research question. Then, qualitative data was collected and analyzed qualitatively. The findings are obtained from the doctoral dissertation titled *"Çeviri Eğitiminde Terimbilim ve Terim Yönetim Araçlarının Kullanımı*" written by Zeytinkaya (2019) and translated into English in this part.

4.1. Use of term management tools

Quantitative Findings	51.5% of the lecturers stated that they did not use term management tools before. While 18.2% stated that they used SDL Multiterm, 12.1% stated that they knew how to use SDL MultiTerm- OmegaT-Wordfast-CrossTerm and 9.1% knew how to use Wordfast.	65.6% of the students stated that they did not use term management tools before. 11.5% stated that they used SDL Multiterm, 5.3% Wordfast and 3.1% used SDL Multiterm - OmegaT - Wordfast.
Qualitative Findings	Regarding the use of term management tools in the course, three students stated that they used term management tools in the course or in the workshops. The most used term management tool is Multiterm. <i>"Yes, Multiterm." (S2)</i> <i>"It took place in computer aided translation workshops. Crossterm, Multiterm." (S3)</i> The lecturers also stated that the term management tools are used in the course. Multiterm, Term Extracteur and Excel are the tools used. <i>"Multiterm, Term extracteur." (L1)</i> <i>"These softwares, which are part of translation management systems, should also be included in an integrity, such as Multiterm and Excel." (L2)</i>	

Comparing the quantitative and qualitative findings, the most used term management tool is SDL Multiterm.

4.2. Personal development in technology

Quantitative Findings	The rate of those who do not learn to use term management tools is very high (33.3%). The lecturers learn to use these tools with professional training (18.2%), research on the internet (3%), trial and error (6.1%) and attending workshops (3%).	The rate of those who do not learn to use term management tools is very high (45.8%). Students learn to use these tools by researching on the internet (9.9%), through trial and error (6.9%) and attending workshops (4.6%).
Qualitative Findings	The students stated that they did not attend training or seminars outside the school for personal development in the field of technology and they tried to improve themselves by researching on the Internet and following the related courses or workshops in the school. <i>"Yes, I try to attend conferences quite a lot." (S2) "There are many workshops in our department. We can improve thanks to the</i>	

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workshops." (S5) "By researching on the Internet by making individual efforts." (S6)
The lecturers stated that they follow the technological developments from the internet, conferences and books. Individual effort comes to the fore. They stated that they did not receive training on this subject during their education, and they are constantly looking for alternative ways to improve themselves.
"By researching on the Internet, attending workshops." (L2)
"By individual efforts, following technological developments and participating in conferences and other events whenever possible" (L5)

Comparing the quantitative and qualitative findings, the lecturers stated that they learned to use the related tools by participating in workshops as well as professional training, while students stated that they learned through internet research.

4.3. Difficulties related to the terminology course

Quantitative Findings	27.3% of lecturers stated that lack of equipment in the department, technical problems arising from term management tools. It is stated that lecturers were faced during term management training due to reasons such as not knowing term management tools. 9.1% of lecturers stated that technical problems arising from term management tools and 6.1% argued that students were indifferent.	26.0% of the students stated that they did not know about term management tools, 13.0% stated that they were encountered during the term management training due to the lack of equipment in the department. 9.9% stated that there were problems such as lack of basic computer skills, lack of equipment in the department, lack of time.	
Qualitative Findings	The participant students stated that there are few sources related to terminology, there is a lot of theoretical knowledge in the courses, the applications are insufficient, because these programs are expensive, they can only access these programs at the university and cannot work with the program at home. They stated that the programs are difficult to learn and that some students do not have sufficient computer skills. <i>"I see lack of computers, lack of time and technical problems among the difficulties of terminology lesson." (S2)</i>		
	"Being too focused on the theoretical part and lacking in practice, the number of programs taught cannot be increased and generally the process is one program oriented. Less implementation and lessons to continue at a single level." (S6)		
	Academic staff stated that students' lack of technology knowledge and skills is a disadvantage in terminology lesson. It was stated that the software's license problems, insufficient tools and equipment in the department and students' inability to practice at home also create difficulties.		
	"Insufficient technology knowledge and skills of students, technical deficiencies and licensing problems of software are important challenges." (L2)		
	"Lack of equipment and technical problems in t	he department." (L6)	

Comparing the quantitative and qualitative findings, students' basic computer skills, lack of equipment in the department, technical problems arising from term management tools, and not recognizing term management tools were the most common problems. It is understood that lecturers encounter problems such as software licensing problems and insufficient equipment in the department.

4.4. Level of terminology course

Quantitative Findings	63.6% of the lecturers think that term management tools should be provided at the level of undergraduate, 27.3% at the	74.8% of the students think that term management tools should be provided at the level of undergraduate, 11.5% at the
	undergraduate and graduate level, 6.1% at	undergraduate and graduate levels, 6.9% at

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	the doctorate level, 3.0% at the undergraduate, graduate and doctorate level.	the undergraduate, graduate and doctorate levels.
Qualitative Findings	Participating students stated that terminology programs. <i>"Yes, it should be at the master's and doctoral</i> Lecturers also stated that, like students, termi stated that theoretical knowledge and differen level can be processed at postgraduate level. <i>"Especially, applications to be made with loc</i> <i>master's level."(L1)</i>	<i>te level." (S1)</i> nology should be in graduate programs. It is it theories that are heavy for undergraduate

Comparing the quantitative and qualitative findings, opinions have been put forward that a terminology course should be given in graduate and doctorate programs besides undergraduate education.

4.5. Type of terminology course (compulsory / elective)

Quantitative Findings	78.8% of the lecturers stated that the teaching of term management tools should be handled within the scope of compulsory courses and 21.2% of them should be handled within the scope of elective courses.	55.0% of the students stated that the teaching of term management tools should be handled within the scope of compulsory courses and 45.0% of them should be handled within the scope of elective courses.
Qualitative Findings	Participating students stated that terminology should be compulsory at the undergraduate level.	
	Lecturers stated that, like students, terminology should be compulsory at the undergraduate level. Only one lecturer stated that it could be elective. <i>"Terminology must be absolutely compulsory. I think that translating is a field that needs to improve itself." (L1)</i>	
	"It must be absolutely compulsory." (L2)	

When the quantitative and qualitative findings are compared, it has been revealed that the Terminology course should be offered within the scope of compulsory courses.

4.6. Weekly course hour of terminology course

Quantitative Findings	21.2% of lecturers think that Terminology course should be given Theoretical 2 hours - Practical 2 hours, 15.2% of lecturers think that Terminology course should be given Theoretical 1 hour - Practical 2 hours.	26.7% of students think that Terminology course should be given Theoretical 2 hours - Practical 2 hours, 19.8% Theoretical 1 hour - Practical 2 hours, 16% Theoretical 1 hour - Practical 1 hour.
Qualitative Findings	Although some of the students think that the Terminology course should be in the first grade, the majority thinks that it should be given in the third grade. Only one student said that the course should be given in both semesters of the second year. Students also think that the lesson should generally be four hours a week. Two participants stated that two lessons per week were sufficient. <i>"I think that this course will be given in the fall semester of the third year. It should be</i>	
	given four hours a week" (S1) "Third grade and then four hours a week" (S2)	semester of the third year. It should be
	The lecturers generally stated that Terminology should continue in the following years. Although week, they suggested this lesson assuming that t	n they generally suggest two lessons per

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semesters. There are also teaching staff who suggest four lessons per week.
"Two hours a week should be given in the second grade." (L1)
"It can be spring in the first year, or it can be in the first semester of the second year. Two hours a week " (L2)

Comparing the quantitative and qualitative findings, it was decided that it would be appropriate to give the Terminology course four hours a week, two hours of theory and two hours of practice.

4.7. Academic year of the terminology course

Quantitative Findings	While 16% of the students think that the course should be given in the first grade, 25.2% in the 2nd grade, 16.8% in the 3rd grade, 4.6% in the 4th grade, 7.6% of the students think that the course should be given in the first and 2nd grade, 14.5% should be in the 2nd grade and 3rd grade, 6.9% in the 3rd grade and in the 4th grade.	3% of lecturers think that the course should be taught in the first grade, 36.4% in the 2nd grade, 30.3% in the 3rd grade, and 3% in the 4th grade, while 3% in the 1st and 2nd grade, 3% stated that the course should be in 2nd and 3rd grades, 9.1% in 3rd and 4th grades.
Qualitative Findings	Although some of the students think that the Terminology course should be in the first grade, the majority thinks that it should be given in the third grade. Only one student said that the course should be given in both semesters of the second year. <i>"I think that this course will be offered in the fall semester of the third year." (S1)</i> <i>"The third year should be given in both semesters." (S3)</i> <i>"It must be the first and second semesters of the second class." (S6)</i> The lecturers generally stated that Terminology should be given in the second year and should continue in the following years. <i>"Should be given in the second grade." (L1)</i> <i>"It should be given throughout the third and fourth grades." (L3)</i>	

When the quantitative and qualitative findings are compared, the students advocate the view that terminology course can be given in the first grade, and the lecturers state that terminology course can be given in the second and third grade.

4.8. Process of terminology course and success evaluation

Quantitative Findings	51.5% of the lecturers stated that it is necessary to make a success assessment with an applied exam and a project assignment, 18.2% with an applied exam, 12.1% with a written exam and an applied exam.	45.8% of the students stated that terminology course should be done as an applied exam and 35.9% of them as an applied exam and project assignment.
Qualitative Findings	In the terminology course students stated that t handled together. Students also stated that mea practice. <i>"Theoretical and practical education should go</i> <i>equally preferred." (S1)</i> <i>"There should be both theoretical and practical</i> The lecturers stated that, like students, theoretic together in Terminology course. However, unlike importance of learning theoretical foundations. evaluation should be based on practice, project <i>"I am doing weekly planning for both theoretic</i> <i>of the semester." (L1)</i>	surement and evaluation should be based on o hand in hand. Both methods should be deducation." (S4) cal and applied education should be taught the students, they emphasized the Teaching staff stated that measurement and assignments or portfolio files.

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The opinions of the lecturers about measurement and evaluation are given below:
"Applied exam and project homework" (L3)
"For me, the applied exam is always more useful." (L4)

Comparing the quantitative and qualitative findings, the idea of giving project assignments is dominant in addition to the applied exams in the evaluation of the Terminology course.

In brief, "use of term management tools, personal development in technology, difficulties related to the terminology course, level of terminology course, type of terminology course (compulsory / elective), weekly course hour of terminology course, academic year of the terminology course, process of terminology course and success evaluation" are the main subjects which are examined to suggest a terminology course program.

4.9. Terminology course program

It is indispensable what the relationship should be between theory and practice in such Translation and Interpreting departments. Recent years have seen vigorous research efforts on matters of curriculum development in translator and interpreter training. Much of this research has focused on decisions regarding what should be included on translator and interpreter training syllabi, what the optimal teaching methodologies are for nurturing translation skills, what the relationship should be between theory and practice in Translation and Interpreting departments.

We proposed "Terminology" course contents that have to present a coherent methodological approach which contribute to the self-development of the future translators and to their chances in the labor market.

r	
	Contents ⁵
1.Week	What is terminology? Term, Definition, Concept, Specification, Terminology
2.Week	Relationship between Terminology and Lexicology Equivalence and Terminology Studies
3.Week	Historical Development of Terminology Terminology in the Western World
4.Week	Theories of Terminology Pioneers of Terminology
5.Week	What is the technical text? What is technical translation? Differences Between Special Translation and Technical Translation
6.Week	Research Methods in Terminology Terminology Studies on Technical Text
7.Week	General Properties of Terms Term Derivation Methods Terminologists and their roles
8.Week	Midterm
9.Week	Basic Principles of Term Studies

Table 4.9.1. Terminology I

⁵ Data obtained from the doctoral dissertation titled *"Çeviri Eğitiminde Terimbilim ve Terim Yönetim Araçlarının Kullanımı"* written by Zeytinkaya (2019) and translated into English in this part (p.164).

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	Compilation of Terms
10.Week	Bilingual and Multilingual Terminological Analysis Documentation Studies
11.Week	Term Dictionaries
	Term Management Process
	Term Records
12.Week	Standardization in Terms
13.Week	Copyright in Term Studies
14.Week	Machine Translation from Past to Present
15.Week	Machine Translation Approaches
16.Week	Final Exam

"Terminology I" can be teached 2 hours theoretical and 2 hours practice in the fall semester. The academic calendar has been planned for 16 weeks, course contents are listed above.

	Contents ⁶
1.Week	Importance of Terminology in Translation Contribution of Technology to Terminology Overview of Translation Technologies
2.Week	Development of Computer Aided Translation Tools Difference of Computer Aided Translation from Machine Translation
3.Week	International Term Centers National Term Centers
4.Week	International and National Blogs in the Field of Terminology
5.Week	Paid Computer Aided Translation Tools
6.Week	Free Computer Aided Translation Tools
7.Week	Computer Aided Term Management Tools Computer Aided Term Extraction Tools
8.Week	Midterm Exam
9.Week	Mobile Translation Technologies
10.Week	SDL Multiterm - Use in Translation Education
11.Week	Memsource - Use in Translation Education
12.Week	Nubuto - Use in Translation Education
13.Week	Wordfast Anywhere - Use in Translation Education
14.Week	Use of Google Translator Toolkit and Other Tools in Translation Education
15.Week	Term Study - Project
16.Week	Final Exam

Table 4.9.2. Terminology II

"Terminology II" can be teached 2 hours theoretical and 2 hours practice in the spring semester. The academic calendar has been planned for 16 weeks, course contents are listed above.

⁶ Data obtained from the doctoral dissertation titled *"Çeviri Eğitiminde Terimbilim ve Terim Yönetim Araçlarının Kullanımı"* written by Zeytinkaya (2019) and translated into English in this part (p.165).

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Terminology I and Terminology II in Table 4.9.1. and Table 4.9.2. presented to the academic staff working in the Translation and Interpreting Departments as a suggestion. The course contents can be updated with the developing age.

5. Conclusion

In conclusion, Terminology course provides fast and high quality translation process, creates professional awareness. It gives the methods of extracting terms and ensures consistency. For this purpose, especially Computer Engineering departments and Translation Studies departments can work collaboratively. Education programs related to terminology should be organized at undergraduate and doctorate level. Education materials should be prepared by making academic studies in the field. Translation and Interpreting Departments have tried to put forward their opinions on terminology and add the use of term management tools in translation training.

There is no statistically significant difference between the theoretical part of the term science course and the number of hours per week between students and lecturers. Most of the students think that the teaching of the terminology course should be practical. However, the majority of the lecturers stated that the course should be both theoretical and practical. The majority of students think that measurement and evaluation should be practical. However, the majority of lecturers stated that measurement and evaluation should be based on projects. In line with the opinions of the lecturers and students, the place of the Terminology course was questioned in the Translation and Interpreting Departments and the suggestions were presented.

Terminology courses should be included with educational technological translation applications at undergraduate, graduate and doctoral levels. Within the scope of the term of science, an education model covering technological developments should be created and educational materials should be prepared. Postgraduate and doctoral thesis research in this field should be supported, and steps should be taken to develop multilingual term banks and national tools that assist technical translation. Organizing symposiums, interviews and seminars in the field of terminology and increasing the interaction among the field experts can be provided. Steps should be taken to establish a National Term Center within the Turkish Language Association. Commissions should be created at this center, and experts from all languages should be involved. It is expected that institutions such as Turkish Language Association, the Council of Higher Education, Turkish Radio and Television Association, the Ministry of National Education, Scientific and Technological Research Council of Turkey will cooperate. It is hoped that this research will shed light on the studies to be carried out in the related field especially in an international dimension.

At this point, the terminologists, professionals and translators from each country should cooperate with each other to overcome the cultural and linguistic barriers. Thus translators' role in this cooperation is crucial. Indeed, the translator is the person who is entitled to build the lasting bridge between translation field and terminology field so they should create their own monolingual, bilingual and multilingual glossaries, term banks via technological advances occurred in translation sector. This research might contribute to teaching-learning methods in translator training and sought to expose new thoughts on Terminology.

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