LETTRAC survey findings in the Educational Context

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Authors: Toni Badia, Carme Colominas, Mary Filippakopoulou, Karl-Heinz Freigang, Dagmar Fuchs, Johann Haller, Christoph Horschmann, Peter Kastberg, Marie Kosmarikou, Belinda Maia, Bernt Moeller, Jennifer Pearson, Paul Schmidt, Maria Tsoutsoura

Compiled and edited by Ursula Reuther
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1 Introduction

The present report describes the work carried out for Work Package "User Requirements in the Educational Context" of the LETRAC project. The objectives set out by the project were to collect, evaluate and compare data related to Language Engineering (LE) elements in today's translator curricula and to specify user requirements in this domain within the educational context with respect to translators training.

The following university project partners contributed to this report:

- University of Saarbrücken, Germany (UdS)
- University of Mainz/Germersheim, Germany (FASK)
- Universitat Pompeu Fabra, Barcelona, Spain (UPF)
- The Aarhus School of Business, Denmark (CEF)
- Universidade do Porto, Portugal (FLUP)
- Ionian University, Corfu, Greece (ION)

They provided the data they collected and evaluated in their own countries, which describes national profiles of the respective translator training situations, especially with respect to the use of language technologies.

Furthermore, other universities which were not part of the project consortium offered to contribute to this survey by providing data on their programmes and/or evaluation results of surveys carried out by themselves. These universities were:

- Dublin City University, Ireland
- University of Applied Sciences Cologne, Germany
- Leeds University, Great Britain
- Universitat Autònoma de Barcelona, Spain

First, the various methods of how the data were collected and evaluated as well as the appropriateness of these methods are described. Then the results obtained by this survey are presented in more detail. On the one hand, a survey of translator curricula is provided comprising both the curricula of the participating universities and of other universities at a national and a European level, and on the other hand, the results of the questionnaires developed for this purpose are presented and discussed taking into account both national and target group specific aspects. Results emerging from other information sources will be mentioned as well.

Finally, both general and country-specific conclusions resulting in requirements for the educational context of translators training are presented in the last part of the report.
2 Methodological aspects

As specified in the WP description of the Technical Annex, a range of different methods was foreseen to reveal the user requirements in the educational context. One of the most central ones during this project phase was the collection of data by questionnaires. In order to cover all perspectives at the teaching sites, a three-partite questionnaire was set up by the consortium members for three different target groups: students, teaching staff and university authorities. For more details on the distribution and the appropriateness of the questionnaire cf. 2.1.

Another source of information was the Internet, and a lot of data was retrieved this way (cf. 2.2). Furthermore, existing studies and literature were consulted, and events such as seminars and panel discussions also served as information sources (cf. 2.3.).

2.1 Questionnaires

Here is an outline of the experiences with the questionnaires and their use at the partners' sites.

The Danish participant (CEF) posted the questionnaires together with an accompanying letter.

Germersheim (FASK) informed all CIUTI institutes about the project and provided them with the questions for students, teachers and university authorities. Reactions have not come in, yet. However, descriptions of curricula have been provided (cf. 2.1.5.). Furthermore, 14 non-CIUTI institutes were informed about the project by means of the flyer and were asked to forward the questionnaires to the people concerned.

In Saarbrücken (UdS), at the Department of Applied Linguistics, Translation and Interpreting questionnaires were distributed to students of the advanced courses and to teachers. Due to a lot of special terms contained in the questionnaires and due to the fact that not all of the students and teachers speak English the proposed questionnaires were translated into German before their distribution. Their structure was modified by changing the order of the questions, and the layout was changed in order to facilitate their completion. Two small squares were attached to "Yes/No"-questions, so that these questions could be answered by simply checking out the respective answer. Questions which asked for more than "Yes" or "No" were allowed a few lines to write down comments.

The questionnaires for the students were distributed personally at the beginning of each course. This was accompanied by a brief introduction to LETRAC, guidelines for completing the questionnaire and stressed the importance of the students' co-operation. The questionnaires for the teachers were distributed by putting them into their individual post boxes at the institute. They received information about LETRAC and the questionnaire through a brief introduction on an attached front page. Approximately 150 questionnaires were distributed among the students of the advanced courses, and 50 questionnaires were returned within 3 weeks. About 70 questionnaires were distributed to teachers and 21 were returned within 4 weeks.

At the Ionian University (ION) the questionnaires for students were addressed mainly to 3rd and 4th year students and were not translated into Greek before distribution, as those selected spoke good English. They were delivered in person and each student was given a brief presentation of the questionnaire's aim and was kindly asked to fill it in. Most of the students had difficulties with abbreviations (such as IT/LE, LSP, NLP), but it was pointed out that they
were explained within the text. Many students were reluctant to fill it in at first glance, for they found it too long (which required a lot of time) and too technical (full of terms with which they were not at all familiar). This partly explains the low rate of response (3% in the beginning, 25% after contacting them again, and 50% up to now). The questionnaires for teachers had a response rate of 70%. A major disadvantage was the fact that the questionnaires seemed too long at first sight and discouraged the addressees from answering them. In addition, they seemed too technical for some of the teachers, who were responsible for theoretical translations, and not translation courses. In many cases, the teachers’ attitude towards IT/LE depended on whether they were professional translators themselves or not. Teachers who were professional translators seemed more familiar with IT/LE than those teaching theoretical courses such as Law, Politics, Economy, Linguistics, Literature etc. This is due to the fact that professional translators have to face a competitive market which is influenced by technology and which is more or less demanding in this aspect.

At FLUP, the Portuguese participant, the questionnaires were used without modification. The reason for this was that it was felt that they should aim for some sort of uniformity with other institutions and other countries. With hindsight, it is recognised that this may have contributed to a reluctance to respond. However, since, in the view of FLUP, one of the objectives of sending out the questionnaires was as much to educate the receivers as get information from them, this need not be seen as necessarily negative. To have simplified the questionnaire to the extent that it merely asked people about their use of the basic IT many of them already use - i.e. Word and a rather amateur use of the Internet - would have merely confirmed them in their assumptions that this was sufficient.

Questionnaires were distributed personally to teachers and students at FLUP, and were taken personally to those responsible for translation at the universities of Coimbra and Lisbon. Questionnaires were also handed out during translation workshops at FLUP, ISLA and INA to teachers, students, professional translators and representatives of translation agencies. It is not easy to say how many actually were distributed as, for instance, at INA, the conference organisers photocopied a large number on the spot. Others were sent by e-mail and fax, and on several occasions, people received further copies in an effort to get them to respond.

The Spanish partner (UPF) slightly modified the questionnaires in order to facilitate the answers. Some questions were more structured in order to avoid long answers. This facilitated the work for the addressees, but also the task of interpreting the questionnaires. Questionnaires for students were distributed personally via a meeting for this purpose. Questionnaires for teachers were distributed via e-mail, and those for the university authorities via personal interview and/or e-mail and fax.

Although the figures differ considerably from university to university, the overall results obtained seem to be acceptable.

### 2.2 Internet research

FASK retrieved information about the lecture programme of non-CIUTI institutes from the Internet. Internet research was also done for CIUTI institutes which did not answer the request (e.g. Geneva, where a wide range of computer skills is provided and students can specialise in terminology or in MAT).

In order to get an idea of how Portuguese translation curricula compared to institutions in other countries, FLUP turned to the Internet for information. The objective at the time was to find contrasting curricula to use in a presentation on LETRAC which involved showing where
they stood in relation to others. Some of the curricula published on the Internet are described in 3.1.7.

2.3 Other information sources

As already mentioned above, some of the partners also made use of other information sources:

In a first approach, all 14 CIUTI-institutes were informed by FASK about LETRAC and asked to describe the contents of the IT/LE-classes they offer and to report about the reactions and evaluations of their students concerning these classes. The request was answered by the universities of Mons, Brussels, Paris III (Sorbonne/ESIT), Graz, Innsbruck and Montreal. This relatively thin feedback may lead to the conclusion that more intense strategies of information gathering like sending reminders should have been taken into consideration. On the other hand, the lack of willingness to answer the letters can be partly taken as an indication of the degree of importance given to IT at some of the institutes (For a description of the results obtained cf. 3.1.6.).

FASK also consulted the CIUTI-handbook (1995) which gave some indication of the translation curricula, but the information about computer facilities, software resources and classes offered in this book is rather brief and must be partly considered as outdated.

Another source of information exploited by FASK was a seminar for professional translators held at Germersheim. This seminar gave very good insights into what is needed in the professional environment and into what the average skills of a translator working in practice are. Although the context of this seminar was the one of continuing education, the information obtained can also be considered relevant for translator training in general. (cf. 3.3.1. for more detail).

The University of Saarbrücken (UdS) made use of numerous on-site existing experiences and studies in the field of Electronic Data Processing and NLP courses offered in the curriculum since the 1960s. An overview of the development of the curriculum in the course of research projects at the University of Saarbrücken gave some insights into the topic as did the most recent survey on computer literacy of translator/interpreter students at the beginning of their university studies which is done every year (cf. 3.3.2.).

As some of the most recent discussions about translation consider in some depth the impact that new technologies have on translation, UPF decided to consult the respective reports and literature as well, e.g. Sager (1992), where the translation act is seen in the context of the technological environment, and the EAGLES report (1997), where similar conclusions are reached on evaluation of tools to assist translating (for more details cf. 3.3.3.).
3 Survey of curricula

This survey concentrates on translator curricula offered in the countries of the participating project partners, i.e. Denmark, Germany, Greece, Portugal and Spain. Nevertheless, attempts were made to complete the picture by also referring to other European programmes in the field of translator training, although it cannot be claimed that this survey is complete in any respect.

3.1 Translator training in Denmark

3.1.1 LETRAC partner CEF

Handelshøjskolen i Århus / The Aarhus School of Business

The Aarhus School Business offers Bachelor's and Master's Degrees in modern languages, and language education at Bachelor level.

At the Aarhus School of Business students may obtain their Bachelor's Degree (in a combination of two of the following languages: business English, French, Spanish or German) after 6 terms, i.e. 3 years, of education.

After 5 terms the student will specialise in a foreign language (LSP English, French, Spanish or German), international business communication, language technology or technical translation.

Students of all languages follow obligatory courses in information technology. These courses enable students to work with different word processing programmes, to design simple data bases and to use electronic dictionaries. Students are generally encouraged to implement these skills in other courses as well.

After 5 terms, students who chose to specialise in international business communication will follow no obligatory course in language engineering.

Students specialising in a foreign language (business English, French, Spanish or German) and technical translation may use terminology data bases during the term.

Students who specialise in language technology, however, will receive an in depth introduction to a variety of fields within computational linguistics including data bases and terminology, computer aided translation, structuring of data and programming.

Language education at Master level

The Aarhus School of Business offers Master's Degrees in Translation & Interpreting and in International Business Communication in the following languages: English, French, Spanish and German. Students may obtain their Master's Degree after 4 terms, i.e. 2 years, of education.

For the MA in Translation & Interpreting and International Business Communication the students will follow no obligatory course in language technology / language engineering.

Language technology, however, forms an integral part of the MA in Translation & Interpreting to the extent that students are introduced to computer aided translation and to the design and use of terminology data bases during obligatory courses in technical translation. Furthermore students may follow optional courses in graphical production (Desk Top Publishing at entry level) and language technology tools and the Internet.
Language education at Open University
The design and use of terminology data bases form an integral part in the courses in technical translation at the Open University.

3.1.2 Other Danish institutes
There are currently 5 universities in Denmark who implement - to some degree or other - language engineering / language technology in their translator curricula.
For this survey the emphasis has been placed mainly on three questions: (1) At which academic level language engineering courses are taught (BA or MA); (2) to what extent Language Engineering forms part of the curricula; (3) whether Language Engineering a discipline in its own right (obligatory or optional).

3.1.2.1 Aalborg Universitet / University of Aalborg
The University of Aalborg offers Bachelor's and Master's Degrees in modern languages.
Language education at Bachelor level
After 6 terms, i.e. 3 years of education, students may obtain a Bachelor's Degree (in a combination of two of the following languages: business English, French, Spanish or German) at the University of Aalborg.
Students of all languages follow obligatory courses in information technology. These courses enable students to work with different word processing programmes, to design simple data bases and to use electronic dictionaries. Students are generally encouraged to implement these skills in other courses as well.
Language education at Master level
At Aalborg University students cannot obtain a Master's Degree in LSP / Translation and Interpreting.

3.1.2.2 Handelshøjskolen i København / Copenhagen Business School
The Copenhagen Business School offers Bachelor's and Master's Degrees in modern languages.
Language education at Bachelor level
At the Copenhagen Business School students may obtain a Bachelor's Degree (in a combination of two of the following languages: business English, French, Italian, Russian, Spanish or German) after 6 terms, i.e. 3 years, of education.
After 4 terms the student will specialise in a foreign language (LSP English, French, Italian, Russian, Spanish or German), language technology or business economics.
For students of all languages there is no obligatory courses in language engineering / language technology implemented in their language education.
The students are however offered a supplementary course in language technology, which enables them to use electronic dictionaries, terminology data bases and computer systems designed to remove grammatical errors. They are introduced to information search on the Internet as well as to different computer programmes designed to help the translator with the translator's workbench. During the course students will design and use their own terminology data bases.
After 4 terms the students who choose to specialise in a foreign language and business economics will have no obligatory courses in language engineering. The students who specialise in language technology, however, will receive an in depth introduction to the state of the art of computer aided translation programmes as well as learn how to translate with the help of such programs and how to structure data and design terminology and language data bases from a lexicographical point of view.

Language education at Master level
The Copenhagen School of Business offers Master's Degrees in Translation & Interpreting, in International Business Communication and in Computational Linguistics in the following languages: English, French, Italian, Russian, Spanish and German. Students may obtain their Master's Degree after 4 terms, i.e. 2 years, of education.

For the MA in Translation & Interpreting the students will follow an obligatory course in language technology, which enables the students to design, use and further improve terminology data bases. Special emphasis is put on optimising such data bases for use in the translation process. In depth introduction to computer aided translation programmes is part of the course.

For the MA in International Business Communication the students will follow no obligatory course in language technology / language engineering.

For the MA in Computational Linguistics the students will follow obligatory courses in: computer programming with emphasis on programmes which are suited to dealing with computational linguistics; data bases and LSP, which is an advanced course in all major fields of computer aided LSP education; Natural Language Processing (NLP).

Language education at Open University
At Open University students may attend a course in language awareness and language technology with special emphasis on the introduction to relevant language technology for linguists in business and industry.

3.1.2.3 Handelshøjskole Syd / Business School of Southern Jutland
The Business School of Southern Jutland offers Bachelor's and Master's Degrees in modern languages.

Language education at Bachelor level
At the University of Southern Jutland students may obtain their Bachelor's Degree (in a combination of two of the following languages: business English, French, Spanish or German) after 6 terms, i.e. 3 years, of education.

All students will follow an obligatory course in language and computer technology. This course enables the students to work with different word processing programmes, to use electronic dictionaries, to retrieve information electronically and to use computer systems designed to remove grammatical errors. Furthermore students are introduced to Desk Top Publishing and computer aided translation. After 5 terms the student will specialise in technical language, legal language or language technology. Students who specialise in technical language or legal language will to a very large extent communicate with both their teachers and their fellow students via the Internet during their last term.

Students specialising in language technology will receive an in depth introduction to a variety of fields within computational linguistics including informational design, design and development of electronic texts, graphical design, visual information presentation and Desk Top Publishing.
Language education at Master level

At the University of Southern Jutland students may obtain their Master's Degree in Language Technology after 4 terms, i.e. 2 years, of education.

MA students of language technology will follow obligatory advanced courses in online publishing (including HTML and SGML), data bases (including relational data bases) and computer aided translation (including lexicography, pre and post editing).

Language education at Open University

Students who attend Open University will do so mainly via their PC, and they will to a very large extent communicate with both their teachers and their fellow students via the Internet during their education.

3.1.2.4 Odense Universitet / University of Odense

The University of Odense offers Bachelor's and Master's Degrees in modern languages.

Language education at Bachelor level

At the University of Odense students may obtain a Bachelor's Degree after 6 terms, i.e. 3 years, of education.

Students follow obligatory courses in information technology. These courses enable the students to work with different word processing programs, to design simple data bases, to use electronic dictionaries and computer systems designed to remove grammatical errors. They are introduced to information search on the Internet as well as to different computer programmes designed to help the translator at his translator's workbench.

After 4 terms students may chose to specialise in LSP. The students who specialise in LSP will work with the design and use of terminology data bases and computer aided translation.

Language education at Master level

At Odense University students cannot obtain a Master's Degree in LSP / Translation and Interpreting.

3.2 Translator training in Germany

3.2.1 LETRAC partner FASK

University of Mainz/Germersheim

LE and IT is taken care of in Germersheim by an institute within the faculty, the institute for Applied Linguistics and Cultural Studies (IASPK) which is one among several others that deal with language-specific aspects of linguistics and cultural studies. The major task of IASP K is to account for universal aspects of language and culture and in addition to take care of the area "Computer technology and Translation". Major areas such as General/Theoretical Linguistics, Translation Theory, Intercultural Communication, Applied Linguistics including Computational Linguistics, Computational Terminology, Data Processing, Information Technology, Basics of Computer Science, are currently covered and are offered to the students of the translating and interpreting faculty.

The last four areas are the relevant ones for LETRAC.

12 courses are offered regularly. These cover general computer skills including text processing, DTP, internet, e-mail, ftp, Excel, data bases, basic concepts of Computer Science,
as well as courses in Terminology management, Translation memories, basic programming (C), evaluation of and work with MT systems, computational grammars and lexicons.

Since there has been a big demand for courses for professional translators, these are offered as continuation training, e.g. as courses in "Intercultural Technical Writing" and "New technologies in translation".

Germersheim has the following hardware: 80 NT workstations, full connectivity, (150 PCs all in all), 5 Sun workstations: 3 Sparc 10 and 2 Sparc 20, Network: 10 MB (LAN transfer rate), 2 Mbit internet connection (WAN), 4 NT servers, 2 Novell servers, Peripherals (Scanners, OCR, CD-ROM tower, etc.) as well as all relevant MSFT and UNIX software, several MT systems (operational): METAL, T1, Systran, Logos, Personal Translator, Transcend, Terminology management systems, one in-house product: Termbase, TM: Transit, Resources on the intranet: DBs, CD-ROM collections, dictionaries, terminology collections.

The general situation as far as the above LE curriculum elements are concerned is characterised by the following facts:

- All lectures mentioned are optional.
- Hundreds of students leave FASK without basic knowledge about computers, let alone LE.
- There are plans for integrated 'modules'.
- These modules should be based on a 'user needs analysis'.

3.2.2 LETRAC partner UdS

University of Saarland, Saarbrücken

The Department for 'Applied Linguistics, Translating and Interpreting' at the University of Saarland belongs to the established university institutes in the Federal Republic of Germany offering degree programmes for future translators and interpreters that lead to the academic degree of 'Diplom-Übersetzer' and 'Diplom-Dolmetscher'. The degree programmes, which cover eight semesters, consist of two foreign languages and one supplementary, non-linguistic subject. For native speakers of German, the foreign languages are English, French, Italian, Russian, and Spanish; it is also possible for speakers of French to obtain the degree with German and English as foreign languages. All students have to choose their supplementary subject from economics, engineering (mechanical and electrical/electronic engineering) and law (European and international law). About 800 students are enrolled at present. Admission for the degree programmes is possible in winter semesters only.

The Foundation Course (Grundstudium) focuses on basic language competence and language training both in the foreign languages and in the mother tongue. Another major part are introductory lectures on the science of translation and linguistics as well as language-specific lectures providing socio-cultural background information.

The Advanced Course (Hauptstudium) focuses on the different theoretical and practical skills tested in the final examination for 'Diplom-Übersetzer' and 'Diplom-Dolmetscher'; besides this final examination, the students have to submit a comprehensive diploma thesis covering subjects like the science of translation, contrastive linguistics, practical and theoretical terminology studies, analyses of tools for translators (e.g. terminology management systems, systems for machine(-aided) translation, etc.). During this stage students are required to take two seminars, at least one of them in applied linguistics or translation science, the other, in the field of terminology or other related fields.
Language engineering at the Department for Applied Linguistics, Translation and Interpreting

At the University of Saarland the tradition of research in the field of NLP dates back to the 1960s. Research activities have also included research into the working environment in practical translation, i.e. the work process, work organisation and use of electronic aids. As a result of this research, a plan for integrating a NLP-component into the existing degree programmes was developed. Finally, the research project 'Linguistic data processing as a component in the training of translators and interpreters' was launched in April 1988. Its central task was to develop a model for updating the degree programmes for translators and interpreters by incorporating a NLP-component into the existing curriculum. With a view to the work processes in the field of translating and interpreting as well as to the altered job profiles for translators and interpreters, the topics 'Electronic Data Processing / NLP', 'Computer-assisted Terminography' and 'Machine-aided and Machine Translation' were defined as key elements of the component.

Current curriculum

The curricular concept as described in the following section serves as a basis for the integration of an NLP-component into the eight-semester degree programmes for translators and interpreters. Its effects on the course and examination regulations will be described in a later section.

Foundation Course (Grundstudium)
- Introduction to Electronic Data Processing and Natural Language Processing for Translators and Interpreters
- Introduction to computer-based text production and management
- Seminar in NLP ("Proseminar")

Advanced Course (Hauptstudium)
- Foundations of computer-assisted terminography
- Advanced software applications for the different working environments of translators and interpreters
- Foundations of Machine-aided and Machine Translation
- Seminar on NLP ("Hauptseminar")
- Colloquium for advanced students and exam candidates

3.2.3 Other German institutes

Apart from the above two universities there is a third traditional university teaching translation in Germany which is Heidelberg. More recent is the curriculum of the University of Hildesheim where a curriculum for technical translators is offered. In the new Länder the Humboldt university in Berlin and the one at Leipzig offer translator curriculum as well. All of the above mentioned have been contacted and reactions are expected in the near future. For reasons of space, details of these curricula have not been included, although they can be obtained upon request. Furthermore, translator training is offered at universities of Applied Sciences in Germany, one of the most renowned being the one in Cologne, the NLP component of which is sketched below. Questionnaires have also been sent to this site.
University of Applied Sciences in Cologne
The Cologne NLP-component comprises the following courses:

- Computational Linguistics  
  (lecture, 2 hours per week = 24 hours/semester, 3rd semester)
- Computerised Terminology Work  
  (PC exercises, 2 hours per week = 24 hours/semester, 4th semester)
- Machine assisted Translation
- Terminology Work Project  
  (seminar, 2 hours per week = 24 hours/semester, 6th or 7th semester)

3.3 Translator training in Greece

3.3.1 LETRAC partner ION

Ionian University, Corfu
The Department of Modern Languages, Translation and Interpretation of Ionian University is the only state university in Greece to train university students as translators and interpreters. Approximately 60 students are admitted each year to a four-year course through examinations administered by the Ministry of Education. During the first two years the courses offered are mainly of a theoretical nature (Theory of Translation, Literature, General Linguistics, Economics, Law, Political Sciences), but there are also language and translation courses to initiate students into translation practice. From the fifth semester, students choose between Translation and Interpreting courses. Those choosing Interpreting must go through preliminary exams before they are accepted. English, French and German are the main working languages and students are expected to master at least two of these languages. Italian and Turkish are optional courses. From the fifth semester students must also choose two out of three special translation courses in order to get their specialisation: they can choose for each of the languages they study between economic/financial/political translation, technical translation and literary translation. The seventh semester is spent at a foreign university in England, France, Belgium or Germany at the expense of the university. For graduation, students must present a project of about one hundred pages to a committee of teachers chosen according to their interest in the particular subject of the project.

Computer Science, Information Technology and Language Engineering in the translation curriculum at Ionian University

Information Technology courses are currently available to translation and interpreting students during the 1st and 2nd semesters. Until recently, these courses were offered to students who had already completed 2 years at university, but it is now believed that it is essential for them to be initiated into the use of computers as early as possible.

For the moment, the relevant course is called 'Information Technology and Translation' and is available to students two hours per week. It is obligatory and there are oral and written exams at the end of each of the two semesters.

According to the syllabus the topics included in the course vary from one semester to the other. Thus, during the 1st semester students are introduced to the following main subjects:

- Computer Science and computers: basic IT notions, historical development of computers, main applications and consequences of IT;
• Micro-computers: hardware and software, basic operating principles;
• Operating systems (MS-DOS, MacOS, Windows), microcomputer use;
• IT in Translation: word processing, terminology databases, project tracking and archiving systems.

During the 2nd semester students concentrate on:
• Computer networks: translation documentation and Internet, intra- and inter-networking systems in the service of translators;
• Electronic translation automation systems: 'translation tools' applications - historical background, development, utilisation in a modern translation environment;
• Custom applications development systems, e.g. MS Access.

However, due to lack of proper equipment (8 PCs x 386 and 486 (Windows 3.11) and 1 Pentium (Windows 95)) the course up to now has not gone any further than introducing students to Computer Science and demonstrating Windows 95 and a word processor, namely MS Word 7. During the 2nd semester students usually expand their knowledge on the use of this processor.

Recently, the computer laboratory was equipped with 6 modern PCs and it is expected that they will be available to students within the next academic year. However, the electronic infrastructure of the university still remains rudimentary, a factor which limits the course to extremely basic notions.

3.3.2 Other Greek institutes

3.3.2.1 European Educational Organisation, Translation and Interpretation Section
The second institute (European Educational Organisation - Ionian B.S.S. - Translation and Interpretation Section) which offers a translation curriculum at national level is a private one established in Athens and Patras, offering a full 3-year translation course and awarding a certificate validated after a short period of studies in the British Universities of Surrey and Manchester. The institute’s curriculum includes modern European languages (English, French, German, Italian, Spanish, Russian, as well as Finnish from the current academic year on), general and specialised translation courses, preparation for the European “Diploma in Translation” of the Institute of Linguists (London, Great Britain), introduction to major theoretical subject fields (economics, EU, law, lexicography, linguistics, computer science). Capacity: 120 students enrolled for the academic year 1998-99.

Translation and interpreting students are initiated into computer science during the first year of their studies. The course is taught two hours per week and it is basically oriented to the practical needs of future computer users. Few hours are spent on theory and the course focuses on familiarising students with the Windows Operating System and on teaching them how to use Microsoft Office programs, such as Word and Excel. The computer laboratory is equipped with 6 PCs and as yet there is no access to Internet.

3.3.2.2 The British Council's "Two-year translation program"
It is the only one of the foreign-languages institution in the national market which provides, according to its available syllabus, in its newly-built translation program, some courses in Computer Science: mainly text processing and knowledge of the Internet. It is the one of the few institutions which seems to be especially concerned about the professional profile of its
graduates, given that it monitors their employment opportunities and whereabouts after the completion of their studies and is in a position to evaluate *grosso modo* their chances in the Greek translation market.

### 3.3.2.3 Hellenic American Union: Two-year Translation Program (TR1 & TR2)

This two-year program in general translation, mainly from English into Greek, is designed for people who have a high school diploma and are at an advanced proficiency level or hold the Certificate of Proficiency in English and aspire to become professional translators. This program is also appropriate for inexperienced translators who would like to further develop their skills or to acquire the Diploma in Translation. The aims of the program are: a) to introduce students to the principles of translation; b) to expose students to a wide variety of texts; c) to make students aware of the special problems of translation and familiarise them with standard methods of dealing with them. The 1st year contains: Principles and practice of General Translation and Introduction to Technical Translation, and the 2nd year contains: Problems of General and Semi-specialised Translation in the context of the Examination for the "Diploma in Translation". There is no mention in the curriculum of the TR1 & TR2 of the American Hellenic Union about any IT or LT training for their students.

### 3.3.2.4 Goethe Institut Athens

This institution, which was established in Greece in 1952 with the aim of promoting Greek-German cultural co-operation and the German language in Greece, has put in place a two-year program known as "Translation Cycle". It requires the knowledge of the German language at KDS level (about seven years of prior studies) and provides courses in translation from German to Greek, scientific terminology (Law, Economics etc.), distributed over 6 hours per week in the first year and 9 hours per week in the second year. After the completion of the two-year program, the Goethe Institut awards a Translator Diploma (Übersetzerdiplom des Goethe-Instituts Athen -UDA) which gives candidates the possibility to follow a further post-graduate program in the University of Strasbourg in the framework of a co-operation program leading to an internationally accredited diploma in translation in three languages (according to its leaflets). In the syllabus of the Goethe Institut there is no mention of any course in Computer Science or Language Engineering.

### 3.3.2.5 French Institute of Athens (Centre de Traduction Littéraire)

CTL was created in 1986 after the unanimous realisation of their initiators that there was an insufficient number of translated works and efficient translators in the Greek book market. It is mainly oriented towards literary translation from French into Greek and is conducted through workshop courses. It regards translation as a different way of writing, and thus gives priority to linguistic and artistic or creative skills. It also has a strong bond with eminent writers and eminent translators, whose experience is conveyed to CTL's students through specific seminars given by them. No special importance is given to computer science.

### 3.3.2.6 Private initiatives

Annual interpretation seminars, known by the name of the main establisher, Mrs. Dalabira.
The above seminars are a private initiative related to the training of professional Greek interpreters based in Athens and providing one- or two-year courses to graduates and people with proficiency in one or two foreign languages on interpretation. It is well-known and in default of any institution - beyond the Ionian University - capable of producing a sufficient number of interpreters to cover the needs of the Greek market it seems to be largely efficient (at least in the production and employment of its graduates). Its main advantage is that it is run by professionals interpreters and it is aware of the needs of the market in interpreting; a lot of active professionals coming from the workshop/seminar in question actually find employment in Athens-based conventions and seminars in various fields. There is no special training in computer science.

3.4 Translator training in Portugal

3.4.1 LETRAC partner FLUP

At FLUP, the translation part of the traditional general language degree curriculum takes up most of the obligatory subjects for those who choose translation in the 3rd and 4th years. The only subject on this curriculum which is overtly connected to IT is still called by the name it was given ten years ago, 'Word Processing'. Over the last two years this course has come to include an introduction to the Internet, and to the use and analysis of corpora, and students are encouraged to investigate the demo version of translator's workbenches like those of TRADOS and IBM. Besides this, the practical use of IT has been introduced into the translation classes on the curricula and every effort has been made to raise both student and staff awareness of the importance of the new technologies to the life of the future translator. The Translation Room is equipped with 8 Pentium PCs, the Internet, general-use software, a variety of 'raw' corpora, WORDSMITH, demos of programmes like TRADOS and IBM, and several CDs. In June 1998 a single licence for TRANSIT was received, and it is hoped that further access to software will become possible.

In 1998-9, the Master's degree contains a semester-long seminar on 'Information Technology and Translation'. This course consists of fifteen 3-hour classes and, given the present limitations of the software available, serves more as an introduction to the subject than in-depth analysis of specific technology. It is hoped, however, that the students will be able to go into this aspect in more detail and with better equipment when they are preparing their dissertations over the next academic year.

3.4.2 Other Portuguese courses

What follows is a summary of the translation courses offered, with specific reference to any IT/LE elements.

3.4.2.1 Post-graduate courses

Apart from the Master's degree offered by FLUP, the more traditional universities of Coimbra and Lisbon both offer translation at post-graduate level. The post-graduate specialisation course at Coimbra takes 2 years, includes special subject training and one of the nine subjects studied in the first year is 'Applied Information Technology'. The Master's degree course in Lisbon is largely focused on literary translation (English/Portuguese) and includes an element of word-processing.
The **Universidade Nova de Lisboa** also offers a 1-year post-graduate course in translation (German/French and Portuguese) which includes a 4 hour course in Information Technology in the first semester.

### 3.4.2.2 Undergraduate courses ("licenciatura")

Apart from that offered by FLUP, translation is also offered at a university under-graduate level (licenciatura) by:

- **Universidade Católica in Leiria** (private)- a 5 year course which includes one 4 hour course on information technology in the second year.
- **Universidade Católica in Viseu** (private) - a 5 year course which includes one 2 hour course on information technology in the fourth year.
- **Universidade Autónoma de Lisboa** (private) - a 4 year course for translators and interpreters which includes an introduction to word-processing.
- **Universidade do Minho** announced a course in Translation on its Web page a couple of years back but, according to reliable sources, it got no further than there.

### 3.4.2.3 Undergraduate courses ("bacharel")

These courses at "bacharel" level are offered by polytechnics and private institutes. They include:

- The **Escolas Superiores de Educação** in Castelo Branco, Faro, and Setúbal (state). Details of all these courses are not easy to get, but they tend to last 3 years and appear to be fairly traditional with, at most, a short course on information technology in the first year.
- The **Escola Superio de Tecnologia e Gestão in Leiria** (state) - a 3 year course in translation which includes two 4 hour semesters on information technology in the first year.
- **ISAI** - Instituto Superior de Assistentes e Intérpretes, in Porto (private), has been in existence for 17 years and differs in that it offered training at an undergraduate level in interpreting as well. They offer training in information technology over 3 years of the course. However, it would appear that they are now thinking of cutting back on this, on the grounds that, since IT is now so user-friendly and most students can already word-process on arrival, time spent on teaching students IT can now be given to other subjects. Further modifications include a 4th year, making the course equivalent to a 'licenciatura'.
- **ISLA** - Instituto Superior de Línguas e Administração (private) - which started in Lisbon about 30 years ago and which has branches in Porto and Leiria, offers 3 year courses in translation which include an introduction to information technology in the first year.

### 3.5 Translator training in Spain

#### 3.5.1 LETRAC partner UPF

**Universitat Pompeu Fabra, Barcelona**

The main aim of the FTI-UPF is to form a profile of translator / language specialist mainly qualified for specialised translation but also for all other tasks related to language management (terminology management, support information, document management).
Accordingly the FTI-UPF curriculum contains a considerable number of hours devoted to LT. A new curriculum is currently being developed, but the main goal is going to be maintained. Although different courses are going to be designed the total amount of hours devoted to LT will be maintained if not increased.

Now UPF has the following LT elements in the current curriculum:

<table>
<thead>
<tr>
<th>Title</th>
<th>hours</th>
<th>obl/opt</th>
<th>year</th>
<th>theory/practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Use of Computing Resources</td>
<td>20</td>
<td>obl</td>
<td>1st</td>
<td>P</td>
</tr>
<tr>
<td>Language Industries</td>
<td>40</td>
<td>opt</td>
<td>2nd</td>
<td>T/P</td>
</tr>
<tr>
<td>Computational Linguistics</td>
<td>40</td>
<td>obl</td>
<td>3rd</td>
<td>T/P</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>opt</td>
<td>3rd</td>
<td>T/P</td>
</tr>
<tr>
<td>MT Systems</td>
<td>20</td>
<td>opt</td>
<td>4th</td>
<td>T/P</td>
</tr>
</tbody>
</table>

As indicated, 60 obligatory hours (6 credits) and 80 optional hours (8 credits) are devoted to LT in the current curriculum. The following options are also offered:

- in the terminology courses: creation of terminological databases
- in some translation courses: use of Internet, creation of TM, MAT

**Main contents of the courses**

**Introduction to the Use of Computing Resources:**
Introduction to word processing, DOS & Windows, data bases, the use of the Internet (access and retrieval of data)

**Languages Industries:**
Presentation of tools available for LT: Internet search and retrieval of data, data-bases (general & terminological), TM, corpus tools, tools for translation (dictionaries, glossaries).

**Computational Linguistics I-II:**
State of the art in CL, presentation of CL applications (speech processing, text processing, MT, document processing, checkers...), grammars and parsers, introduction to unification-based formalisms, introduction in Prolog (implementation of basic linguistic phenomena: agreement, sub-categorisation).

**Computational Linguistics-III:**
Computer based grammatical description, implementation of linguistic phenomena in a unification based grammar (PATR)

**MT systems:**
State of the art in MT / MAT, basic strategies (direct, transfer, interlingua; multi- / bi-lingual translation problems, formalisation of the translation relation, the use of TM / MT.

in Terminology courses:
Creation of a terminological data-base (both mono- and multi-lingual) 
in Translation courses:
Use of Internet (document retrieval, search for parallel texts, terminology search), use of 
MAT (creation of TM, text alignment), use of corpora (search/retrieval of translation problem examples).

3.5.2 Other Spanish institutes

3.5.2.1 Universidad de Las Palmas / Facultad de Traducción e Interpretación
There are optional courses in computing resources (60 hours, 1st year) and obligatory courses in computing applied to translation (40 hours, 2nd year).

3.5.2.2 Universidad Alfonso X El Sabio (Madrid)/ Facultad de Lenguas Aplicadas
There are obligatory courses in computing applied to translation (40 hours), optional courses in Linguistics and Technologies (60 hours), in Computational Linguistics I (40 hours) and Computational Linguistics II (40 hours).

Main contents of the courses:
Computing applied to translation:
Learning of basic software as users: electronic mail, FTP, Internet, electronic dictionaries, 
grammar and spell checkers, Translation Memories and Automatic Translation.
Linguistics and Technologies:
Deeper knowledge of common tools: text formats and conversions, character sets, expert 
usage of word processors, graphic and sound common formats, presentations, relational 
databases to build glossaries, help files, HTML, translation of interfaces.
Comp. Linguistics I and II:
• Level I: Development of basic linguistic technology; introduction to CL and basic 
  concepts. Development of tokenisers, morphology, semantic nets.
• Level II: Integration and development of applications: using the modules of Level I, 
  development of a Machine Assisted Translation tool or Multilingual Information Retrieval 
  System.

3.5.2.3 Universidad de León
There is no translation school in the Universidad de León, but this information is included 
here as they run a PhD program focusing on theoretical and descriptive research in translation 
studies. Their PhD program includes the following LT elements: Corpus-based tools for 
translators and researchers (20 hours, obligatory) and Introduction to MT (10 hours, optional).

Comparative summary of the Spanish institutes mentioned so far
The minimum of LT courses by law in Spain is of 4 credits (i.e. 40 obligatory hours). The 
FTI-UPF is obviously over this minimum as it has 6 obligatory credits. The other two 
faculties (Las Palmas and Alfonso X El Sabio) have no more than 4 obligatory credits.
With regard to optional courses, the FTI-UPF is in between the other two faculties:
It should be noticed that Alfonso X El Sabio is a private university which started in 1994/95 and their translation department has an extremely positive attitude towards LT. Although no further information about the other translation departments in Spain has been acquired yet, it can be supposed that this translation department is a special case regarding the amount of optional LT courses offered.

3.5.2.4 Universidad Autónoma de Barcelona
- Introduction to documentation
- Introduction to computer science in translation: PC work, Operating systems, Windows, text processing systems
- Computer science in translation: Translator's work station, Multiterm, Oxford Concordance Program, Internet, email, MAT system: Spanish Assistant, HTML
- Lexicography and terminology

3.5.2.5 University of Granada
At the Translation and Interpreting Department of the Granada University students are systematically introduced to many kinds of tools relevant for translating, and participation in these educational programmes are compulsory. In the first year of study, basic skills are conveyed in a course called General Informatics (Informática General), and a second one called Documentation applied to translation (Documentación Aplicada a la Traducción). There is no further information available on the web about these two courses. In the third year of study, students learn to handle different translation tools in a course called Computer science applied to translation (Informática aplicada a la Traducción). This programme aims at giving an impression to the students about how, why and in which cases computer science is able to support and to accelerate the translator's work. It includes theory and practice of e-mail and web-use, multi-lingual text editing, terminology management, MAT in general and MT.

In the fourth year of study a terminological project is elaborated which serves as a basis for the explanation of many aspects of terminology, like its history, semantic implications, practical problems, information acquisition and the like.

After four years of study a graduate student from Granada has at least seen and often also used some of the essential translation tools and is (theoretically) rather well-prepared for the future labour market.

3.6 Ciuti institutes
Some of the institutes that answered the request to provide information about their curricula offer a considerable range of classes concerning new technologies, sometimes as compulsory and sometimes as optional courses, and they apparently try to provide students with the necessary skills which enable them to face the challenges of modern translator working environments. Among the latter are Brussels, Montreal, and Mons. At these training institutions several things are offered: word processing terminology management, translation
memory systems, internet information and terminology management and MT. All institutes which mentioned the products used in these classes (Brussels, Mons, Graz, Innsbruck, Paris) work with the TRADOS tools Translators workbench/MultiTerm. Paris introduces the IBM-tool TM 2 as well. Brussels presents METAL and SYSTRAN, the latter being easily accessible on the Web.

**Brussels** offers three compulsory classes dealing with computer science and MAT: A theoretical introduction to computer science, a practical introduction to computer science and a theoretical and practical introduction to MT/MAT. Besides this, students can specialise in terminology management or in MT/MAT in terms of specialisation modules. As to students' reactions towards IT/LE classes, students argue that they "usually prefer exercises to theory and that they want the courses to be given earlier in the curriculum".

At **Mons** word processing (MS-WORD 7) is a compulsory curriculum element for all students. MAT - mainly terminology management and translation memory (TRADOS-products) - is a compulsory class at the German department. All departments offer an optional class treating terminology management and the set-up of terminology databases.

At **Paris**, where all IT-classes are "optional, but recommended", students' participation in these classes is rare. This fact is considered to suggest that there is sufficient knowledge about translation related computer skills among many students, while the others are mostly interested in simple word processing. This leads there to the conclusion that MAT has not yet found a really interested public.

At **Montreal**, where a wide range of translation related tools is presented in compulsory classes, while further skills are conveyed in optional classes, these curricula elements are regarded very positively by students.

**Graz** offers an optional introduction to data processing, mainly consisting of word processing, which is frequently visited by students. Further skills are taught in optional "Proseminaren", dealing with terminology management, and a class about translation tools in general is planned. The participation at these classes is not as big as it could be. At the moment access to CD-ROM dictionaries is available on the institute's network. Some teachers complain about colleagues being rather reserved with respect to the use of new technologies.

At **Innsbruck** the situation appears quite contradictory: on the one hand, the subject of terminology is fully integrated into the curriculum. "Proseminare" are held on the subject, a terminology database has been established which is permanently extended by the integration of students' research activities, and which is accessible via the web, and terminology research plays an important role at the institute. Furthermore, students are made familiar with subjects like electronic communication, internet resources, text corpora, MT and its post-editing. On the other hand, the class Introduction to computer aided translation had to be abolished because of a lack of students participation.

### 3.7 Other European institutes

In the context of their research activities the LETRAC partners also came across other European universities offering translator curricula including LE related components to a more or less great extent. It is interesting to note, that all of these sites outside the consortium countries, however they were found, belong to the British Isles. However, no claims are made that this survey is complete.

In the following the most interesting curricula will be described briefly.
3.7.1 UMIST
At UMIST in Manchester there exists a course called "Master of Language and Translation" which combines either French or German and Translation Studies. It is a four-year undergraduate Master's course which extends beyond the academic boundaries of a conventional bachelor degree programme. The course aims to help to achieve a very high standard in written and spoken French or German. In addition, it will enable the students to develop an in-depth knowledge and awareness of the role of language in cross-cultural communication.

In the first year, courses in translation studies, computational linguistics, information technology and a second foreign language are offered. In the second year, the translation studies component is increased and the third year is spent in a professional translation setting. This course aims at preparing the students to work in multilingual environments where they will use their language skills and knowledge to mediate between people of different cultures, for example, in the fields of professional translation, language consultancy, translator training or multilingual publishing.

3.7.2 University of Leeds
At the School of Modern Languages and Cultures at the University of Leeds a course called "MA in Applied Translation Studies" is offered. There are two compulsory modules dedicated completely to develop IT and LE skills for translators.

Core module 1 ‘Methods and Approaches’ includes basic and intermediate general IT skills and using the Internet for terminology mining and resource discovery, which are explored in hands-on sessions with marked assignments.

Core Module 2 ‘Machine assisted Translation’ is a fully hands-on practical course lasting two semesters, in which students progress at their own pace from workbooks with tutorial assistance as needed.

On the completion of this module students should have a detailed overview of the state of the art MT and MAT systems, a thorough understanding of file management systems, expertise in advanced multilingual word processing techniques, hands-on experience with at least one integrated workbench-style system, a clear understanding of the various quality specifications pertaining to the post-editing of raw MT output.

The following courses are included in the MAT module:
- Basic course: further IT skills (web searching, use of e-mail attachments, file formats, advanced features of WORD, use of LINGO (= terminology management package); writing of a background assignment on the translation industry impact of MT and MAT
- Second course: Translation Manager II (IBM) = Glossary Management and Translation Memory; short account of using the package
- Final course: Translator's Workbench (Trados) and Multiterm; importation of TM-II translation memory and glossary; comparison of TM-II and Trados

3.7.3 Dublin City University
Dublin City University has two translation programmes, one at undergraduate level (Applied Languages) and one at postgraduate level (Graduate Diploma in Translation Studies).

Courses which include specific training in IT/LE are:
<table>
<thead>
<tr>
<th>Program</th>
<th>Type</th>
<th>Total no. of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Technology (Graduate Diploma in Translation Studies)</td>
<td>Obligatory</td>
<td>48</td>
</tr>
<tr>
<td>Translation Technology (Year 4 Applied Languages)</td>
<td>Obligatory</td>
<td>48</td>
</tr>
<tr>
<td>Information Technology (Year 1, Applied Languages)</td>
<td>Obligatory</td>
<td>24</td>
</tr>
</tbody>
</table>

In the beginning general computing skills such as file management and word processing are taught. Then students move on to Terminology, where tools such as TRADOS’ Multiterm and STAR’s TermSTAR are presented. Then CAT tools such as TRADOS’ Translator’s Workbench and STAR’s TransIT are looked at. Finally, a quick look is taken at Machine Translation (e.g. Globalink’s TELEGRAPH; Systran).

3.7.4 University of Limerick

In order to fulfil the demand for specialised graduates with expertise in both languages and computing the University of Limerick is offering a Diploma/MS course in "Software Localisation". Although it is no translator education in the traditional sense, this course is included in this report, since this "spin-off" domain has a very large potential for employment and the course elements can be considered relevant, at least partly, for translators, too. It is a one-year, full-time course consisting of the following components:

- Computer Programming
- Language Engineering
- Technical Communication
- Localisation Process (including specific techniques and paradigms of localisation).

3.8 Concluding remarks

As far as the curriculum descriptions are concerned, two general observations have to be reported:

- On the one hand, the quality of the curriculum presentation on the web does not necessarily indicate anything about the quality of the curriculum elements themselves. On the other hand, bearing in mind the complete absence of some institutes on the web, the attention which is given to the respective institute’s homepage or the way it is designed can be considered an indication of the attention given to computer skills in general at these institutes.
- The classes described more or less precisely on the web are always the part of the curriculum of the current educational period. Even though many of them are compulsory or optional classes, their contents might still be subject to changes.

As a general result it can be stated here that contents and quantity of classes vary to a considerable extent between the different training institutions. The number of IT/LE classes offered vary between nothing but basics in word processing to a wide range of software tools related to the translation process. It is obvious that nothing can be said about the quality of these classes.
4 Results of questionnaires

As described in 2.1, data gathering by means of three different questionnaires was one of the central tasks of this project phase. Whereas in 2.1. only methods and statistics are mentioned, in the following sections the results drawn from the questionnaires will be summarised according to target groups as well as to partner specific criteria.

4.1 Questionnaires for students

4.1.1 Questionnaires distributed by CEF

<table>
<thead>
<tr>
<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

The questionnaires give rise to the observation that both respondents of the target group students find it increasingly important that LE / IT play a more important role in their studies. It is noticeable that these students feel that the teaching within the field of LE / IT is generally out-of-date.

4.1.2 Questionnaires distributed by UdS

<table>
<thead>
<tr>
<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>150</td>
<td>50</td>
</tr>
</tbody>
</table>

In the course of gaining data from students, 150 questionnaires were distributed and 50 completed questionnaires were returned. Of these 50 questionnaires 18 were completed by students studying interpretation, 30 by students studying translation and 2 by students studying both. The average number of semesters covered is approximately 8.

The curriculum contains a variety of courses dealing with EDP and NLP. 14 students have heard about the course "Foundation of EDP and NLP", 10 students know the course "Introduction to word processing". 8 students have attended advanced seminars in NLP and 7 have participated in an advanced seminar on terminography. The courses "Software applications for translators and interpreters" and "Introduction to machine-aided translation" are not as well-known as the other courses mentioned above.

Language Engineering is considered as an important component of the curriculum by 45 students.

Using the computer in traditional translation courses or in courses in LSP-translation is imaginable for 44 students.

The answers to the questions concerning the experience with software show that - if they have any experience with software at all - operating systems (18 students), word processing (22 students) and the internet (16 students) play the most important roles. Apart from that, a clear

1 The detailed statistical results are available on request from the project co-ordinator or from the institution carrying out the evaluation.
dominance of standard software products (mostly Microsoft products) can be stated. In
general, very few students (6) have experience with specialised translation relevant software
Most of the students gained their experience with the computer at home (29). Another major
part gained it through their studies and some made contact with the computer during an
internship, at school or with friends.
The majority of the students want to receive training in using translation relevant software (16
students). 7 students want to get instruction concerning data banks. The rest considers training
in the internet, word processing, foundations of EDP important.
There is a clear tendency in favour of the computer. 37 students have a computer at home (13
interpretation students and 23 translation students).
21 students had gained their experience with the computer before they started their studies at
the university. 29 had their first computer experiences at the university.
A majority of 28 students had not yet created their own glossary using the computer. Only 22
students created their own glossary, 11 of them using MS Word, 6 using Multiterm and 2
using Access, Excel or Works.
A clear majority (35 students) has participated in courses on EDP/NLP offered at their
institute. Most of the students attended the course "Foundations of EDP". Other courses which
were attended were: courses on word processing, machine aided terminography, software
applications in various translation environments, machine translation and advanced seminars
on NLP and terminology. The two main reasons why 15 students have not participated in
EDP/NLP courses are "lack of time" and "I work a lot with the computer in my private life
and therefore I gain a lot experience at home".
30 students use software for collecting and managing terminology; 26 of them use word
processing programmes, 7 use data banks and only 2 use special software for machine-aided
terminography.
The majority of those students using monolingual (20 students) or bilingual (18 students)
corpora for reference purposes worked with internet software. Other students named "Le Petit
Robert on CD ROM", "Microsoft Encarta", "Encyclopaedia Britannica".
The internet is consulted by most of the students in preparing for courses (mainly for
translation and interpretation exercises). Some students also use the internet in connection
with courses in foreign culture and politics as well as seminars.
43 students out of 50 students do not know how to use a scanner. Only 3 students have used a
translator’s workbench and 8 students have at least seen one (IBM Translation Manager,
Trados Translator's Workbench). 35 students have never seen or used machine translation
software. Of the 15 students who have seen or used this kind of software, 4 students know
Langenscheidt T1, 3 know Systran. Others named Logos, Verbmobil, Transit and Power
Translator.
In the list of courses which are considered most helpful for future professional work
EDP/NLP is considered the most important (named by 15 students). Terminology courses
were named by 7 students and 2 students consider seminars as well as all courses helpful for
their future professional work.
The technologies which are considered most important for their future career are internet and
data communication (named by 23 students), followed by machine aided terminography (13)
and word processing (10 students). 8 students consider EDP in general and translation
software as important. The rest named multimedia in general.
At the beginning of their studies 39 students had no expectations concerning EDP and NLP in
their studies at all. The expectations of 5 students of the remaining 11 students have not been
met during their studies. Only 2 students are very content with the situation of EDP/NLP within their curriculum. The list of the reasons why the students are not satisfied with EDP/NLP within their training is headed by "too few practical exercises" which is followed by "too few technologies introduced". Further reasons are "little theoretical instruction", "too trivial subjects" and even "too difficult subjects". "Too old computers" and "interference with other courses" was mentioned as well.

The majority of students (39; 14 interpreters/23 translators) think, that LE should play a more important role in their studies. 10 students do not want a change in the role of LE in the curriculum.

The majority of students are positive about their participation in courses in the form of a "virtual classroom" (30). Only 15 students have heard about "software localisation" and therefore only a few are interested in courses on this topic.

Only 16 students can imagine writing their diploma thesis in the field of language engineering and computer-aided translation. This seems to reflect a preference for terminology as a subject of diploma theses rather than more theoretically orientated subjects like translation theory or analysis and evaluation of translation software.

As a conclusion, it can be said that students know the importance of LE within their training as interpreters and translators. In one way or another all the students have had contact with the computer. As to future requirements of the curriculum, it can be stated that the fields of translation software, terminology management tools, internet and data communication are becoming more and more important, both as regards the practical operation of these systems and their theoretical background which allows the students to evaluate their advantages and disadvantages in different translation environments. On the other hand, whereas at the moment introductory courses dealing with fundamental concepts in EDP like hardware, software or operation systems are still necessary because new students still rather lack this knowledge, it might well be the case that in the future these subjects will normally be taught at schools at pre-university level.

The fact that there is still not enough information about the possibilities offered in the curriculum may be because the courses are still not an obligatory component. Therefore the task is still to pave the way for careful but obligatory integration of LE into the curriculum.

### 4.1.3 Questionnaires distributed by ION

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<tr>
<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>30</td>
<td>15</td>
</tr>
</tbody>
</table>

Almost all answers came from students who had completed 4 years of study at the university and were working on their diploma thesis.

All of them went through some kind of computer training during their studies. The course followed was called "Computer Science" (cf. 3.1.3.1.), and was taught during their 3rd year. It was obligatory and was taught two hours per week. It included a long introduction to Computer Science as well as some practice on MS-Dos, Volkswriter, Dbase, Windows 3.1, and Word. They would all be interested in special courses where translation relevant software would be used.

They are experienced with operating systems like MS-DOS and Windows, in database systems like Dbase and in word processing programmes like Volkswriter, Word 2, 6, or '97.
They have some experience with Internet / E-mail, and Netscape, however not during their course work, but rather by practising on their own during the elaboration of their thesis or work. They had no experience at all of translation software and terminology management.

At the beginning of their studies nobody had any experience in electronic data processing. Few had a computer at home (most are planning to buy one by the end of their studies, in order to be able to write their graduation thesis).

All advanced electronic tools (terminology management systems, corpus tools, MT programmes etc.) are unknown to them.

They are in general positive towards new technologies, and think it could be helpful to their finding a job and they wish LE elements were included in their studies. On the other hand they are not particularly interested in working on a diploma thesis about LE.

It must be noted that those students coming back from a semester abroad (via ERASMUS scholarships or the obligatory "stage" during the 7th semester of studies at Ionian University) are much more familiar with IT and sometimes with LE. This happens especially with students coming back to Greece from England, France, or Germany where they find well organised computer laboratories and free access to the Internet and e-mail facilities, something which is only just beginning to appear in Greek universities.

In general more and more translation students (especially in their final year) find it necessary to be computer literate. For the time being, this means being able to use a PC and a printer, a word processor (usually Microsoft Word) and sometimes e-mail and Internet facilities which, for the moment, are offered on a limited scale by the recently established University Network Centre. Students are not yet familiar with translation or terminology management software and unless the University infrastructure is improved it is hard to believe that they will be in the near future.

4.1.4 Questionnaires distributed by FLUP

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<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
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</thead>
<tbody>
<tr>
<td>Students</td>
<td>80</td>
<td>25</td>
</tr>
</tbody>
</table>

Most students were able to do basic word-processing before they started, and if they did not have access to a computer at home before, most of them have acquired it since they started translation studies. They all report liking the instruction they get, but find it difficult to get enough practice in the time available. Their experience of translation software is restricted to demo versions of TRADOS and IBM. There is no doubt that, given the opportunity, they would be interested in learning more.

Several questionnaires were distributed to ISLA students. It would seem, however, that their preparation only extends to the use of Windows and Word. The Internet has been introduced recently, but is seen as something that they can consult in their spare time rather than use in class. It was not possible to distribute questionnaires to ISAI students, but since their institute provides instruction in IT over all 3 years, one would expect them to be more satisfied with their preparation. They have had access to the Internet for a year or two but, up till now, there has been no preparation in the use of translation software.

Besides the questionnaires, the following can be reported on the results of discussions with students. There is a general appreciation of the importance of IT in their future lives and
contacts with former students who have been confronted with the need to use it have helped to encourage this.
There were also responses from students on ERASMUS scholarships - both own students after periods abroad, and students from other universities who attend the translation classes. It would seem that, although access to the Internet and e-mail is freely available in some universities, there is no real attempt to integrate the use of technology into the translation classes. One student spent 6 months at Germersheim and made good use of the IT available. However, the students coming to FLUP from other countries were aware of IT but felt under no obligation to be able to use it or apply its use to translation in their own universities.

4.1.5 Questionnaires distributed by UPF

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<th>Target group</th>
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<tbody>
<tr>
<td>Students</td>
<td>40</td>
<td>26 (75% in 3rd year and 25% in 4th year)</td>
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</table>

In the following the students' answers given to the questions were summarized briefly.

Curriculum in current education (cf. above 3.1.5.1.)
Most students are interested in translation relevant software courses.

Experiences
100% have experience with operating systems, Internet, word processing, terminology management software. 75% have experience with database systems, Prolog. 25% have experience with translation software. Most obtained this experience at the university.
100% have a computer at home (Pentium/486). 20% have used corpora for study and have used some MT system.

Expectations
40% expected more practice in the IT subjects and thought that more technologies would be introduced. 60% think IT should play a more important role in their studies. 50% couldn’t imagine when they entered the faculty that computers were so important for translation.

Desiderata
Most of them like receiving instruction in LE and would like to have more practice in translation software. Only 15% have ever heard about software localisation.

4.1.6 Questionnaires distributed by Dublin City University

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<tr>
<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
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<tbody>
<tr>
<td>Students</td>
<td>Unknown</td>
<td>17</td>
</tr>
</tbody>
</table>

Curriculum:
Most are interested in LE/software courses
Half think LT has considerable importance, half some importance in the study programme.

---

2 Questionnaires have only been distributed to 3rd and 4th year students because most of the students of 1st and 2nd years are abroad.
Experiences:

All are experienced in word processing and internet/e-mail, most have experience with Trados, Globalink and Multiterm, ca. one third has experiences with operating systems (DOS and Windows) and with database systems. These experiences were gained mostly at the university. At the beginning of their studies only very few students already had knowledge in the field of electronic data processing and half of them perceive their future job now as having more technology included than anticipated. Half of the respondents had already made a glossary in electronic form. Half of them have a computer at home. Only a few students use terminology software for preparing LSP translation classes. One third uses monolingual corpora for reference purposes, bilingual ones only a few. Tools used for this purpose are e.g. WordSmith. Ca. one third knows how to use a scanner and how to align texts. Most of them had a demo of Translator’s Workbench and STAR and are using Trados. Most of them have never had the opportunity to use an MT system.

Expectations:

Computer skills (including tools) and LSP translation are considered most important for their future work, but only one third is satisfied with what is offered in the domain of LT. Most of these students think that too few technologies are introduced and that there were too little theoretical instructions and too little hands-on practice.

Desiderata:

Most of the students think LT in general should play a more important role. Two thirds had already heard about localisation and are interested in attending courses in this special field.

4.1.7 Questionnaires distributed by the University of Applied Sciences Cologne

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<th>Target group</th>
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<tbody>
<tr>
<td>Students</td>
<td>Unknown</td>
<td>10</td>
</tr>
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</table>

Most students consider LE courses important and have already participated in optional courses. Only 1 student had no experience with computers before starting at university, while only 5 have a computer at home.

Most of them are interested in learning more about LE/IT, especially Text Processing and Internet. They do not think that there are enough practical courses. Most students say that they were not encouraged by their translation teachers to use computers.

Most students have never had the opportunity to see or use a MT system or translator's workbench. Most students have already heard about Software Localisation and are interested in participating in respective courses.

Only 3 students are thinking of writing their diploma thesis about a LE/IT topic.

4.1.8 Questionnaires distributed by the Universitat Autònoma de Barcelona

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<tr>
<th>Target group</th>
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Page 30/50
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<thead>
<tr>
<th>Students</th>
<th>300</th>
<th>114</th>
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</table>

At UAB 114 questionnaires were returned including 57 from students who are studying to become translators, 9 students to become interpreters and 47 students who indicated that they want to become both or that they have not yet decided. The average number of semesters is ca. 4.5.

The curriculum of the Department for Translation and Interpretation (Facultat de Traducció i d’Interpretació) contains a range of compulsory courses in Information Technology and Language Engineering. Most of the students listed "Informática aplicada a la traducción" (4 hours per week), "Terminología" (3 hours per week) and "Documentació" (2 hours per week). A clear majority of 95 students cannot think about using the computer in translation courses. 19 students can imagine the integration of the computer in the course. They gave statements like "Using internet" or "translation is easier with the computers and the technology".

The importance of LE in the study programme of the students of UAB is evaluated by 52 students as "rather important" and by 43 students as "considerably important". 14 students think that LE has "(almost) no importance" and 5 students "don't know" how to evaluate the importance in their study programme.

Almost all students have experience with software. The list of software starts with word processing (105 students) followed by software to get access to the internet and e-mail (99 students) and by operation systems (76 students indicated it), software for data base systems (67 students), software for terminology management (38 students), computer games (35 students) and experience with MT-systems (28 students). Most of those students who have experience with software for word-processing know "Word" and "Word Perfect", although only a few indicated "AmiPro". The most frequently used Internet and communication software is "Netscape" and "Internet Explorer". Only 3 students named "Telnet". Other programmes were "Hotmail" and "Lettera". Almost all of the 76 students who have experience with operating systems named either "MS-Dos" or "Windows" and only one student knows "OS2". Best known data base systems were "Access", "Idealist" and "Dbase". "Multiterm" was indicated by all 38 students as software for terminology management. 35 students have played computer games. 28 students have experience with MT-systems; most of them named "Power Translator" and "Translator’s Workbench". 8 students also have experience with other types of software than those indicated on the list. They named "designing software", "Adobe Photoshop v40" and "CD-Rom".

A clear majority of 68 students gained their experience with the computer at university. 55 students named "at home" or "in the family" as places where they have gained their computational experience. A minority first encountered the computer in school (11 students). The rest indicated places like "previous jobs" or "special computer courses". A link can be drawn between these answers and the answers to the question concerning the students’ knowledge of EDP before they began their studies, because of the 86 students who answered this question, 51 students had no knowledge of EDP. Only one student wrote that he or she had "good knowledge" when he or she entered the university.

Most of the students had instruction in technologies during their training. Subjects were word processing (systems like: Word, Word Perfect), using the Internet or writing e-mail, operating systems and data base systems such as Access, Idealist, Multiterm. 20 students wrote that they had instruction in "basic programmes", "how to use the PC" or "media systems". Only 9 students had instruction in MT-systems such as Power Translator and Translator’s Workbench and only 3 students in documentation. These figures show that the translation relevant technologies which can be considered the most important for future translators rate very low. This fact is also confirmed by the wish of the majority of students to receive
instruction in translation software and data base systems. The wish to receive instruction in
spread sheet systems, e-mail, internet and text editors is rated lowest.

Only 41 students have already created a glossary in electronic form, 95 students have a PC at
home

According to the answers to the question "Have you attended any courses in Language
engineering?" the participation is very low. Only 2 students (out of 114) say that they have
attended such courses. This is certainly due to the fact that they did not understand the term
Language Engineering. Students haven’t attended the courses because they see "no need", "I
am not interested in it" or "they didn’t appeal to me".

The use of monolingual or bilingual corpora for reference purposes is not very popular among
the students. Only 36 have used monolingual corpora and only 34 have used bilingual
corpora. A few students added "I don’t know what it is"

27 students have attended a demonstration of a Translator’s Workbench and only 11 students
have used one. 28 students have had the opportunity to use an MT-system. 18 students have
used Power Translator and 7 students named Translator’s Workbench. 7 students "don’t
remember the name" of the system they have used. One student worked with Alta Vista
Translator, one with Spanish Assistant. One student considers Multiterm an MT-System.

Concerning the expectations of the students regarding their curriculum only approximately 56
answers could be analysed. The rest of the answers were of no use because the students did
not understand the question ("curriculum" was understood as "CV"). A clear majority of those
56 who understood the question consider "translation classes" and "computer science" as the
most important parts of their curriculum. 5 students answered "I don’t know" and 2 students
wrote that "everything is important" in their curriculum.

91 students listed technologies which they consider most important for their future career. 63
of them indicated "computer" or computer related technologies such as "E-mail/Internet" (50
students), "Translation software" (14 students), "CD-ROM" (8 students), "Terminology
management" (4 students) and "Data base systems" (8 students).

With regard to the extent and content of LE subjects in their studies the expectations of 104
students have not been met and only 10 students are content with the current LE classes. The
most important reasons why they are not satisfied is that "too little practice" is offered in their
studies (54 students), followed by the reason that "too few technologies were introduced" (52
students) and that the "subjects are too banal" (20 students).

83 students want LE to play "a more important role". 16 students think that LE should play
"an unchanged role" in their curriculum and only 2 students think that the role of LE should
be less important.

There are a variety of differences which the students perceive in the way in which they
imagined their job when they entered the faculty and the way they see it now. The majority of
the perceived differences deal with general remarks concerning the studies in general such as:
"I didn’t imagine the translator had to spend more time doing research than translating." 14
students were surprised about the way the computer is integrated in their studies. For 13
students their expectation concerning the possibility of getting a job has changed. They wrote
e.g. "I think finding a job poses more problems than I thought" and the like. For 7 students
their studies turned out to be entirely different from what they expected at the beginning.

The list of other useful technologies which the students consider helpful for their future job
contains translation software, e.g. translation memories, the internet, followed by CD-ROMs.
4 students named data bases as useful technology and 2 students each named "Access",
"Excel" and multimedia. One student considers "voice type" as useful technology. A clear
majority of 12 students answered the question with "I don’t know", which indicates their lack of information.

74 students gave statements to the questions concerning the additions they want to make to the curriculum. 29 of them want to have more possibilities to gain experience in the field of LE. They want e.g. more "programmes for automatic translation". 10 students want to have more "practical lessons".

The question "Do you enjoy receiving instruction in LE?" was answered with "Yes" by 55 students. 37 students answered "don’t know" and 11 students answered "No".

Only 49 students have heard of software localisation as a special form of translation. A clear majority of 64 students are not interested in attending a course in software localisation. Only 49 students can think of attending such a course. Only 6 students can imagine writing a research paper in the field of LE.

As a conclusion it has to be said that the students of UAB know about the importance of the integration of LE in their studies. But a lot of useful data was lost because of misunderstandings which were caused by the fact that the questionnaire was not tailored especially for the students in Spain.

4.2 Questionnaires for teachers

4.2.1 Questionnaires distributed by CEF

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<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
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<tbody>
<tr>
<td>Teachers</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

From within the target group Faculty the respondents were quite homogeneous when it came to their knowledge of IT. They all state that they consider their IT capabilities to be on user level and that they use IT in preparing for classes. When it came to the evaluation of the importance of implementing IT in their teaching they were not, however, homogeneous. Each respondent had a different attitude towards this aspect ranging from considerable importance to (almost) no importance. But since the respondents teach different subjects this did not come as a major surprise. This then leads to the tentative assumption that certain subject fields are indeed more IT sensitive than others.

From the three questionnaires the following user requirements have been abstracted, the listing reflects the importance of the individual elements:

- Both general and translator specific IT / LE knowledge must form an integrated part of translator training
- Increased use of LE / IT in teaching (translation relevant software and terminology data bases as well as general grammar checkers, style checkers etc.) both on a theoretical and on a hands-on basis
- Increased use of LE / IT in information retrieval training (mostly via Internet).

It is noticeable that every one of the respondents considered the teaching of LE at their institution to be either insufficient, inadequate or both. This again comes from either lack of funds or insufficient expertise, of which the latter then leads to the observation that some degree of (EU-standardised?) teacher training within the ever growing field of LE / IT is of considerable importance when it comes to translator training. And indeed all respondents state
that they would be interested in taking part in special projects courses etc. where they could
learn more in this regard.

4.2.2 Questionnaires distributed by UdS

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<th>Target group</th>
<th>Distributed</th>
<th>Received</th>
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</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>70</td>
<td>21</td>
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</table>

Approximately 70 questionnaires were distributed and 21 completed questionnaires were returned. Two thirds of the teachers who completed questionnaires are not involved in courses in the field of EDP/NDP. The remaining 7 teachers give courses in "Foundations of machine-aided word processing", "Foundations of EDP/NLP", "Software applications in the translator’s working environment", "Advanced seminar on terminography", "Application of WWW-resources in research for diploma theses."

Most of the teachers who are not involved in teaching LE themselves (12) nevertheless encourage their students to attend courses in EDP/NLP, machine-aided translation and computer-assisted terminology management and use information technology in their courses. The teachers motivate their students in various ways. They provide information about available material for doing research and the possibilities of the internet. They recommend the use of terminology management programmes to create glossaries and data banks. One teacher wrote: "I encourage my students to write their translations with the computer and ask them to send them by e-mail or remote file transfer." On the other hand, another teacher did not even know that courses in the field of EDP/NLP exist.

Only 8 teachers out of the 21 who completed the questionnaire had a specific training in EDP/NLP during their own studies. "Word processing" was mostly named as the field they got in touch with during their studies, followed by "machine-aided translation" and "computer-assisted terminography". One teacher received training in "automatic analysis of texts". Two teachers mentioned their studies in computer science or computational linguistics as reason why they had received training in EDP/NLP during their own studies.

The influence of EDP/NLP in the subjects they teach is considered "very important" by 11 teachers, 10 teachers consider it as "important". This is a clear evidence for the significant role of EDP/NLP in the training of future translators and interpreters.

The question "What tools of EDP/NLP do you know?" was answered by most of the teachers with "word processing" (Word Perfect, Word for Windows, Latex), "data banks" (Access, Dbase) and "spreadsheet programmes" (Excel). Others named terminology management programmes (Multiterm, Transit), "Machine translation systems" (T1, Personal Translator, Power Translator, Systran, Logos). A few teachers know "style- and grammar checkers", "DTP-Software" and "software for graphics".

All 21 teachers who completed the questionnaire have experience with word processing. A clear majority named Word for Windows or Word Perfect. Others indicated Latex (3 teachers). 2 teachers each named Locoscript and Ami-Pro. Word processing software is followed by experience with the internet (17 teachers). Netscape was indicated by 11 teachers. 4 teachers each named the Internet Explorer and the e-mail software Eudora, the rest has some experience with AOL, elm2, Mosaic, Lynx, Compuserve or Pegasus. As operation systems Windows and DOS were named by 10 teachers. 7 teachers have some experience with UNIX. Others indicated Wings/NT, BS2000, OS2 or Amiga. 10 teachers have experience with data
bank systems. Access was named by 6 teachers and Dbase by 3. Other types of data base software were Paradox, F&A, Locofile, Oracle, Raima, MSQQL. 10 teachers have experience with terminology management systems. Multiterm is known by 8 teachers. 3 teachers have experiences with TermStar and 2 teachers each know TermBase and TWIN. Termsystem, Keyterm, TMS, Superlex and Termex were only named by one teacher each. A minority of 8 teachers have experiences with translation relevant software. The software systems like T1, Systran, Logos, Stylus, Translator’s workbench, Transit, Translation Manager, Power Translator were all named either 2 or 3 times. Games seem to be not very popular among teachers. Only 6 teachers report some experience with games such as Tetris, Flipper or Solitaire. Eight teachers out of 21 say that they have experience with software types other than those indicated on the list. One teacher knows programming languages such as C, C++, Perl, Tcl/Tk, Java (here a link can be drawn to the teachers who studied computer science and computational linguistics). Two teachers named DTP-Software (Ventura Publisher, Frame Maker). The rest named Power Point, Paint Shop, Corel Draw, Works, Access or Multiplan.

In order to prepare their courses 17 teachers use the computer and only 4 teachers do not. Those 17 teachers use mostly word processing systems (Word, Word Perfect was named by 11 teachers). Software for the access to the internet (e.g. Netscape) is used to prepare courses by 4 teachers. Multiterm was named by 2 teachers and only one teacher uses machine translation relevant software for preparation. Other software used for the preparation of courses was Access, Excel, Power Point, CD-ROM, Deskscan and Textbridge OCR.

Two thirds of the 21 teachers use the internet to collect material for their courses. But only 8 teachers use the computer for the courses themselves. Most of them use machine and machine-aided translation systems, followed by terminology management system (Multiterm). Software like text editors, Power Point or CD-Rom references were indicated too. The small number of teachers who use the computer during courses has to be seen in the context of those teachers who give courses in the field of EDP/NLP. For the remaining number of 13 teachers who do not use computers in their courses this is mainly due to the lack of EDP/NLP technology at the institute. Even if the teachers wanted to use the computer it is very hard for them to do so.

The institute provides technology in the field of EDP/NLP but this is not generally known among the teachers. 5 teachers could not answer this question and wrote "?" or "I have no information about it". A clear majority (13 teachers) considers the technology available at the institute as insufficient.

6 teachers consider the institute’s education in the field as "good". The same number evaluates the courses as "insufficient". 3 teachers think that the teaching of EDP/NLP in their institution is "excellent" and one teacher said it was "adequate".

An outstanding majority of teachers (18) have the opinion that EDP/NLP should play a "more important" role in the translator’s curricula. Only 2 teachers want to leave the role of EDP/NLP unchanged. Nobody thinks that in the future the role of LE in the training of translators and interpreters will be "less important".

All of the 21 teachers think that training in Language Engineering will help graduates to get employment. All teachers feel that the progress of Machine (Assisted) Translation will affect the future of the translator. In general MT-systems will not take over the professional work of the translator but will "support" the professional work (e.g. in the field of terminology management) or provide a "contribution" to cope with the increasing amount of translations. One teacher sees new employment possibilities in the field of MT-systems (e.g. in the development of systems).

15 teachers think that more research in EDP/NLP should be done in translators' institutes. They suggest areas such as multilingual word processing, improvement of machine-aided
translation systems as most important for more research. Other teachers consider the improvement of AI and networks as important fields for research. Computer-assisted project management in different environments was also named as being worth some more research.

A majority of 18 teachers think that EDP/NLP should be an obligatory part of the training of translators and interpreters and that this is beneficial for the students. They consider subjects such as machine and machine-aided translation systems and terminology management as the most important ones for training. The introduction of word processing systems and their effective use were also mentioned as important fields for the curriculum. 3 teachers want to have "the organisation of translation projects" as a subject for the training. Doing research on the internet in order to get information is important to 2 teachers. Other curriculum relevant subjects were: data base systems, documentation management, DTP-systems and editors.

The use of computers in regular translation courses and LSP-courses is imaginable for 18 teachers. Only 3 teachers are not interested in computer work during the course.

An outstanding majority of 20 teachers are interested in participating in special project courses or seminars in special fields of translation, e.g. software localisation, beyond the boundaries of their own department.

The list of obstacles preventing a more extended use of EDP/NLP technologies in the curriculum contains items like "general lack of funds" (15 teachers), "lack of appropriate technology" (15 teachers) and "insufficient expertise" (15 teachers). Other items are "resistance of students or staff" (named by 3 teachers). Other reasons were "a general disorganisation of education in universities which leads to time problems", "passivity of staff", "every student should have the opportunity to work practically in the course" and "fears of innovation.

The statements concerning the chances to get and maintain employment are mainly considered good but it was added that "a lot of graduates do not work as translators or interpreters". 4 teachers consider the chances of employment will be better if the graduates have skills in EDP/NLP and if they are flexible about where they live.

As a conclusion, the analysis of the questionnaires of the teachers show that EDP/NLP is essential for the future interpreters and translators. The experiences of the teachers reveal that gaining knowledge in EDP/NLP is essential for survival in the professional business world. The integration of EDP/NLP in the curriculum has to be seen as a as an essential way of entering the "age of information".

4.2.3 Questionnaires distributed by ION

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<th>Target group</th>
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<tr>
<td>Teachers</td>
<td>10</td>
<td>7</td>
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Teaching activity and background

None of the teachers who answered is responsible for LE courses; LE is nevertheless of some importance in their course (mainly in terms of speed gained, as one put it).

Their disciplines are: translation (from Greek into German), General Translation (English-Greek), Stylistics / Textual Analysis (not all have stated their courses at the University).

Almost all (but one) encourage their students to use a computer but are aware that most of them cannot afford to buy one, or feel they need to stress the phrase "critical use" in their wording.
One third or so had specific training in IT, so they use these tools and encourage their students to do so, tools like the following: bilingual/monolingual dictionaries and encyclopaedias in electronic form, Office Packages, Internet.

2 of them knew of the LE tools programs: Translation Manager/IBM, Workbench/Trados.

**Experience**

Besides the basic software (word processor, operating system, Internet) which all had, there were three out of seven who seemed better equipped in terms of electronic tools: operating system: Workbench 3 (Amiga), Windows 95/98 // MS-DOS, UNIX, MACOS, WINDOWS
Dbase systems: Sbase 4 Pro (Amiga), MS Access // MS Access, Claris Filemaker // Telephone directories; Internet/E-mail: IBrowse (Amiga), Netscape, Internet Explorer // E-mail packages, FTP, BLYTH-OMNIS, WEB BROWSER; word processing: WW 7 (Amiga), Word 5.1 (Mac), Word 7 (PC) // CLARIS MACWRITE, NISYS; translation software: EUROTRA, Systran // Frank Brall Translator (1990 version); terminology management software: EURODICATOM // Access Runtime SLW, EXCEL

They all use computers in preparing their courses.

**Infrastructure**

Technologies available at the institution: PCs, printer, Internet (not always working - constant problems). One stated that this infrastructure is pooled rather than available on an individual basis.

Also, on this evidence, it has been argued that the state of the art of the electronic tools, in sufficient number and in working order, should be accessible to students and teaching personnel under the supervision of technical personnel.

**Local curriculum**

Two said LE teaching in the institution is adequate, but hands-on practice is necessary; two considered it to be insufficient; one excellent (note they all refer to the same institutional infrastructure).

All are willing to introduce more LE tools in their teaching practice as long as they become available.

**Attitude towards LE**

They were positive in general towards LE, and there were some really interesting arguments on the various items of this part, which are rather restricted However, there were some marginal negative responses. In particular:

LE-enabled students will certainly find it easier to find a job. LE will enable them to produce greater quantities of better translation. Therefore it should be an integral part of the curricula but not an excuse for sloppy translation.

Still others believe that LE-enabled students are not yet in demand in the Greek market. That does not mean that they should not be introduced to these tools in order to judge for themselves which of them are useful.

It is known that universities are already heavily involved in this kind of research: what is urgently needed is multilingual dictionaries of very high quality involving less-used languages.

Areas of interest: context-embedded terminology, vocabulary, phraseology, text retrieval, user-friendly information retrieval from parallel corpora.

Some are absolutely prepared to increase the use of LE tools, and are interested in taking part in special project courses or seminars about LE (it should play a more important role).
Some encourage their students to use Communication tools and other tools (though few have such tools), as they are particularly useful in their preparation of their final thesis.

**Statistical data**

Most know nothing about their students' short- or long-term chances of finding employment. The two teachers who stated an opinion, thought the students have rather good chances (one of them is a professional translator, therefore it can be assumed that he is familiar enough with the market).

On the one hand, it could be said that the above ideas reflect most teachers' and translators' attitude towards IT/LE at the university. Having said that, one of the drawbacks is that the lack of interest as to the response to the questionnaires can be considered as the "suspicious" or "reserved" attitude of the other academics towards IT/LE tools; therefore one can argue that the answers not received could be equally enlightening (and would provide a picture contrary to the picture developed by those received).

4.2.4 **Questionnaires distributed by FLUP**

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Questionnaires were distributed to teachers at FLUP, ISAI, ISLA, Instituto Superior de Tecnologia e Gestão of Leiria, Lisbon, and Coimbra, and there were responses from the first 4 institutions. Those who responded were aware of the uses of IT and were able to use a PC and the usual software for their personal needs, but they confessed to a very limited knowledge of LE. However, they definitely saw the need for more use of IT, at least for training translators, and saw lack of funds, technology and expertise as the principal drawbacks to development in this area. The majority of teachers approached, however, chose to ignore it and, when asked when the questionnaire would be ready, confessed with embarrassment to an inability to answer most of the technical questions.

At FLUP the subject 'Word Processing' has always been given by a member of staff whose main interests lie elsewhere. The member of staff who now tries to cope with the ever-widening scope of the technology required, is only self-trained in IT and offered to take over teaching the subject because the alternative, at the time, was to remove it from the curriculum, a situation which she felt would be disastrous to the students. In other institutions, it would seem that IT-qualified staff are usually employed for the task of teaching subjects like 'Introduction to Computers'. As is the case, in many institutions teaching the Humanities in a traditional fashion, there is little or no academic prestige attached to knowledge of IT, and this is a strong disincentive to the teaching staff.

The important factor here is the attitude of the translation teaching staff. Perhaps LETRAC should also try and come up with some suggestions on how to educate the teachers before it turns to the students.

4.2.5 **Questionnaires distributed by UPF**

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<tr>
<td>Teachers</td>
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**Teaching activity and background**

50% of the teachers encourage their students to use IT when preparing work for class. Use of word processors, data bases and spell checkers is recommended by teachers to their students when preparing translation or doing other tasks for class. 75% have not had specific training in LE/IT, and the rest have followed some course in word processors. 40% resort in their teaching to word processing, Internet, glossaries, spell checkers, dictionaries on CD-Rom.

**Experiences**

95% of the teachers have some experience with operating systems (Dos, Windows), word processing (Word, WP), Internet/E-Mail. 20% have some experience with data base systems (Access, Dbase), translation software (Trados, IBM Translation Manager),

**Infrastructure**

The teachers have at their disposal 2 rooms with 30 PCs each, served by a server, connected to the university net and Internet and Dos, Windows, Access, Netscape, UPF Internal Information System, Word, Translator’s Workbench (Trados), MultiTerm, Prolog, Excel, PowerPoint, HTML Writer as software available in the class rooms.

The majority use computer and internet resources in preparing their courses and think the technology available is sufficient.

**Local Curriculum**

90% think the teaching of LE is good/adequate.

**Attitude towards LT**

The majority of the teachers do not have an opinion about the students’ short- or long-term chances to get an employment. 90% think being LE-enabled will help the students get employment. 40% think progress of MT will affect positively the future of the translator, 60% are not sure.

MT and MAT are the areas most teachers would like to see investigated further.

95% agree that integration of LE elements in the curriculum of students would be beneficial. Most important areas are data bases, terminology, translation software, Internet. 90% would be interested to know more and to increase the use of LE in their teaching programme. 75% think LE should play a more important role in translators’ curricula and 25% an unchanged one.

4.2.6 **Questionnaires distributed by Dublin City University**

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Teaching background:

2 out of 5 teach LT, 1 non-LT teacher encourages the students to use LT. 2 don’t know tools, the others know various TM, MAT and MT systems and use them. The importance given to LT depends on the subject being taught.

Experiences:

All of them know Netscape and email, most of them Windows and Word. Among the tools, TRADOS is the best known, and in addition a broad range of tools and systems is known to the LT teachers. All of them use computers and internet resources for preparing classes.
Infrastructure:
Technology is sufficient (networked PCs, workstations, printers, scanners), however more PCs, more internet access and a wider variety of software is desirable.

The integration of LT into the current curriculum is satisfactory, and most of the other teachers are willing to use them in their courses.

Attitude:
Most think that LE enabled students have better prospects since the role of the translator changes; therefore they encourage the integration of specific LT elements and consider LT as an integral part of translator education. MAT and terminology management are considered most important. All of them are interested in learning more of how to integrate LT in the classes and in taking part in courses, e.g. localisation. Stumbling blocks are student and staff resistance and the ignorance of the LT potential as well as lack of funds and insufficient expertise. Most encourage their students in using relevant software and are in favour of using computers in their courses or even as a communication medium with their students.

4.2.7 Questionnaires distributed by the University of Applied Sciences Cologne

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Although only 3 out of the 11 teachers are teaching classes in the field of LE/IT, most teachers consider LE/IT important and think that such components should be obligatory in translator curricula (especially teaching Text Processing, Terminology Data Bases and Internet).

None of the teachers think the infrastructure in their own institution is sufficient and this is attributed to lack of financial support, lack of teachers' knowledge about LE/IT and lack of experience.

Most teachers are interested in learning more about LE/IT and in participating in special seminars.

Most teachers think that the progress in MAT/MT will influence the future work of translators and that it is therefore necessary to have a certain education in this field too.

4.2.8 Questionnaires distributed by the Universitat Autònoma de Barcelona

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Questionnaires were also distributed to the teachers of UAB. 15 teachers completed the questionnaire, only 2 of them are responsible for teaching LE. The courses they teach contain
the following: Internet, E-mail, Multiterm, Power Translator, computer assisted translation, DOS, Windows and Wincalis.

7 teachers wrote that they use LE technologies in the class. They encourage their students to "use the internet as a source for information" and to attend LE courses. 8 teachers have thought of using the PC in their regular courses. 8 teachers have thought of communicating with their students via electronic media. All teachers who returned the questionnaires do encourage the students to use software for their studies.

The teachers who answered this question named a wide range of tools they know. They indicated tools such as Multiterm, Concordance programmes, Trados workstation, Eudora, MS Word and the internet.

3 of the 15 teachers who returned the questionnaire wrote that they use LE tools.

The importance of LE in the subject(s) they teach is considered by 3 teachers as "(almost) no importance", 4 teachers marked "some importance" and 5 teachers give LE "considerable importance" within the subjects they teach. 3 teachers did not answer this question.

Only 4 teachers using LE in their teaching programme reached the goals they had in mind, when they introduced LE.

The teachers have experience with the following software: 11 teachers know about operating systems (8 MS-DOS, 2 UNIX and 1 teacher MAC). 8 teachers know about data base systems (2 teachers know about Dbase and Multiterm; one teacher knows about Excel, IDX II, Termcat, Eurodicautom). 14 teachers have experience with the internet or e-mail and out of that number 6 use Netscape, 4 Eudora, 3 Pine and one teacher has experience with Explorer. 13 teachers have experience with word processing systems. (Word Perfect was named 8 times, Word for Windows 11 times). Only 4 teachers have experience with translation software. (In each case one teacher knew about PowerTranslator, Spanish assistant, Trados, Translator's workbench). 6 teachers have experience with terminology management software. 3 have worked with Multiterm and Wincalis was named once. None of the teachers has experience with games.

13 teachers use the computer to prepare their courses. 9 teachers use the internet, in order to compile teaching material.

Various technologies are available at their institution. Technologies such as Computers with access to the internet and equipped with software to do lexicography/terminology and data base work. 7 teachers think that the technology is sufficient and 8 teachers do not think so; they would like to have: "individual terminals for every teacher and a fast connection to the internet", "Powerpoint", and "possibilities to use CD-Rom".

As to the teaching situation at their institution, 6 teachers consider it "good", 4 teachers think that it is "insufficient" and one stated that the situation is "unknown".

4 teachers have introduced LE tools in their teaching practice and 9 teachers are willing to introduce them.

LE is considered relevant for helping students to get a job by 14 teachers. They think that the progress of Machine (assisted) Translation will affect the future of translators. "It will allow them to work faster", "Their work will become more systematic", "Will speed and improve their work".

The majority of the teachers think positively about the involvement of universities in LE research. 2 teachers think that universities should be involved in LE research at all levels. Others say that the involvement should consider the "collaboration with industries in software development".
13 teachers think that LE should be integrated in the curriculum and that it would be beneficial for the students. The most important areas are: Word processing, translation software, terminology management, languages for special purposes, data base systems and the internet.

The majority of teachers (13) are interested in learning more about translation relevant software. 11 teachers would be interested in taking part in special project courses or seminars in special fields of translation.

The role which LE in general should play is considered by 12 teachers as "...more important..." and only 2 teachers think that the role of LE should remain "...unchanged...".

The major obstacle to a more widespread use of LE in translator curricula is, according to the teachers, "a general lack of funds" followed by "ignorance of LE potential". Other obstacles are "insufficient expertise" followed by "student or staff resistance".

The majority of teachers is prepared to increase the use of LE in their teaching programmes. 4 teachers stated that they are not prepared to use LE.

The chances for the students to get and maintain a job are from "little" to "very good". One answered: "I think most of them get employment, although not always as translators."

### 4.3 Questionnaires for Authorities

#### 4.3.1 Questionnaires distributed by CEF

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From the target group University Authorities one questionnaire was received. This respondent states that LE / IT is of considerable importance to translator training.

The respondent states that the lack of teachers who are up-to-date within the field of LE / IT is a severe drawback, when it comes to translator training. And of course there is a general lack of funds with which to strengthen this aspect of translator training.

#### 4.3.2 Questionnaires distributed by FLUP

The interview with the present Reitor exceeded expectations. He has shown every interest in the past in promoting inter-disciplinary co-operation and has always shown modernising tendencies.

He suggested there should be a committee for promoting the integration of information technology into all aspects of university teaching. The institution's general policy should be to prepare individuals at a post-graduate level, in as many areas as possible, who will be capable of carrying out the ideal of IT 'literacy'. In relation to translation, as with other areas, this policy would include the financing of training teachers to use IT/LE as appropriate.

As to co-operation with other departments at the level of IT, LE and terminology, it was stated that it was not only possible but long over-due, and specific suggestions of co-operation with Engineering, Chemistry, Computer Science and Pharmacy were made.

The Conselho Directivo, the main representatives of which are elected on a bi-annual basis from among the teachers of all departments, and which deals with all the administrative needs of FLUP, has always been very supportive of any attempts to introduce technology. They are
obviously limited in what they can do by lack of funds and space available, and are reluctant to invest unless the initiative in introducing technology to courses is taken by the teaching staff. However, if this initiative is forthcoming and the funds exist, they do their best to fulfil demands.

Given the difficulties involved in getting money for contracts for new staff, it is unlikely that a positive response will result from a request for new staff specialised in IT or LE. The most that could be expected is that university computer departments could be approached and requested to allow their staff to teach part-time in the humanities departments - if funds are available. Otherwise, present staff are expected to acquire the necessary knowledge largely by self instruction, which means that much depends on individuals and their capacity to adapt. If, however, the Reitor or his successor are prepared to continue with the policy discussed during the interview, support for staff training may become more easily available.

4.3.3 Questionnaires distributed by UPF

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**Givens**

Most think teaching of LE/IT in their school is adequate but could be better and see the lack of awareness of importance of LE in translation studies as well as budgetary limitations as the main obstacles for development in this area.

The following suggestions for improvement were made: Extensive use of LE/IT knowledge in other courses like translation, terminology or languages in general; putting together students of translation and computer science in some courses; create optional courses to cover subjects that cannot be included in the obligatory courses.

**General attitude towards LT**

Most think LE/IT elements should play a more important role in the curriculum. The general attitude is positive and welcoming. The most important stumbling blocks for a more widespread use of LE/IT in translator’s curricula are ignorance of LT potential, lack of staff training, general lack of funds.

**Realisation of future activities**

Most see the possibilities to implement improvements at the level of post-graduate courses. At the FTI-UPF and at Facultad de Traducción e Interpretación Las Palmas extra-curricular courses that include LE elements have already been organised.

**Co-operation with other departments**

The collaboration with Computer Science and Telecommunication departments has given good results in some faculties. Since the domain specific vocabulary depends on domain specific knowledge the possibilities of co-operation with other departments (technical consultancy/assessment for translation students) are emphasised by some faculties as a possibility that should be intended for the future.

**Desiderata**

More collaboration with other institutions and private companies for development of LE/IT. And in general, LT should be given the importance necessary within translation curricula.
5 Results from other sources

5.1 Training seminar at Germersheim

A seminar for professional translators and interpreters, New Technologies for Translators and Interpreters, was held at Germersheim on March 25-28, 1998.

This seminar aimed at

- giving an overview of existing technologies and assessing them
- practising the practical application of these technologies

Participants were mainly freelancers and employees of SMEs. The whole complex issue was presented by means of lectures, workshops and practical exercises and covered the following subjects:

- Terminology management systems and electronic dictionaries
- Telecommunication for translators
- Language resources on the World Wide Web
- Machine translation: possibilities and limits
- MAT with translation memories
- OCR software and scanners
- Speech recognition systems

Between the presentations and workshops, the participants had the time to work with the different applications individually and were advised and instructed by the team. This seminar gave very good insights into what is needed in the professional environment and into what the average skills of a translator working in practice are.

It became obvious that most of the technologies presented (except terminology management/electronic dictionaries) were completely unknown to most of the participants. In terms of word processing, nearly all of the participants worked on fairly new versions of Winword. Basic knowledge of e-mail was quite common as well. As to the rest of the skills, reactions were very positive.

The big demand of such seminars had already become obvious during the registration phase, when the majority of people applying for the seminar could not be registered due to limitations in technical facilities. There were around 70 applications, though there was little advertisement of the event. For merely practical reasons, another two seminars of the same kind with a slightly modified programme were held in June 98.

The big interest in the seminar showed that this kind of extended training is necessary. In discussions it became obvious that training at universities was not sufficient to prepare them for their professional career. There was even some kind of bitterness about this fact. They obviously feel the increasing need to be able to handle the new technologies in order to cope with the challenges of their professional life.

5.2 Existing studies at UdS

Since the beginning of the research project until now a study has been published each year analysing the knowledge of incoming students in the field of electronic data processing in general and translation relevant data processing fields in particular. The results of the most
recent study show that on the one hand beginners in the training of translators and interpreters still have very little knowledge in the field of computers, but on the other hand are quite conscious of the fact that computers are indispensable tools for a successful career as a translator or interpreter. Only about 9% of the beginners rated their own computer knowledge as satisfactory or good, almost 40% had no knowledge at all and about 50% rated their own knowledge as very poor. On the other hand, about 95% of the beginners considered knowledge in the field of computers important or even indispensable for their career as translators or interpreters.

5.3 Literature and reports

UPF consulted "Language Engineering and Translation" by J. Sager where the translation act is seen in the context of a technological environment. From such a point of view, translation becomes much more complex. Traditionally translation is a relation between two texts, and the translation act is the one that renders a text that is in one language into another one. Thus translating is an individual, almost private, act. The aim of translating is to render the meaning of a text into another text, and all translation acts are seen as similar.

In a technological environment, the translation relation is seen as a process consisting of different actions. And technical tools may be used at different stages of the process, that is to say, to perform different actions. The more these actions are done by a computer, the closer we are to Machine Translation. Pure MT is of course just an ideal, but a lot of different settings can be considered in which the interaction between man and computer differ considerably.

In the first place there are the different degrees in which the computer may intervene in the translation process: in just a dictionary look-up, in the basic transfer relation (with some post-editing being necessary), in the search for examples of translations, and so on. Once translation is seen not just as a simple act, but a process consisting of a set of actions, different technical means can act at different moments, thus yielding very different translation settings.

The variety of such settings is best evaluated against the different kinds of working environments and of text types to be translated. Translating texts just to understand them is different from translating them for distribution: in the first case a rough translation may be sufficient, whereas in the second case a well finished text is needed. Translating into one's mother tongue is also very different from translating into a second language. A large variety of situations can be envisaged, which could not even be imagined when translating was simply a private act.

As a consequence, the teaching of translation in the technological era has to take all this into account. Translating has to be seen as a process, and different ways of performing it have to be considered and taught, and the importance of the translation use and setting has to be stressed.

The EAGLES Report was also scanned for relevant information:

Very different working environments are considered there, going from the free-lance translator working at home to the extremely complex translation department of the Commission of the European Union. The degree to which the different available tools can help (and are really used) in the various working environments is evaluated, and thus a quite comprehensive view can be obtained of how translation is performed today in industry.

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6 Conclusions

Some concluding remarks are given below; they are kept partner specific, in order to assign them to the different contributors and the respective countries.

6.1 Conclusions by CEF

Having listed the curriculum elements abstracted from each target group the listings are compared in order to reach conclusions for user requirements. To do this, the curriculum elements proposed by the different target groups have been compiled into five curriculum elements. In random order these elements are:

- Thorough introduction to the possibilities of LE / IT
- Information retrieval on the Internet
- LE / IT as an integrated part of translator training
- Hands-on LE / IT training
- The possibility to take exams on the PC

6.2 Conclusions by UdS

All results show that LE is very important for future translators and students request it should be part of their courses. School courses in data processing do not yet provide a sufficient ground for the future translator. Classes in recent text processing systems, terminology databases, translation memories and machine translation have been part of the Saarbrücken Curriculum now for a long time, and former students who participated in the first years are reporting more and more that they get good jobs on the grounds of these elements in their curricula. This is especially true for students who have written a Diploma Thesis in this domain; they are in general well acquainted with all computer facilities, and they often work in specialised translation agencies or even development companies.

A problem is the fast changing technology. Whereas the computer pool of the department was modern during the first years of the courses, it has now become obsolete and will soon be replaced by a brand new one. It is to be expected that student engagement will rise considerably, especially when several other courses (specialised translation teaching) are also held in this classroom.

6.3 Conclusions by ION

The most central requirement by the Greek partner is that the University needs to update its existing hardware and renovate its computer laboratory by adding new hardware. Of course, this demands a great deal of funding which is not easily allocated by the government (we are talking about a regional university). Once the infrastructure is sufficient, more ambitious computer courses can be introduced and implemented. This requires adequately trained staff, which could be a combination of Computer Science/IT and specialised translation and linguistic teachers. LE software could then be installed and students should be introduced to it and encouraged to use it.

Of course, one must bear in mind that the department is more academically than professionally oriented, which means that students acquire a broad academic background on
translation rather than specific professional skills. This may mean that the process of integrating IT and LE elements in the curriculum, for the purposes of training competitive translators in the job market, may be slow.

In general, the Greek translation landscape is rather disparate. Public and private schools, university and college courses, elaborate syllabi and seminars or workshops are based on very different criteria. One can easily reach the conclusion that in the '90s there is a growing awareness about the importance of translation and the need to train translators, especially from the part of the foreign-languages institutions based in Athens and other large Greek cities. Thus, an expansion of translation programs in the private educational field can be observed, a typical feature of Greek education. When it is realised that the public university cannot fully cover the needs of the market for translators, the private initiative will step in to supplement it. This is the first relevant element in the problem.

Yet there is no consensus - either at a theoretical or practical level - on what a student should study, or on the necessary skills for him/her to be a competent translator. In this regard, duration, specialisation, requirements, standards of the education offered, or the training of professors themselves are not homogenous between different institutions. Rather, the opposite is true. And this is the second relevant element in the question. It should not, therefore, come as a surprise that the place of LT in the respective curricula is far from satisfactory. When a relevant course has been provided by an institution, this is limited to the knowledge of text-processing or Internet.

On the other hand, there is a consensus about the fact that the educational institutions cannot determine the requirements for the translation profession nor provide for them. This is what they themselves call "the silence of the market" as regards translation and the training of translators. The market is far from eager to declare its needs and requirements in translation (in its three aspects: the production, producer and product of translation).

This is a huge pivotal factor in the development of the translation market in Greece, given the growth of the need for translation itself. There is a lack of co-operation and concerted action among the two poles of the translation system, education and the market, as well as between the intermediaries of translators' professional associations (which are without doubt of low status and hardly the authority to determine the situation).

Translation schools and enterprises remain far away from each other and the only time they meet in practice - and in a most revealing way - is when one graduate translator finds a job in a company (and discovers the inefficiency of the training he/she received by his/her institution to allow him/her to provide a satisfactory translation). There are numerous examples and evidence of this kind of experience, particularly in the domain of technical translation in the great state enterprises (the Metro, highways, Mediterranean Integrated Programs etc.). In simple words, the translator reaches a situation where he/she has to mobilise a lot of personal resources to meet the challenges of the professional environment of work. It is mostly up to the latter to complement his/her translation skills with other skills, such as typing, computer knowledge, communication, information search etc, something that is usually done at the translator's own expense.

From the Greek point of view it could well be that one of the aims of LETRAC, through concrete measures, should be to boost market awareness, and all the relevant educational factors involved in translation, in order to initiate further co-operation and concerted action between them. It may well be argued that unless this is done, universities and other educational institutions will be too slow to adjust to the new technologies and requirements.
6.4 Conclusions by FLUP

The general outlook in the humanities

It is more than likely that the pressure on universities to use IT will increase over the next few years. One prime factor will be student expectations. Interest already exists in various forms. It will be interesting to see what conclusions the ACO*HUM - 'The Future of the Humanities in the Digital Age' - conference in September, 1998, draws from its proceedings, but the very fact that it took place shows that people in the humanities at university level are becoming increasingly aware of the prospects that technology offers them for research and teaching, particularly if this technology is user-friendly.

The outlook in relation to translation curricula

As anyone who has looked at translation curricula realises, there is an essential tension between those which include language for specific purposes (LSP) as part of the curriculum in institutions geared to producing translators for commercial consumption, and those which aim at higher standards of qualification, but which are more inclined to reflect the interests and ambitions of academics in the fields of literature or linguistics. This tension means that the latter type of curriculum usually has higher academic prestige, even if the resulting graduates find it difficult at first to adapt to the realities of life as a translator.

This type of attitude has led technical translators and their employers to express the wish that translation were taught by anyone but humanities faculties. What is possible within modern language departments which teach translation, and should be encouraged, besides further research into the linguistic basis for LE, is more inter-disciplinary and inter-organisational cooperation on the problem of terminology standardisation. Another aspect of LE that could gain in acceptance because of its application to linguistic and literary research is the construction of corpora, both general and specialised, as well as parallel corpora.

As far as IT is concerned, as students appear at university already able to word-process and use the Internet, courses previously devoted to word-processing or introductions to IT will have to be up-graded in content. However, as IT becomes increasingly user-friendly, those responsible for rationalising institutional resources will incline towards merely providing the technology rather than actively including it in the curriculum. LETRAC should contribute to a more responsible attitude by being very clear in its recommendations as to what constitutes the minimal requirements of IT knowledge for translators, and by encouraging the integration of IT skills into actual translation classes, rather than allowing it to be a separate and independent subject which translation teachers can continue to ignore in practice. It should also point out that these recommendations will themselves need to be constantly up-graded to keep up with progress in this field.

6.5 Conclusion by UPF

There are different points that should be taken into account when LE/IT elements are introduced in translation curricula. Instruction in LE/IT should necessarily consist of a theoretical basis and a practical part. Translation students must be aware of real and up-to-date possibilities of LT, they should be very good users and they should be able to cope with future technical developments. Staff specific training in LE/IT seems to be a crucial point for the integration of LT use in the curriculum and for a general awareness of the importance of LT potential. Introduction of LE/IT in optional subjects/post-graduate courses seems to be the main solution in the short-term. Collaboration with other departments - particularly with Computer Science departments - seems to be a good possibility to implement improvements.
7 Summary

The conclusions drawn by the project partners located in different European countries give strong evidence of the observation that the changing situation in the translation market needs to be taken into account by training institutions and that universities will be under pressure to make use of the technologies related to the translation process not only because of external factors but also because of students’ expectations. It is widely acknowledged that translators with a sound knowledge of LE/IT have far better professional prospects than others.

A major obstacle for an adequate adaptation of new technologies at translators’ and interpreters’ training institutions is the lack of funds, which is mentioned by all project partners regardless of their location. This frequently leads to problems with respect to purchasing the necessary up-to-date hard and software equipment, but occasionally also to an insufficient number of competent teaching personnel. Most of the institutes addressed reported that at least a part of their teaching staff frequently encourages students to become acquainted with IT, but on the other hand, many of these institutes suffer from a lack of qualified and up-to-date teachers. Nonetheless several teachers would be willing to undergo additional training classes which would help them to more easily adopt new technologies and to integrate them into their classes. In this context the question of “training the trainers” is frequently addressed, but it cannot be answered in a definite way within the LETRAC framework.

A more detailed investigation of the main drawbacks to a change in translation curricula will be conducted in the framework of the Feasibility Report of the LETRAC project.

It can even be stated that in many cases students are even more aware of the changes the market has undergone than teachers are. A side-effect of this development could be that in the near future an introduction to LE/IT will become obsolete since everybody entering university is familiar with this technology automatically. Until then training institutions are nevertheless responsible for teaching the abilities required by the market by means of integrated introductions to LE/IT. It goes without saying that these should be taught by adequately trained staff. In this context continuation training seminars for teaching personnel, like those held at the Ionian University can be taken into consideration.

The major findings of this user needs analysis can be summarised as follows:

- LE/IT in translator curricula vary from nothing but basics in word processing to a broad range of sophisticated software tools (terminology management, translation memory, machine translation, Telecommunications/Internet, CD-ROM-based information systems...).
- Existing classes focus on both a theoretical and a more practically orientated (“hands-on”) approach.
- Most classes are optional.
- Study components at different training institutions dealing with LE/IT are in no way aligned with one another, except for Spain, where a central guideline determines subject, status and size of any study component.
- Among teachers and decision takers the awareness about the importance of LE/IT related topics is growing.
- Students are more aware of the changed situation and put pressure on authorities to take appropriate steps towards an adaptation to the new working environment.
• A lack of funds is mentioned at all sites as the major obstacle to change.
• The teaching personnel is often inadequately qualified.
• Staff would in many cases be willing to undergo appropriate additional training.
• “Teaching the teachers” will be a subject for future discussions.