INFORMATION AND COMMUNICATIONS TECHNOLOGIES IN CONFERENCE INTERPRETING

Diana Berber Irabien

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DIANA-CRISTINA BERBER-IRABIEN

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DOCTORAL THESIS

UNIVERSITAT ROVIRA I VIRGILI
Department of English and German Studies

Tarragona
2010

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INFORMATION AND COMMUNICATION TECHNOLOGIES IN CONFERENCE INTERPRETING: A SURVEY OF THEIR USAGE IN PROFESSIONAL AND EDUCATIONAL SETTINGS

DOCTORAL THESIS

Supervised by

Dr. Frank Austermuehl, Johannes Gutenberg Universität, Mainz Germany

and

Professor Yves Gambier, University of Turku, Finland

Intercultural Studies Group

UNIVERSITAT ROVIRA I VIRGILI
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Abstract

Information and communication technologies (ICTs) have had a profound impact on our daily lives, especially in this first decade of the 21st century. It is common knowledge that ICTs are becoming standard tools in practically all professions; translation and interpreting being no exception. It is undeniable, however, that some professions have been affected to a larger extent than others. Life without computers and ICTs in general is for many of us inconceivable, but we use them differently, depending on factors such as geographical location, gender, age, and economic resources. This difference provides us with the point of departure for a diachronic overview and a synchronic study of the role of ICTs in conference interpreting in its professional and training settings.

The main objective of this descriptive study is to explore four aspects:

- the use of ICTs in the profession
- the pedagogical uses of ICTs in conference interpreter training
- the ICTs *per se*
- the interpreters' and trainers' perception of the tools.

Drawing on two issues amply discussed in Interpreting Studies - quality and professionalism - another aim of this research is to determine how conference interpreters perceive ICTs as improving the quality of their performance and their professionalism.

This research is carried out in light of three hypotheses:

a) There remains a certain resistance to the use of ICTs in the booth.
b) The use of ICTs by CIs varies in the different regions of the world.
c) What is taught in conference interpreter training regarding the use of ICTs coincides with the types of ICTs that professional conference interpreters use.

The data have been collected through two worldwide surveys, which have been conducted mainly through questionnaires and interviews, and triangulated with *in situ* observations.

The results were obtained, in light of the hypotheses, from 206 conference interpreters' (CI) and 33 conference interpreter trainers' (CIT) responses to the two

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different questionnaires and 16 CI + 2 CIT interviews plus 10 CI observations conducted. The results can be summarized as follows:

- Today CIs tend to integrate the use of ICTs as part of their work in a more natural way, with only a few exceptions, which are not always due to generational or regional differences. Although there might still be a few Luddites around, most conference interpreters and conference interpreter trainers are now embracing ICTs in their work.
- Regardless of the problems in the world economy, globalization is evening out the differences in the use of ICTs between regions.
- Conference interpreter trainers see the necessity of the trainees to prepare for a demanding market and have found ways of overcoming budgetary restrictions by informing their students about the ICTs and encouraging them to learn to use them on their own

Keywords: ICTs (information and communication technology or technologies), conference interpreting, conference interpreter training, quality, professionalism, history of ICTs in interpreting, globalization, intercultural communication, economy, ecology.

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JOHANNES GUTENBERG UNIVERSITÄT MAINZ

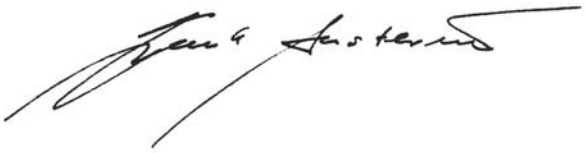
Institut für Anglistik, Amerikanistik und Anglophonie

Dr. Frank Austermühl

TO WHOM IT MAY CONCERN,

I, FRANK AUSTERMUEHL, ASSOCIATE PROFESSOR at THE UNIVERSITY OF MAINZ, CERTIFY: That the thesis "Information and communications technologies in conference interpreting. A survey of their usage in professional and educational settings", presented by Diana-Cristina Berber-Irabien for the award of the degree of Doctor, has been carried out under my co-supervision and fulfils all the requirements to be eligible for the qualification of European Doctorate.

GERMERSHEIM, Jan. 26, 2010.



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TURUN YLIOPISTO
UNIVERSITY OF TURKU

To whom it may concern

I, Yves Gambier, professor at the University of Turku, certify: That the thesis *Information and communication technology in conference interpreting. A survey of their usage in professional and educational settings*, presented by Diana-Cristina BERBER-IRABIEN for the award of the degree of Doctor has been carried out under my co-supervision and fulfills all the requirements to be eligible for the qualification of European Doctorate.

Turku, 27.1.2010

Yves Gambier

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The EMCI (European Masters in Conference Interpreting) group, besides being an important source of motivation for this work, kindly provided support through their mobility program to enable me to attend the EMCI conference in London in 2006, for which I wish to express my gratitude.

I wish to state that the support given by SKTL (Suomen Kääntäjien ja Tulkkien Liitto – the Finnish Association of Translators and Interpreters) has been of utmost importance to carry out observations and interviews, both in Finland and abroad, for which I am very thankful.

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In spite of all the extraordinary input from these wonderful people, there are mistakes and flaws in this work, which are entirely my own responsibility.

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List of Abbreviations

The following is a list of abbreviations and sigla used in this research, subdivided by subject for easier reference.

LANGUAGES:

AR	=	Arabic
CA	=	Catalan
CS	=	Czech
DA	=	Danish
DE	=	German
EL	=	Greek
EN	=	English
ES	=	Spanish
FI	=	Finnish
FR	=	French
HE	=	Hebrew
HU	=	Hungarian
IT	=	Italian
KO	=	Korean
LT	=	Lithuanian
NL	=	Dutch
NO	=	Norwegian
PL	=	Polish
PT	=	Portuguese
RO	=	Romanian
RU	=	Russian
SK	=	Slovak
SV	=	Swedish
TR	=	Turkish
ZH	=	Chinese

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ORGANIZATIONS AND INSTITUTIONS:

AIIC = International Association of Conference Interpreters

ATA = American Translators Association

AUSIT = Australian Institute of Interpreters and Translators

CMIC = Colegio Mexicano de Intérpretes de Conferencias (Mexican Professional Association of Conference Interpreters)

EU = European Union

FIT = International Federation of Translators

NGO = nongovernmental organization

SCIC = the Joint Interpreting and Conference Service of the European Commission

UN = the United Nations

TECHNOLOGY:

CAI = computer-assisted interpreting

CAIT = computer-assisted interpreter training

CAT = computer-assisted translation

EEG = electroencephalography, electroencephalogram

ICTs = information and communication technologies

PET = positron emission tomography

CONFERENCE INTERPRETING, TRANSLATION STUDIES:

CI = conference interpreter

CIR = conference interpreting research

CIT = conference interpreter trainer

DTS = Descriptive Translation Studies

IP = model for information processing for speech comprehension

IS = interpreting studies

L1 = native language

L2 = foreign language

NCI = non-conference interpreting (i.e. business, legal, court, sign, community, public service, health sector)

SI = simultaneous interpreting

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SL = source language

TL = target language

TM = translation memory

TS = translation studies

OTHER REFERENCES:

OED = Oxford English Dictionary

POSI = practical orientation of studies in translation and interpreting project

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1 Introduction

Since medieval stories and up to 20th-century science fiction, from Merlin through to Jules Verne and up to George Orwell, there are accounts of extraordinary devices and machines that allow humans to see what is happening on the other side of the world, not only as passive spectators, but as people who can interact with and affect those who appear in their crystal balls or on their telescreens. Some of those artifacts were even supposed to allow the user to do work at amazing speeds, correcting mistakes without leaving a trace and allowing users to find all the relevant information they need by pushing a button or typing a word.

Computers and information and communication technologies (ICTs) are these age-old dreams come true. They are the reason for one of the most popular mantra of today: the way we perform our work and carry out our daily lives has been changed radically because of ICTs, and we can no longer live without them.

It is undeniable, however, that some professions have been affected to a greater extent than others. I am not trying to proclaim the wonders of technology in this work, nor do I intend to present ICTs as representatives of the universal prosperity that awaits us if we all set ourselves to using them in the profession. Instead, it is my intention to investigate what the influence of ICTs has been on conference interpreting: to provide a description of what they can do and how they are being used today, and to see if ICTs are indispensable tools in the exercise of the profession and in its pedagogical applications, or if they will come and go, like just another ephemeral fashion.

1.1 Background

Although the use and implications of ICTs seem to be hot topics in Translation Studies (TS) in general, as attested by the works on the subject mentioned in the following paragraphs and by the direct comments of scholars and colleagues in recent international conferences (the latest in December 2009), until fairly recently only a few papers on conference interpreting investigated ICTs, and very little has been done in relation to teaching and learning.

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In the first years of the 21st century, most books written about ICTs have focused on translation, the best known of which is Austermühl's 2001 *Electronic Tools for Translators*, where he explains in detail the software and other ICTs that translators use. The same is true of Torres del Rey's 2005 *La interfaz de la traducción. Formación de traductores y nuevas tecnologías*, where he explores the limits and possibilities offered by ICTs in translator training from a philosophical standpoint.

When one researches the literature on interpreting technology, the results show that Interpreting Studies (IS) has been rather slow to react to technological innovations in relation to interpreting and interpreter training, as will be shown in the following paragraphs and later on in the literature review in chapter 2. This state of affairs supports the relevance of the present study.

One innovation in the field in the sense that it deals with ICTs in interpreting is the volume edited by de Manuel Jerez (2003a), focused precisely on ICTs and interpreter training, where the role played by new technologies in both training and in the professional environment is analyzed. Jiménez Serrano (2003), in the same volume, describes some of the ICT tools and discusses their benefits, while stressing the need for cooperation among conference interpreter employers, commissioners, and training institutions, as well as pointing out the need for more research in relation to pedagogical tools for interpreting.

Technologies in our world are advancing at a pace that many of us cannot keep up with. It has been said that "the top 10 jobs in demand in 2010 did not exist six years ago, so we're preparing kids for jobs that don't exist using technologies we haven't yet invented" (Gibbs 2009: 35). Thus, the research presented here aims to raise awareness of this phenomenon and provide a general panorama of the present-day use of ICTs in conference interpreting in professional and educational settings as a point of reference for both professionals and trainers.

My research is based on two surveys: the first on the use of ICTs by professional conference interpreters, and the second on how they are included in conference-interpreter training courses. The information provided in the questionnaires is triangulated with interviews, informal conversations, and observations. Starting from a general diachronic overview, it continues with a synchronic study of the role of ICTs in conference interpreting.

What I hope to achieve through this study is to collect and present information that can help both conference interpreters and conference interpreter trainers to identify

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the ICTs available today, and what the users think of them. This data should also be valuable for the developers of electronic resources for interpreters and their trainers, to understand their future customers better.

This study will also be useful in the future for historians, as it depicts a particular moment in the history of the profession, including the attitudes of the conference interpreters and the conference interpreter trainers. It is important to record what we see and experience today, because as William Safire used to advice, "what history needs more of is first-person testimony" (Noonan 2009: 95).

1.2 Food for thought and motivations for this study

When discussing the direction of the profession at the EMCI (European Masters in Conference Interpreting)[1] conference that took place in London in 2006, Clare Donovan from ESIT (École Supérieure d'Interprètes et de Traducteurs, Paris) stated, quoting what Quicheron had said in the 1980s (Quicheron 1984 and 1991), that not very long ago using ICTs for preparation in conference interpreting was regarded as an unrealistic dream, and even today they are considered, at least in the booth, to some extent as unnatural (Donovan 2006, 2008). This statement in itself is not only food for thought and an important motivation for this study, but has become one of the main hypotheses for the research as well.

In spite of this statement, my research shows that there is rapidly increasing evidence of serious interest in ICTs (Carabelli 1999, AIIC 2000a, Will 2000, Stoll 2002, Gran, Carabelli, and Merlini 2002, Sandrelli 2003a, 2003b and 2005, de Manuel Jerez 2003b and 2006, Sandrelli and de Manuel Jerez 2007, Esteban Causo 1997 and 2003, Ko 2006 and 2008, Kurz 2002, Mouzourakis 1996 and 2006); that is, we are seeing how ICTs are becoming general working tools for conference interpreters because ICTs help them develop their work more efficiently, whether such ICTs have been developed specifically for interpreting or whether they were originally developed for translation or for more general purposes. We are also seeing how users are applying ICTs during the three phases of interpreting: preparation, in the booth, and post-interpreting.

[1] The EMCI (European Masters in Conference Interpreting) is a master's type university program launched in 1997 for conference interpreter training at post-graduate level. It is provided by a consortium of 15 European partner universities, one of them the University of Turku in Finland, in collaboraton with the European Commission and the European Parliament. The program is designed for students with European and non-European languages. (EMCI 2009a)

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These opposite views are nothing new: whenever change comes, there are those who feel delighted with it and those whose emotions range from fear or panic to anger and aggression. In the case of ICTs we could say that the delight would come because they can be seen as tools that can make the work of the conference interpreter much easier, in any of the phases of the interpreting, while the fear or anger may come from hurt pride, as many interpreters feel it a part of their self-image as professionals to be able to manage without anything except their extraordinary memories. These opposite reactions surface when analyzing the data.

Some more food for thought for this research has also come from García-Landa's (1999: 95) statement that it should be compulsory for anyone writing about interpreting to have some experience in the field, since the point of view is totally different. Basically, I agree with him on this point, yet he demands fully professional experience of at least five years. I believe that it would benefit the field to have some fresh points of view from people who can bring in ideas from experience in other fields as well, or who are able to perceive a broader perspective since they are at a certain distance from the profession. As Gile (2008) explains, García-Landa's claim had its momentum at the time it was raised, as it was then that TS needed to clarify some misconceptions about the nature of the field. This claim was also set forth as a "proclamation of disciplinary identity" (Gile 2008), to defend the status of the profession. Nowadays, however, it is being accepted that a non-interpreting researcher, if well informed and sufficiently in touch with practicing interpreters to acquire the necessary knowledge, can carry out good research that is meaningful for the discipline. I would like to clarify, however, that I have done interpreting myself, although in the consecutive and chuchotage modes, in Mexico at the Canadian Embassy and at the United Nations, as liaison interpreter for visitors to our program, and in Finland on various occasions, which gives me more of an insight into the profession.

More motivation stems from personal experience on the training side: having participated as a speaker and evaluator for several years in the European Masters in Conference Interpreting at the University of Turku has helped me become more analytical with respect to the many different facets of the profession and the effort the process itself entails, and has enabled me to witness first-hand the professional and educational needs for ICTs, stemming from the need for greater efficiency and accuracy and for faster and easier access to resources. ICTs can provide more efficient ways of carrying out the work, and at the same time can save time and money for both CIs or CI

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trainers and their clients, as well as being more environmentally friendly than other procedures.

There have been, however, still other reasons for undertaking this study. Today, many scholars have written, and continue to write, about ICTs and translation, from different standpoints. Although the topic has extended to interpreting, there are far fewer scholars doing research on ICT applications in this branch of Translation. As a matter of fact, there are scarce case studies about ICTs that encompass their usage in the different conference interpreting settings, both professional and educational. This disparity seems to result, among other causes, from the reduced number of ICTs developed specifically for interpreters, and the fact that there are far fewer conference interpreters than there are translators. All this can be stated on the basis of the analysis presented in chapter 2 below.

ICTs are employed and developed with the aim of reducing the efforts involved in the process of conference interpreting, concentrating more specifically on simultaneous, the mode I am focusing on in this study. My approach will therefore take into account the three basic types of efforts identified by Gile (1997/2002) in his Effort Models. The link between ICTs and Gile's efforts models will be established in detail in further discussion, when examining the theoretical background.

The study explores four aspects:

1. the ICTs *per se*;
2. the use of ICTs by professional conference interpreters;
3. the use of ICTs by conference interpreter trainers;
4. the interpreters' and trainers' perception of ICTs.

Drawing on Bourdieu's social theory as its general theoretical framework to link the ethnographical descriptive study with its social and cultural significance, in agreement with today's interdisciplinary trends I address theories, models, and principles from Interpreting Studies (IS) and diverse disciplinary approaches are applied to support and develop the present work, as they represent subjects that because of globalization affect us all.

Since I started to explore the field of ICTs in conference interpreting when I undertook a pilot study[2] in preparation of this work in 2005, the subject has increased

[2] The pilot study mentioned here and in subsequent chapters was conducted in 2005. The results were presented in my unpublished minor dissertation which went under the title *New Technologies and electronic tools in conference interpreting: a survey of their usage in professional and educational settings* (Berber 2005). That was the first

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greatly in popularity among research topics. This increase can be appreciated in detail in the literature review presented in chapter 2. The reason for ICTs being so quickly and widely accepted is simple: the availability of ICTs has multiplied in all disciplines and there is greater public awareness of their advantages, and yes, disadvantages as well. This has been possible to a great extent because of globalization. There can be many advantages in using ICTs in conference interpreting, inter alia, for preparation conference interpreters "do not have to run around libraries trying to find books on the subject of the next conference" (interviewee 3); from the booth they can have fast access to dictionaries or glossaries through their laptops; for post-interpreting tasks they can find far more information and more up-to-date data to build on their knowledge than they ever could find by looking in libraries.

Globalization and cultural diversity may be the buzzwords of today, but it cannot be denied that they have a deep influence in all walks of life. While globalization is considered to bring about uniformity, it can also be regarded as a phenomenon that raises awareness of local habits and usages, thus promoting the need to enhance further intercultural communication. Cronin (2003) presents the link between translation and globalization, and I am extending the link to conference interpreting. It is my intention to help raise awareness of the local uses of ICTs in the training and practice of conference interpreting, to give both conference interpreters and conference interpreter trainers a broad panorama of their field which will eventually help them become more informed about, and understand better, their partners in other parts of the world. Thus, in spite of the balkanization that these differences in the usage of ICTs could represent, I want to show the different realms that make up our world, and that the Global Village can exist without necessarily effacing the individual cultures.

In depicting this moment in the history of the profession, although we may now lack a historical perspective, I also hope this description will at some point provide data that can be analyzed in the future from a historical point of view.

Due to the interdisciplinary nature of IS, other themes explored and discussed include:

- the relationship between interpreting, globalization, and intercultural communication, concepts that permeate our view of the world today;

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attempt to collect information directly from the conference interpreters and conference interpreter trainers, and in only a four-year span an evolution in their attitudes can be appreciated: for the present study the participation was more active in giving opinions about experiences.

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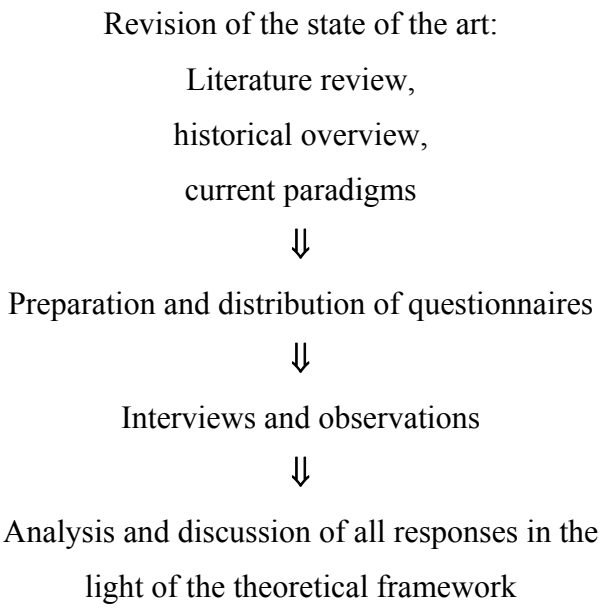
- the link between ICTs, the Efforts Model and psychology; and
- the impact of technological development on the training of conference interpreters.

1.3 Research design

My research design follows a simple linear procedure. It does not contemplate many sideroads; it concentrates on the research problem explained in section 1.3.1. and the aims and objectives of the study presented in section 1.3.2.

The procedure can be graphically depicted as shown in Figure 1.1:

Figure 1.1. Research design



1.4 Beyond TS: a plethora of theories, models, methods, and principles

Just as no man is an island, nor can he stand alone, so it is with disciplines. Interdisciplinarity is inevitable, as today each field feels the pressing necessity of connecting, borrowing, and also acting upon other fields. The reason is clear for Translation Studies (TS) and Interpreting Studies (IS): both are activities that have always been changing and adapting throughout their long history in order to meet the needs and demands of the market, and this adaptation is only possible because of their protean qualities, their capability to assume different forms and approaches. This is true not only because of the market's needs and demands: with each new piece of research undertaken, the influence of new disciplines and the possibility of new approaches are

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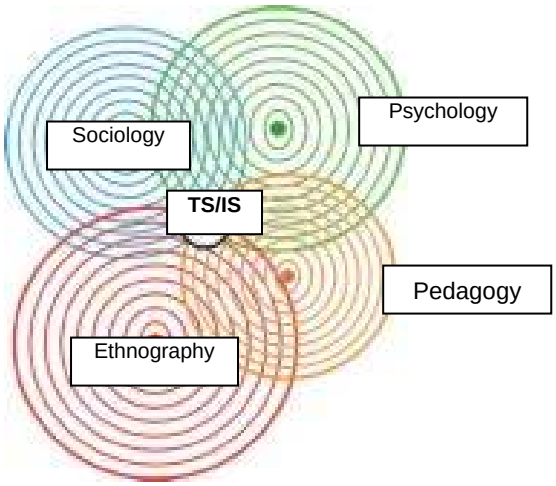
found in TS. TS, as well as IS for that matter, is reinforced and developed by a plethora of theories, models, methods, and principles brought in from a galaxy of disciplines, which intertwine and overlap (see Figure 1.2). Holmes (1988: 67) already pointed out how this interaction might work, with researchers from nearby fields bringing in proven methods from their own areas, or researchers in one discipline bringing in ideas from other fields.

Figure 1.2. A plethora of theories, models, methods, and principles from various disciplines interact in various ways with TS and IS



Those theories, principles, models, and methodologies are the columns which sustain our research. Here they have as a base, however, Bourdieu's (1990) social theory, more specifically his concept of habitus, which is a system of acquired schemes of perceptions, thought and action developed by the individual, that is, subjectivism, in response to the conditions it encounters in the field, which represents objectivism, to complement the ethnographical descriptive study . The work is then structured as shown in Figure 1.3.

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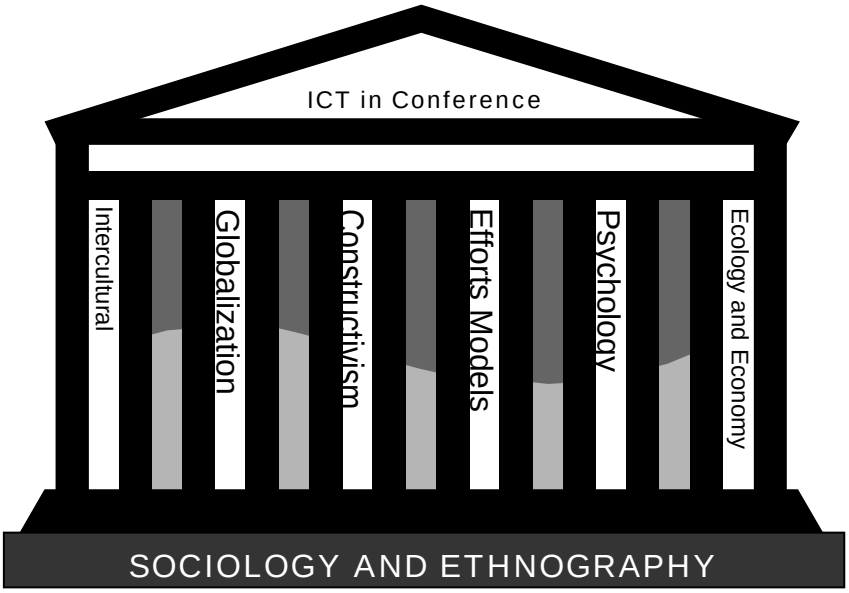
Figure 1.3. General structure of the theoretical framework for this study



1.4.1 The research problem

There appears to be a lack of consensus as to what the ICTs used in conference interpreting are, how and at which stage of the interpreting process they are being used, and what the attitude or perception of the conference interpreters and conference interpreter trainers is, mainly because no survey has been conducted, to my knowledge, on a worldwide scale to obtain such information. It is my intention to help to fill this void.

1.4.2 On the aims and objectives

The main aim of this study is to identify and describe the ICTs used today by professional conference interpreters and by conference interpreter trainers, as well as to record the conference interpreters' and conference interpreter trainers' perception of the impact of ICTs on their work at this moment of history of the profession.

The aims, research questions, and hypotheses for the present study are outlined and explained in chapter 3.

1.4.3 About the definitions

Poole states in his introduction to the "Translation and interpreting terminology" of AUSIT (2005a) that "in working to improve the standing and standards of the

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profession, practitioners [...] are handicapped by the lack of a uniform and consistent set of terms with which we can describe the very complex thing [interpreters] do". The terms used in this work, which deals with conference interpreting and with technology, with their full definitions and examples are collected in chapter 5, where I present the ICTs and their actual use by conference interpreters and interpreter trainers.

In this introduction, however, I would like to explain why the title of this work is related to conference interpreting and which mode I am addressing. Phelan (2001: 6) states that interpreting is divided into three general types: a) bilateral or liaison, 2) consecutive, and 3) simultaneous, with consecutive and simultaneous as the modes used in conference interpreting. For this work, I am considering only simultaneous interpreting, as it is the mode used almost exclusively in international organizations and in large meetings.

1.5 Structure of the study

This study follows the basic structure of a thesis, i.e.: introduction, literature review, description of aims and hypotheses, method, results and discussion, and conclusions.

In *Chapter 1*, the **introduction** presents the study, its background and motivation, as well as the theoretical framework of the research.

Chapter 2 analyzes the state of the art in ICTs and CI, with consideration of the **current paradigms in CIR** (conference interpreting research) followed by the **literature review** and completed with a **diachronic view of ICTs in translation and interpreting.** It serves as point of departure for the ensuing aims of this research and discussion of the results obtained from our respondents.

Chapter 3 describes the **aims, research questions and hypotheses** that guide the deliberation, stating their motivation and intention.

Chapters 4 to *9* constitute the central and essential part of this study, since they present the **results and discussion**. I begin with the **definitions** of the terms dealt with in the discussion and proceed to address the conceptual core of my study: a **typology of ICTs in conference interpreting.** The typology is followed by a **description of the ICTs,** that is, the different tools discussed by the conference interpreters and the conference interpreter trainers in their responses. This part also introduces the **theoretical and conceptual background,** i.e. the individual issues in light of which the

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study is conducted, namely, **globalization** and **intercultural communication**, **economy** and **ecology**, **professionalism** and **quality, the Efforts model and psychology,** and the **models for conference interpreter training.** *Chapter 6,* the **method,** explains why and how the data was obtained, how the questionnaires were elaborated, and how the interviews and observations were conducted. *Chapters 7* to *9* is where the findings regarding **the use of ICTs in professional conference interpreting and in conference interpreter training** are laid out, as well as a compilation of the **conference interpreters' and conference interpreter trainers' perceptions of the impact of ICTs on the work,** mainly in relation to quality and professionalism.

The **conclusions** presented in *Chapter 10* emphasize the descriptive role of this work: it is not intended to recommend the use of any particular ICT, but to present a panorama of the ICTs in use today in conference interpreting, and to set out the basis for future research on the subject.

For reference, the **appendix** includes the questionnaires with their cover letters.

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2 State of the Art in ICTs and CI

The past decade has seen an increase in TS publications dealing with ICTs. This new focus was first visible in translation (see the publications of Austermühl 2001, Bowker 2002, and Torres del Rey 2005). Toward the end of the decade we see the first book-length studies of ICTs in interpreting (doctoral theses by Rütten 2006 and Stoll 2009). Yet IS publications on ICTs in interpreting, and in SI in particular, remain scarce. In the following, I therefore aim to review the recent literature on new technologies, mainly ICTs, in conference interpreting (CI), but first I shall proceed to analyze the central research issues in IS.

2.1 Current paradigms and central research issues in IS and new technologies

In the last two decades or so of the nearly half a century history of CIR (conference interpreting research), two recurrent themes have been quality and professionalism, which are amply discussed in chapter 8.

Based on the various sociological studies of the concept of professionalism (Weber 1968; Bledstein 1976; Liu 2001), and on recent studies in IS regarding the same concept (Cordero 1994; Kalina 2002a; Mikkelson 2004), I shall attempt to explain how and why knowledge of and competence with ICTs can help conference interpreters fulfill or update their professional role.

An essential element of professionalism is the issue of quality. This has been a major topic in IS the last two decades, with the publication of several major works on quality in interpreting[3]. It was the subject of a major international conference in 2001: the First International Conference on Quality in Conference Interpreting, in Almuñécar, Granada, Spain. Further, many papers and works published in the last decade discuss 'quality' in its many facets ('quality assessment', 'quality perception', 'quality assurance'). Gile (2000: 80) sees quality perception as one of the areas in CIR which would be an essential foundation for future training, and presents quality as one of the areas of interest of IS (Gile 2001:8). 'Quality' continues to be the main theme of

[3] See Bühler 1986, Collados Aís 1996, 1998, 1998/2002, Collados *et al.* 2003a and 2003b, Gile 1990a, 1990b, 1995c, and 2000, Déjean Le Féal 1990, Kalina 2002b, Kopczynski 1994, Kurz 2001 and 1993/2002, Mack and Catarruzza 1995, Messina 2002, Pöchhacker 2001 and 2002, Shlesinger 1997, Shlesinger *et al.* 1997, Tommola 2003, Vuorikoski 1998 and 2004, to mention a few.

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discussion in current world level events, such as in the last two congresses of the FIT (International Federation of Translators), major events that bring together scholars, translators, and interpreters from all over the world every three years.

It is interesting to note also, that at the last two FIT congresses, discussions also focused on the area and topic in which the present study is located: technology.

2.2 Literature review on ICTs and interpreting

As stated, until recently only a few papers on interpreting looked into new technologies, particularly into ICTs. However, in the past five years the subject seems to have started to gain popularity. The reason is simple: the availability of new technologies and ICTs has multiplied in all disciplines and there is greater public awareness of the advantages they represent. Still, there is much work to do, as a general search of the last 10 years of contributions to the journal *Interpreting* yields only five articles (Ko 2006, Mouzourakis 2006, Hansen & Shlesinger 2007, Braun 2007, Lee 2007) on the subject, plus a book review of de Manuel Jerez (2003a) by Alonso Bacigalupe (2006).

2.2.1 The CIRIN Bulletin

Since 2005, when I started to undertake the first pilot study for this research, the subject has increased in popularity in IS (Interpreting Studies) as well. In order to confirm my assumptions, I decided to examine the most recent issues of *The CIRIN Bulletin* (Conference Interpreting Research Information Network – edited by Gile, from 2003 to 2009, 27 to 39). This is a semestral listing dedicated to covering research and publications in the sub-field of conference interpreting; it is the most comprehensive listing of research in conference interpreting. Out of a total of 921 titles listed in the 13 issues analyzed, I was able to identify only 15 works related to conference interpreting and ICTs, that is, based on what is explicitly stated in the title or on the explanation that sometimes accompanies it. These are listed below in alphabetical order:

1. Bao (2009) deals in his article with the impact of technological development on translator and interpreter training.
2. Benhaddou (2002) discusses videoconferencing and interpreting in his DEA thesis.

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3. Blasco Mayor (2005), through an analysis of the experience with a digital interpreting lab, presents the challenges of interpreter training in the 21st century.
4. Braun's (2004) doctoral thesis focuses on the adverse communication conditions when interpreting in videoconferences;
5. Chiaro and Nocella's (2004) article describes their online study on the perception of quality in interpreting by the interpreters themselves;
6. de Manuel Jerez (2003b) in his article analyzes how new technologies are changing interpreter training;
7. de Manuel Jerez (2006) in his doctoral dissertation deals with the importance of linking professional reality and interpreter training, especially through the use of new technologies;
8. Djoudi's (2000) unpublished thesis concentrates on the assessment of the machine interpreter "Talk and Translate";
9. Kalina (2009) discusses the changes in interpreting brought about by new technologies, changes that could be a chance or a risk;
10. Koskanová (2009) in her MA thesis compares remote interpreting and interpreting without direct view of the conference room from the booth;
11. Lang's (2009) article deals with online simultaneous interpreting, exploring WebInterpret, a French online interpreting company;
12. Moser-Mercer's (2005a) article explores how remote interpreting is one of the major factors determining poorer performance, mainly because of the early onset of fatigue;
13. Moser-Mercer's (2005c) article also explores remote interpreting, this time discussing the role of presence;
14. Mouzourakis (2006) in his article discusses the effects of the use of videoconferencing and remote interpreting;
15. Sandrelli and de Manuel Jerez (2007), along the same lines, discuss CAIT (Computer Assisted Interpreting Training) in their article.

This means that only 1.63% of the 921 titles included from 2003 to 2009 in *The CIRIN Bulletin*[4] are related to research on ICTs in conference interpreting. These

[4] It should be noted that *CIRIN* includes papers and works written not only in Western languages, but in other less used as research languages as well. Among the titles in the last issues of *CIRIN* there have been

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include five theses, two of which are doctoral dissertations and the rest at Master's level, and ten articles. In only one year, however, the number of titles increased by 60%: before the last two issues of *CIRIN* there were only three thesis (60% increase) and six articles (also a 60% increase). Analyzing the contents, much discussion about CAIT and distance interpreting, but very little about tools, can be found.

Two of the theses discuss videoconferencing, a third addresses remote interpreting, a fourth concentrates on a specific tool for interpreting, and the fifth thesis addresses new technologies in interpreter training. Braun (2004) questions the conditions in videoconferences, thus engaging in an analysis of the communication situation, both monolingual and interpreted. Benhaddou (2002) presents a general discussion of videoconferencing and interpreting. Koskanová (2009), also in the field of distance interpreting, discusses remote interpreting, comparing it with interpreting without a direct view of the conference room from the booth. Djoudi (2000) concentrates on the evaluation of a tool, a machine interpreter named *Talk & Translate*, developed by Linguatec, which combines machine translation and speech recognition (Hofman 2008). De Manuel Jerez (2006) comes closer to our topic, as he uses new technologies to bring professional reality into conference interpreter training. In these cases we find that the authors concentrate on discussing a single tool or setting at a time, that is, the complete panorama of ICTs in conference interpreting is not yet broached in these works.

Regarding the articles, half of them (Bao 2009, de Manuel Jerez 2003b, Blasco Mayor 2005, and Sandrelli and de Manuel Jerez 2007) are related specifically to ICTs for conference interpreter training, which is one of our objects of interest, addressing the issue mainly from the point of view of CAIT (Computer Assisted Interpreter Training), not so much from the point of view of ICTs used in professional practice. Bao's article deals with the impact of new technologies, including the Internet, on training; his point is the cooperation between schools and online learning. Sandrelli and de Manuel Jerez (2007) discuss the different categories of CAIT tools which have been developed in the field which began to expand in the mid-1990s. They discuss integrative CAIT (digital speech banks), intelligent CAIT (programs to create various exercises which can make training closer to real-life situations), and Virtual Learning Environments (technology that simulates reality in the same way as computer games). Blasco Mayor (2005) in her

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increasing numbers of articles, MA theses in Chinese or related to that language; in Japanese or related to that language, in Czech, in Hebrew, and in Finnish.

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article discusses in detail the experience at her university with the digital interpreting lab by Tandberg Educational, while encouraging interpreter trainers to integrate new technologies into the courses they offer. It is interesting to note that three of these articles are of Spanish origin: two of them were written in Spain, de Manuel Jerez (2003a) and Blasco Mayor (2005), and in the third article one of the authors is from Spain. This means that the subject of new technologies appears to be becoming a favorite, if I may say so, in Spain.

The other articles deal with issues concerning the professional use of ICTs. In his article, Mouzourakis (2006) gives a very detailed account of recent experiments in remote interpreting, as well as exploring the pros and cons of remote interpreting, while Moser-Mercer (2005a and 2005c) addresses remote interpreting in her two articles: in one analyzing the role of fatigue in the performance, and in the second the role of presence. Lang (2009) studies one form of online interpreting by concentrating on a French online interpreting company. Kalina (2009) sees changes coming into the profession due to the introduction of new technologies, and examines whether these changes are on the positive or negative side – this is a concern that appears in the perception of ICTs by our respondents.

The only article in the list where I found three of my points of study – conference interpreters, ICTs, and quality – is that by Chiaro and Nocella (2004). Unfortunately, they did not make use of the Web to carry out their research on interpreting, and do not actually analyze the Web itself or the role it plays in conference interpreting, but rather use it solely as a vehicle to convey their survey on the perception of quality in interpretation by interpreters. This means they used the ICTs (actually, the Internet) to do interpreting research, but did not analyze the use of the ICTs by interpreters for their own professional work. I would like to note here that I used ICTs also to carry out my research by sending my questionnaires via e-mail, but I focus my interest on the use of the different ICTs by conference interpreters for their own professional work and by conference interpreter trainers.

2.2.2 Other sources

Looking beyond *The CIRIN Bulletin* into other publications, we find that other IS scholars involved in the practice of the profession, such as Stoll (2002) and Will (2000), have explicitly addressed the issue of new technologies in conference interpreting in

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their articles. Stoll and Will, on the professional side, both address the use of ICTs in the booth, although Stoll also sees the use of ICTs in the preparation phase (Stoll 2009).

On the interpreter training side, we find again that Sandrelli (2003a and 2003b and 2005) and de Manuel Jerez (2003b) concentrate on the development and analysis of CAIT, while Gran, Carabelli and Merlini (2002) presented CAIT in general a year earlier. Kurz (2002) discusses the benefits of modern technology in interpreter training programs.

However, it should not be assumed that nothing had been done before these works. In the 1980s, the use of videotapes as new technologies in interpreter training was already discussed by Schweda-Nicholson (1985) and by Kurz (1989). Then there were some pioneering works in the mid-1990s specifically regarding ICTs, such as the following articles which appeared in the first issue of the journal *Interpreting*: Mouzourakis (1996) on videoconferencing, and Jekat and Klein on machine interpretation (1996). A bit earlier, Cervato and de Ferra (1995) wrote about the CAIT tool *Interpr-it*. Most of these articles, again, concentrate on a single tool or setting or mode at a time.

A few others took a broader view, such as Esteban Causo (1997) in his pioneering work on conference interpreting and new technologies, and other works such as Carabelli's (1999) study on multimedia technologies for both interpreters and translators, and Burger and Zatlin's (1989) on using technology in interpreter training. Once again, neither the articles nor the books seem to encompass both educational and professional settings of conference interpreting.

However, after analyzing several publications, I did find an article that deals with both settings, by Esteban Causo (2003) from SCIC[5]. It provided interesting and useful data for the present work, and is certainly a point of reference for research on ICTs in interpreting. Moreover, I found de Manuel Jerez's (2006) doctoral dissertation to be a most useful and comprehensive reference work. It is mainly focused on CAIT but gives ample background concerning ICTs and their uses in professional and educational settings.

Stoll's doctoral thesis (2009) presents a state-of-the-art account of ICTs and their use by SI – mostly by AIIC SIs. The present research, then, is very closely linked to it,

[5] The Joint Interpreting and Conference Service of the European Commission. SCIC comes from its French acronym: service commun interprétation – conférences de la Commission européenne. The Directorate General for Interpretation (formerly known as SCIC) is the European Commission's interpreting service and conference organizer.

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but I seek more the empirical aspect and I have opened the research to all conference interpreters, whether AIIC members or not, many of whom work for international organizations.

A new journal related to interpreter training saw its first issue appear in late 2009: the *International Journal of Interpreter Education* (IJIE 2009). It does not include yet any articles in relation to ICTs in interpreter training. This, however, could be attributed to the fact that although the intention of the editors of the journal is to reach all types of interpreter education, in this first issue most of the articles deal with sign-language interpreting.

A search in another journal, *The Interpreter and Translator Trainer,* yielded only the article by Sandrelli and de Manuel Jerez (2007) mentioned in *The CIRIN Bulletin* (see section 2.2.1).

Finally, research on another reference list, compiled by Franco in Alicante (BITRA 2010), yielded a few more results of interest. One is written in Korean but the abstract is in English: Chung and Lee (2004) see a multimedia language laboratory as a solution for training interpreters at the undergraduate level in large classes, as an alternative to graduate specialization. This use would be for application to all types of interpreting, though, not specifically for conference simultaneous interpreting. The other reference is Moser-Mercer et al. (2005), who present the Certificate course for Interpreter Trainers at ETI (University of Geneva), which blends distance learning with face-to-face learning. Their course objective is to empower interpreter trainers by incorporating tools in their portal to offer a rich learning environment.

2.2.3 Associations, institutions, and organizations

Professional associations, institutions, and organizations are also interested in ICTs: the Professional Conference Interpreters Worldwide (AIIC[6]) published on its website as early as 2000 its "Code for the Use of New Technologies in Conference Interpretation" (AIIC 2000a), as well as "Guidelines for Remote Conferencing" (AIIC 2000b).

The regulations derived from this AIIC "Code for the Use of New Technologies in Conference Interpretation" (AIIC 2000a) emphasize the active participation of the interpreters regarding the planning of meetings where new technologies are to be used to ensure that requirements are met. The required working conditions, which must

[6] Professional Conference Interpreters Worldwide, the only worldwide association for conference interpreters (AIIC 2007).

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comply with ISO 2603 and CEI standards, are: a direct view of the conference room or at least high-definition picture synchronized with the sound, and the quality of the sound which must be guaranteed the full frequency range of 125 to 12500 Hz. In view of the constraints of videoconferencing, which include being deprived of the general non-verbal context, eye fatigue caused by screens, no daylight, and extra stress, among others, they recommend that interpreters should not have to work more than two hours a day. These regulations consider unacceptable the practice of tele-interpreting in cases when the participants in a meeting are assembled in one place and the interpreters in a different place to interpret only from monitors or screens.

The document "Guidelines for Remote Conferencing" (AIIC 2000b), although referring to remote conferencing, begins by stressing as best practice that all interpreters be at the same location as the speakers. Their recommendations for remote conferencing highlight the need for a coordinating interpreter, who should participate in the preparation of the conference together with the video and sound technicians, and with the conference organizers or officers. The working hours recommended are three hours per day. Regarding the equipment, they also recommend the same quality of sound with a full frequency range of 125 to 12500 Hz which complies with ISO 2603. As to the images, these guidelines give a more detailed technical description of the equipment than the "Code for the Use of New Technologies in Conference Interpretation" does, by specifying visual display units of at least 40 cm diagonal to show the images of the speaker, the audience, and the chairperson and conference officers. If the interpreters have not received copies of a speech, the speech should be displayed on the screens for them, as well as any other visual material that may be shown to the audience or that can help, such as the list of participants or the agenda. There should also be permanent lines available to the coordinating interpreter, to the chairperson, to the sound and to the video controls.

The AIIC "Code" and the "Guidelines" complement each other, although there is a slight discrepancy regarding the number of working hours recommended; two in the former and three in the latter.

As a side-effect of the enlargement of the European Union, the SCIC, now DG Interpretation (the Directorate General for Interpretation of the European Parliament), which is in charge of providing conference interpreting services to most of the European institutions (DG Interpretation 2007), has become one of the pioneering institutions in the research of, and experimentation with, ICTs in interpreting. The DG Interpretation

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has published a paper on the point of view of SCIC regarding new technologies (Esteban Causo 2000), giving an objective appreciation of the new technologies, stating that their benefits will depend on their use, but also reporting the health problems that have emerged because of their use. Other documents by DG SCIC discuss the use and future of new technologies such as Mouzourakis (2000), as well as detailed reports directly related to ICTs in the profession (DG SCIC 2003a, b, c, d).

In all these publications and sources, however, I was unable to find studies contrasting or encompassing the use of ICTs between the professional and educational conference interpreting settings.

Considering that the Internet is the communications technology that has had the fastest growth ever (ILO 2007) and from all the above discussion, I can deduce that the gap demanding new research lies in the lack of a broad panorama of what ICTs are being used as of today around the world in conference interpreting and in conference interpreter training.

2.3 Historical background

In order to respond to Booth et al.'s (1995: 40) questions for doing research, where they suggest a history of the subject we intend to research should be included, a historical background should enable us to understand the present standing of ICTs in the profession of conference interpreting. Since I have located my study within the discipline of Translation Studies (TS) (see chapter 2, Figure 2), there is a need to relate it to translation as well, comparing how the two fields have developed and made use of technology throughout their history.

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In this diachronic overview, I provide the historical perspective necessary for understanding the present standing of the profession regarding the use of ICTs, and for comparing the development of interpreting with the implications of their use. Only for this part of my work am I using the term 'new technologies' in its broader sense, meaning innovative technologies of various kinds (Stoll 2002:1), where technology stands for the "application of scientific knowledge for practical purposes" (OED 2003: 1182).

2.3.1 General remarks

History can be more accurately researched when there are contemporary detailed descriptions of a phenomenon.

Now that I have been looking at the present impact of ICTs on the profession, I have also been wondering how it has arrived at this point and if the so-called new technologies are changing as dramatically as it is generally believed the interpreting profession. Allow me to show comparatively how innovations and ICTs have affected, changed and developed both translation and interpreting.

2.3.2 A comparative diachronic view of ICTs in translation and interpreting

2.3.2.1 Early innovations in translation and interpreting

Histories of translation mention that the first form of translation was undoubtedly interpreting, sometimes called oral translation (García Yebra 1994: 28). Interpreting has existed as long as there have been different spoken languages in contact, so it necessarily preceded written languages.

Interpreting has also long been acknowledged in writing: as early as 3000 BC the Egyptians had a hieroglyphic for the activity of "interpreting". Interpreters are mentioned in the Bible, as Herbert (1952:1) notes: in Job and in Corinthians[7]. Today it continues to be the most direct form of communication between two languages, especially in the cases where a *lingua franca* does not exist.

[7] "If there be a messenger with him, an interpreter, one among a thousand…" Job XXXIII, 23; and "If any man speak in an unknown tongue, let it be by two, or at the most by three, and that by course; and let one interpret. But if there be no interpreter, let him keep silence…" I Cor., XIV, 27-28.

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In spite of the above, it was translators who began to use, and even develop new inventions early on (Delisle and Woodsworth 1995), with the shift from hieroglyphics to alphabetical writing around five thousand years ago (García Yebra 1994: 12). Innovations continued not only with respect to the method followed, but also with the materials translators worked with, as people went from writing on ephemeral materials such as leaves, wood, and clay, to more permanent and practical ones such as copper and stone and later on parchment.

However, translation was the field that continued to benefit from innovations. Of undeniable importance for translation was the introduction of paper, a Chinese invention. It came first to Baghdad at the end of the 8th century. It was brought later to Europe through the Iberian Peninsula in the mid-13th century during the reign of Alfonso X[8] (Pym 2000: 80-81). The method used for translations in Toledo has been carefully studied by various scholars, among them Menéndez Pidal (1999: 68-69), who describes the process followed by a team of two specialists. In his description, we can identify a step that corresponds to a kind of inverse consecutive interpreting or a sight translation combined with translation from an oral text: a specialist in the source language (generally a Mozarab or Jew) would translate the written text orally into the vernacular language – in this case Romance – and then another specialist would transcribe the oral text in writing in the target language (Latin). In this process, the oral component was more important in the 12th century, when parchment was used. However, in the 13th century, with the introduction of paper, Romance became the written language. This state of things could mean that, even at this early stage, technology was more associated with writing, as opposed to oral language.

One of the first steps forward for the discipline of interpreting was that it received important status in education when the French lawyer Pierre Dubois, in the 14th century, proposed the creation of various institutions in Europe to train interpreters that would function as intercultural communicators with the Muslims in order to eventually convert them in a peaceful way (Herbert 1952: vii).

Despite sporadic references to interpreters and interpreting by several authors of ancient times, true and explicit recognition of the profession did not come until the Renaissance. This was due to the emergence of the interest of the humanists in foreign

[8] Alfonso X the Wise, King of León and Castile, was famous for his support to the School of Translators of Toledo. Pym (2000: 85) suggests the use of paper allowed him a certain state control of translation as it was less expensive and easier to revise and rewrite translations written on paper than on parchment.

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languages and because of the great European expeditions of the time, which led to contact with new languages thus raising awareness of the value of a good interpreter. Christopher Columbus sent young Indians to Spain to learn Castilian more effectively so as to serve as interpreters to convert, once again, the pagans to Christianity (Herbert 1952: viii). To ensure the availability of good interpreters, there were specific norms dictated for the profession. The first one known was issued as early as 1529. These norms are known to us because they were included in the set of laws *Recopilación de Leyes de los Reinos de Indias, mandadas imprimir y publicar por Carlos II* (Peñaroja 2004). The norms went from errors made by interpreters, to salaries and working hours, as well as to the qualifications of the interpreter.

The decree of 1669 issued by Colbert, minister under King Louis XIV in France, constituted another attempt to ensure the availability of good interpreters. Through it, the school of interpreters – interpreters of Arabic and Turkish languages known as dragomans – of Constantinople was created. This eventually became the origin of the INALCO (*Institut national de langues et civilisations orientales*) in Paris. Another school of interpreters, the Academy for Oriental Languages, was founded in Vienna by the Empress Maria Theresa of Austria in 1754 (Delisle and Woodworth 2005: 228-229).

Translation then received another extraordinary boost, both technologically and quantitatively, as a result of the invention of the printing press by Gutenberg in the fifteenth century. Then again it underwent another very important change, albeit not as revolutionary quantitatively, with the introduction of the typewriter in the 1870s, due to the role the machine played in the development of modern business. Electric typewriters and the role of the dictating machines in the 1970s brought still another dimension, as the texts the translators had to work with could now come in an oral form. However, these important introductions in technology did not change how interpreting is done even today.

2.3.2.2 Translation seems to get it all

As explained in section 2.3.2.1, translation has received the benefits of new inventions since the beginning, and continues to do so in this era of ICTs. Machine translation, whose origins may be traced to 16th century ideas of 'mechanical' dictionaries and to the first practical applications patented in 1933, has been behind the recent developments in this field. Translators have obviously never appreciated having a machine replace them, and there are still in the 21st century translators who react

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against machine translation just as their peers did in the 1960s, but by the 1980s the majority realized that computers could be of considerable help in their work to meet the constantly growing demand for translation because of globalization. Among the benefits that computers were bringing to translators' lives, word processing, the creation of individual glossaries (what is discussed as DIY corpora in this paper), on-line access and transmission of documents could be listed (Hutchins 2006: 10).

Machine translation could not, and would not, be the answer to their needs, since they wanted and actually required to keep control of the process. It was thus that CAT (computer-assisted translation or computer-aided translation) was developed. CAT is defined as "a form of translation wherein a human translator translates texts using computer software designed to support and facilitate the translation process" (Agostini 2008 sv "CAT"). The term covers a range of tools, which may be software, add-on programs, or databases (Atril 2008a). Although translation memory (TM) software is the most common tool associated with CAT, other tools included in the term are spell and grammar checkers and terminology data bases, which can be built into word processing software, or as CD-ROMS, or as add-on programs; dictionaries and encyclopedias on CD-ROM or available through the Internet; indexers or full-text search tools and concordancers and bitexts, which are programs that can interact and complement each other when needed. Indexers are a subtype of search engine for full texts (Mertz 2001), while concordancers serve for finding out patterns of vocabulary, grammar, and style, by finding a key word in its context (Kies 2007). A bitext consists of two texts that are mutual translations, i.e., one being the source-language version of a given text and the other being the target-language version of it. The software for creating a bitext is known as an alignment tool. Although bitexts may be similar to translation memories (TM), they are different in that TMS store matched sentences, phrases, paragraphs or blocks of text, while losing the original sentence order, whereas a bitext retains the original sentence order (Proteus 2008). A translation memory (TM) is "a linguistic database that continually captures your translations as you work for future use" (Translationzone 2008), which accumulates translations in source and target language pairs which are called translation units. When the source file is opened, the TM will extract identical matches and fuzzy matches (similar but not identical), which may be accepted or overridden with new alternatives.

Some of the best known and perhaps most widely used and taught tools and programs today are *Déjà Vu* – a translation memory (TM) tool and productivity system,

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combining translation memory technology and EBMT (example-based machine translation) (Atril 2008b); *Trados* – terminology management and TM software (SDL Trados 2007); *Wordfast* – presented as the fastest TM tool on the market and the second most widely used (Wordfast 2008); and *STAR Transit* – an alternative TM system, that is both a tool and process management (Wassmer 2008; STAR 2008).

From the above we can clearly see the variety of ICTs from which translators are benefiting.

2.3.2.3 Major changes reach conference interpreting

Interpreting – oral translation as it has sometimes been called – is a much older activity[9] than translation, its written form. Consecutive interpreting has been the predominant form of interpreting since the beginning, although in some instances whisper interpreting (chuchotage), the direct origin of simultaneous interpreting, is still used in face-to-face meetings and in workshops of small groups in large meetings. This continued for hundreds of years until the first major change in the profession: the appearance in the first half 20th century of equipment for simultaneous interpreting (SI). The system, developed by IBM based on the invention of Finlay and Filene and thus known as the IBM Hushaphone Filene-Findlay [sic] system, was patented in 1926 and was first used at an International Labour Conference in Geneva on June 4, 1927. The system reportedly saved the ILO £32,700. This was the first major technical solution for interpreting, which also introduced a new mode of processing the information and required special skills and specific training from the professionals. Simultaneous interpreting emerged because of the concrete needs of the League of Nations: due to the many languages involved in each plenary session, it was necessary to reduce the time for interpreting, which with the consecutive method had become cumbersome when there were more than two languages. As revolutionary as it was, simultaneous interpreting was curtailed, as the League of Nations was facing enormous problems during the years before World War II. This proved to be a major setback for the profession for around 20 years. Simultaneous interpreting resurfaced for the Nuremberg Trials in 1945, and became the form par excellence of conference interpreting when in 1947 the United Nations adopted Resolution 152(11), by which simultaneous interpreting was instituted as a permanent service (Bowen et al. 1995: 246-252; Gaiba 1998: 30-31; Roland 1999: 9-131).

[9] In fact, the second oldest profession in the world (Baigorri-Jalón 2004: 165).

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After the appearance of equipment for SI in the period between WWI and WWII, the next technological introduction, which still today is fairly new, came with distance interpreting, also referred to as teleinterpreting, with which the UN had already experimented in the 1970s: first in 1970 with a satellite connection between New York and Buenos Aires, and then with videoconferencing in meetings between New York, Nairobi and Geneva (Baigorri-Jalón 2004: 163).

Remote interpreting was first experimented with at the UN in 1999, with the conference in Geneva and the interpreters in Vienna (Esteban Causo 2003: 145, 147). According to Baigorri-Jalón (1999: 36), however, remote interpreting was actually already tried during the first attempts at SI in the 1920s, as interpreters worked through telephone lines in a room separate from the meeting room, thus falling within the definition given by Esteban Causo.

Baigorri-Jalón (1999: 36) provides yet another example different from all the above from the 1930s: Simone Signoret's father, André Kaminker, listening to a radio station in Germany, interpreted live in Paris for the French radio network Hitler's first speech in Nuremberg in 1934.

As can be seen from the above discussion, translation has benefited throughout the ages from all these technological innovations and improvements. However, this benefit is not as clear for interpreting. The only major breakthrough for the profession of conference interpreting in approximately 5000 years has been the development of the technology for SI in the 20th century. It is only now that we are witnessing the next truly radical step for the profession: the practical and general introduction of the use of computers and ICTs in conference interpreting.

2.3.2.4 New technologies in conference interpreter training

By taking a look in chronological order at articles or books on conference interpreter training or teaching, we can clearly identify the moment new technologies appeared in the field.

In the early 1950s, Herbert (1952: 87-88) suggested the use of radio, films, and recordings to practice and evaluate performance. In fact, phonographic records for learning languages were already being used at Berlin University in 1919-20, and at the League of Nations they used telephone interpreting, among other methods, for training interpreters (Baigorri-Jalón 2007). However, in practice in many places such equipment was not available at all. Dobosz attests to this lack of equipment in her interview about

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her training to become a diplomatic interpreter for Polish authorities who were sent to Korea for negotiations in the post-war era, that is, around the same time Herbert wrote his work (Bowen, Bowen & Dobosz 1990: 23-33).

Although remote interpreting technologies were introduced in the 1970s (Baigorri-Jalón in Codina 2004: 3), they were not used in interpreter training (Baigorri-Jalón 2007). In the mid- and late 1970s, the first major remote interpreting tests were carried out by international organizations: for example, the Paris-Nairobi experiment known as "Symphonie Satellite" carried out by UNESCO in 1976, and the New York - Buenos Aires experiment carried out by the United Nations in 1978 (Moser-Mercer 2005b: 732-733; Heynold 1995: 12).

However, what was occurring in interpreter training was far behind these innovations. According to Varantola (1980: 62-63), as late as 1980 simultaneous interpreters were not formally trained in Finland, although a few courses in simultaneous interpreting were offered in the language institutes, which have since become translation and interpreting centers at universities. In her work she made several proposals: that SI should be taught as a postgraduate course, in line with what was then the general practice; that the training use radio, television, tape recorders with microphones and earphones: a list that introduced only one significant change – television – in the almost 30 years that had gone by since Herbert's suggestion.

In spite of the advances made at the UN family, for a long time the only technologies readily available for interpreter training were tapes, even for those training at the UN. Audiovisual equipment for training came in the 1970s, to which we find a reference in 1979, when the UN and the Beijing authorities signed an agreement to improve training conditions; the equipment to be acquired in order to help modernize Chinese teaching methods consisted of audiovisual equipment, concretely closed-circuit television and a language laboratory (Baigorri-Jalón 2004: 104, 106, 125).

After the first major remote interpreting tests in the 1970s and other minor trials in the 1980s, the next noteworthy series of experiments were conducted in 1993 by the European Telecommunication Standards Institute as a pilot study on ISDN video telephony. In 1995, the Studio Beaulieu experiment was carried out by the European Commission, followed in 1997 by the first controlled experiment in remote interpreting, which was launched by the International Communication Union and the École de Traduction et d'Interprétation in Geneva. The United Nations also did similar experiments in 1999 and 2001 (Moser-Mercer 2005b: 732-733; Heynold 1995: 17).

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Regarding interpreter training, however, Pöchhacker (1999: 157) claims that by the time he wrote his article, the training of simultaneous conference interpreters had undergone major changes. To prove his point he mentions various papers that discuss the use of videotapes in interpreter training (among them Kurz 1989: 213, who notes that in 1987 this practice was introduced at the University of Vienna) and further comments on the use of audiotapes (Pöchhacker 1999: 159-161). I believe, however, that the most important changes occurred only in the form of collecting and presenting the material. Instead of using reels, which were bulky, tended to unwind and whose tape broke easily, tape recorders were now using audiotapes or audiocassettes which were less cumbersome than the older tapes, but still had the same function and possibilities, as well as limitations. The novelty then is that television, instead of functioning only as a reception device, could now be controlled by recording on videotapes that could be replayed as needed.

As recently as 2003, Pym et al. (2003: 91) list the materials commonly used in Shlesinger's face-to-face interpreter courses, a list which illustrates what was common practice at the time:

- prepared or impromptu talks by the teacher
- prepared or impromptu talks by other students
- audio tapes read expressly for classroom use
- audio tapes from actual conferences
- audio tapes of talks or interviews given on the radio
- video tapes read expressly for classroom use
- video tapes from actual conferences
- video tapes of talks or interviews given on TV.

This has already gone some steps further as the first decade of the 21st century has reached its end, as audiocassettes and videotapes have now become CD-ROMS and DVDs and these are slowly, but steadily, becoming digital speech banks.

The next major step in interpreter training, which is the current situation that I intend to describe in this work with the help of the responses provided by the CI trainers themselves, is ICTs. The important development compared to the use of recordings and TV to practice in a one-way direction is that now the interpreter trainee can exercise in an interactive way not only with his trainers, but by themselves with the computer program.

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The most radical innovation in interpreter training resources that has appeared since the mid-1990s is thus CAIT – Computer Assisted Interpreter Training, which is an evolved application of CALL (Computer Assisted Language Learning) software programs that started to develop since the late 1960s (Sandrelli and de Manuel Jerez 2007: 275). It had been proposed originally as a project in the University of Trieste since 1996 (Dodds et al. 1996: 1) and as another project at the University of Hull (Sandrelli 2003a: 211-221). That major step was the development and introduction of computer programs in practical training.

CAIT tools, since they support self-study, gear to a learner-centered, that is, constructivist, approach. They thus allow conference interpreting trainees to acquire, on the one hand, self-assessment skills, and on the other, to establish a more personal, direct connection with their trainers and peers through the individual feedback received. CAIT were originally conceived for single-user practice, but have advanced to collaborative learning, one of the constructivist modes of learning.

Sandrelli and de Manuel Jerez (2007: 269-303) in their overview of the first ten years of this young field discuss the three approaches developed within CAIT: integrative CAIT, intelligent CAIT and Virtual Learning Environments.

Integrative CAIT are based on material in digital speech banks or repositories for classroom or self-study. In integrative CAIT, the computer plays the role of both tutor and stimulus. The aim is to integrate audio, video, and textual resources, to provide students with material – generally authentic, as many of the databases collect real-life communicative events, organized and graded according to the level of expertise of the students – which can be used either for the classroom or for self-study. Some of the best-known projects of this kind are the pioneer IRIS database created at the University of Trieste, Italy, which proved to be a very useful tool both for teachers and students, although no longer developed; the EU speech repository, developed by the European Union since 2004; and the Marius database, created at the University of Granada, Spain, in 2001, which comprises also around 2000 items (speeches and videorecordings) of real-life communicative situations, such as lectures lasting up to one hour but also short fragments of for example a question in a debate or in a press conference, as short as one second. The selection of material takes into account Pöchhacker's (1995) typology of communicative events in conference interpreting settings (Sandrelli and de Manuel Jerez 2007: 277-279). Databases such as Marius also allow feedback to be obtained from the students so as to confirm or change pedagogical exploitation of the tools and

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materials. In the case of Marius, also, the amount of material collected, which ranges from non-specialized speeches delivered at 90-100 words per minute, suitable for beginners, to the most complex ones delivered at more than 180 words per minute, with unfinished sentences, has allowed them to prepare DVDs with videoclips, transcripts, and other documents for training both consecutive and simultaneous interpreting, which in principle would provide trainers with enough material for a one-year specialization course in conference interpreting (360 hours). The parameters they use for curricular progression include terminological density, accent, intercultural differences and length of interventions. The EU Speech repository has an advantage over Marius in that it includes speeches in the 23 official languages of the EU. Other initiatives include the work at the University of Salamanca, Spain, on a CD-based repository entitled *Materiales para interpretación consecutive y simultánea (alemán, francés e inglés),* published in 2004. It is based on tailor-made speeches for the occasion by native speakers. In addition to the speech repositories, there is another category of integrative CAIT, which consists of authoring programs. These are software programs developed specifically for the teaching of interpreting, which consist of recorded material – audio and video -, and the computer works both as a tutor and as a tool, by giving tasks to the students and also helping them through recording to work on self-assessment. They also include features such as individual feedback, simulation of professional working conditions, tools for creating consecutive and liaison interpreting exercises, communication tools for sending and sharing files, even a sub-titling module. Of these programs, the first commercially available authoring program developed specifically for interpreter training was *Black Box*, which although based on an integrative approach, already includes elements of intelligent CAIT (Sandrelli and de Manuel Jerez 2007: 282-289). Other valuable collections of resources are the EMCI resources, with pedagogical material for trainers, conference proceedings, and links to direct data on national parliaments, dictionaries, languages, etc. (EMCI 2009b), and the video speech repository of the Virtual Institute at the University of Geneva, a database of audio and audio-visual recordings (liveETI 2009).

Intelligent CAIT are programs where the interpreter trainers can create various types of exercises while at the same time providing trainees with tools to optimize the use of available resources. Intelligent CAIT increase the interaction between the users and the computer. *Black Box* includes these possibilities, allowing trainers to create exercises for trainees in all interpreting modes, that is, simultaneous, consecutive,

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liaison, as well as sight translation, on the one hand, and by allowing the students to assess the different aspects of their own performance, such as time lag, their general performance, and their voice frequency (Sandrelli and de Manuel Jerez 2007: 289-290).

The Virtual Learning Environments apply aspects of simulation technology, such as the ones available in computer games, with the objective of making both teaching and learning of conference interpreting more immersive. Virtual Learning Environments were originally developed for foreign-language teaching or translator training, and have been combined with digital language laboratories. Their main objective is to provide support for self-study, and especially for e-learning, as at the University of Geneva Virtual Institute. This Virtual Institute, based on the "blended learning philosophy" (face-to-face and online activities, structured and unstructured activities, individual and collaborative tasks), uses several tools such as shared interpreting materials and interpreter training archives to support both trainers and trainees (ETI Virtual Institute 2009).

CAIT are being developed at a very fast pace, based on suggestions by the trainers and on the experience of the developers, in accordance with the availability of new tools and the spectrum of possibilities offered by the rapidly emerging ICTs.

However, there is one very important item that should always be taken into consideration, as stated by Sandrelli and de Manuel Jerez (2007: 292): "developments in interpreter training can be beneficial if they are technology-based, rather than technology-driven". This is also true regarding ICTs for conference interpreters: technology should be the basis or support for their work.

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3 A description of the aims, research questions, and hypotheses

A description of the ICTs used in conference interpreting is useful today not just as reference, but also for researchers in the future who wish to study details about this particular moment of the history of conference interpreting.

By providing up-to-date information on this issue, I also propose to develop awareness of the importance of ICTs both in professional practice and in the conference interpreter training classroom.

The aim of this study is fourfold:

- to study the tools, elaborating a typology of ICTs used by conference interpreters and by conference interpreter trainers as the conceptual core of our work;
- to compile the conference interpreters' and conference interpreter trainers' perception of the impact of ICTs on the work, mainly in relation to quality and professionalism;
- to analyze the use of ICTs in the profession through the above perception;
- to research the use, usability and efficiency of ICTs in the classroom also through the above perception of the conference interpreter trainers.

With the aid of the responses received, the present use of ICTs in the profession will be analyzed, first statistically and then also linking the responses to the theories and models used as bases for this study. By looking at the pedagogical uses of ICTs, it is my intention to link the professional practice and the educational aspect of the field, by pointing out the coincidence of use in both.

It should be pointed out that the aim of this research is informative, not prescriptive. This work does not intend to test or measure in any way the use of ICTs in the profession or in CI training, but rather to provide statistical information about which ICTs are being used in both areas, professional and educational. The results should provide information for both fields, and may eventually help professionals and trainers to understand better their counterparts in other parts of the world.

Several research questions have been guided by these aims and have been modified by my pilot study in 2005 and in light of the work on ICTs in conference

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interpreting as discussed in the literature review in section 2.2. These research questions are to a certain extent in line with what the GRETI intends to research. GRETI is a research group of the Junta de Andalucía, HUM-737 "La interpretación ante los retos de la mundialización", created within the Translation and Interpreting Department of the University of Granada. One of its lines of study is New Technologies (de Manuel Jerez 2003b: 11-13). My questions are the following:

1 Is there a difference in the use of ICTs and attitude towards them according to gender?
2 Is there a difference in the use of ICTs and attitude towards them according to age?
3 Is there a difference in the use of ICTs and attitude towards them according to the type of conference interpreter, i.e., whether in-house or freelance?

These first three questions are intended to destroy or support stereotypes, and to understand better the uneven use of ICTs within the profession.

4 Do most CIs nowadays always use ICTs for preparation (pre-interpreting work), and are CI trainees taught to use ICTs for preparation?
5 Do CIs use ICTs in the booth, and are CI trainees taught to use ICTs in the booth?
6 Do CIs carry out post-interpreting tasks using ICTs, and are CI trainees taught to use ICTs for post-interpreting tasks[10]?
7 What specific types of ICTs do they use for each of the three stages?
8 Given the popular belief, which would certainly seem logical, that distance interpreting can bring about great savings, are remote interpreting, videoconferencing, and telephone interpreting common practice among most CIs? To what extent are CI trainees taught those three modes of distance interpreting?

Questions 4 to 8 are paired, i.e. repeated both for professional and educational settings, to analyze the data in the light of constructivism, which argues that education and training should reflect actual professional practice (Kiraly 2000: 123) and of constructive alignment, which stresses focusing on what students should learn (Biggs and Tang 2007: 52).

In question 8 regarding the savings that can be brought about in principle by teleinterpreting, I am interested in exploring the economic aspect of this phenomenon.

[10] In this study I have used the terms "post-interpreting tasks", "post-interpreting research", and "post-interpreting revision" as the updating work carried out by the CI after finishing an interpreting job. The CI may want to record a new solution found to a problematic term, or register a new term, or obtain more information about a subject, in order to use it in a future interpreting job.

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9 Do CIs perceive ICTs as tools that can help them improve quality and professionalism? I believe this question will help reveal CI attitudes towards ICTs, and it will also provide a solid foundation for the insertion, or not, of ICTs in training programs.

10 Do any CIs foresee that ICTs can eventually help ease any of the efforts in Gile's Efforts Models? With this question I would like to explore further the attitudes of CIs regarding ICTs and its implications and impact on the profession.

These two last-mentioned questions are posed to further analyze the impact of ICTs on the profession, to provide more ample information on the reasons given by the CIs themselves for using or not using ICTs in their work, as well as to explore possible uses or expectations.

The final two questions are aimed at looking into the future of ICTs and at the level of training of future CIs:

11. Is there room for developing more ICTs for CIs?
12. Are CIs trained more at the undergraduate or graduate level, or is this related to the region of the world where the institutions are located?

In addition to these very specific questions, I explore three main hypotheses in this study:

1. There remains a certain resistance to the use of ICTs in the booth.
2. The use of ICTs by CIs varies in the different regions of the world.
3. What is taught in conference interpreter training regarding the use of ICTs coincides with the types of ICTs that professional conference interpreters use.

I am interested in exploring these three main hypotheses for the following reasons:

a) If I can prove that there is still a certain resistance to the use of ICTs in the booth, meaning by "certain" that they are not as universally used as, for example, book dictionaries have been, then it would confirm Donovan's statement (see section 1.2) that even today the use of ICTs is considered to some extent as unnatural, that is, not generally accepted. This hypothesis will show that a universal claim cannot be made, and beyond proving Donovan's statement. By providing information on the subject, it should help motivate more CIs to experiment with – and benefit from – these tools in the booth.

b) In the event that I can prove that the use of ICTs by CIs varies in the different regions of the world, the information can help CIs learn more about their

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colleagues in other areas of the earth, and thus it should help sustain good intercultural communication within the profession. I am analyzing the answers by regions – namely, Northern Africa, Sub-Saharan Africa, North America, Latin America and the Caribbean, Middle East, Central Asia, Far East, Northern Europe, Central Europe, Southern Europe, and Oceania – to see if there are great differences in percentages in the use of ICTs, or to show any differences albeit not great.

c) In the event that I can confirm that teaching the use of ICTs in conference interpreter training coincides with its use by professional conference interpreters, I will sustain the relevance of training programs which include the teaching of ICTs for an easier insertion of professionals in the labor market. If it is not proven, it will provide information for CI trainers on what would be important tools to teach in their programs so as to better prepare their students for the market. Although CAIT (Computer Assisted Interpreter Training) tools will also be mentioned in this study as a very important field of its own, my aim with this work is to check a broad possible parallelism between the professional and pedagogical fields, so I am not including CAIT in the hypothesis.

I believe the testing of my hypotheses, along with exploring my research questions and a thorough review of literature on the subject, can add to our understanding of the phenomenon.

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4 ICTs for conference interpreting

Technologies can help increase human capacities, and among the aspects identified by Biau and Pym (2006: 6) there are some that particularly interest conference interpreters: 1) communication, and 2) memory. These two aspects are fundamental for our study, as they are the capacities in which we need to train interpreters, and which professionals should keep up with on a constant basis.

Before engaging in the description of the ICTs, I would like to present a common ground for understanding, with definitions of the terms used in this work and then with a typology I have developed of the ICTs used in conference interpreting, based on the typology for translation and localization technology by Enríquez and Austermühl (2003: 227). After the definitions presented in section 4.1 and the typology of the ICTs for conference interpreting introduced in section 4.2, section 4.3 gives a detailed description of each ICT, with examples and images whenever available. This more detailed description may seem partially repetitive in some instances, but by keeping the definitions and the examples in two separate chapters the reader can access the information more easily.

4.1 Definitions

In order to provide a common ground for the typology and then for the description of the different technologies and their implications, the following glossary gives the definitions and explains the main terms used in this work. The entries have been divided into main categories or headings, then grouped together by topic and then presented in alphabetical order to facilitate searches.

4.1.1 Terms related to interpreting: the people, the discipline, and the environments

Conference interpretation/interpreting: First, it should be explained that *interpreting* and *interpretation* are often used as synonyms, although some institutions prefer to use *interpretation* as the umbrella term. I would like to make the distinction that *interpreting* refers to the process and *interpretation* refers to the final product. Conference interpreting/interpretation "enables participants in a multinational meeting to communicate with each other in a seamless fashion, making the language barrier

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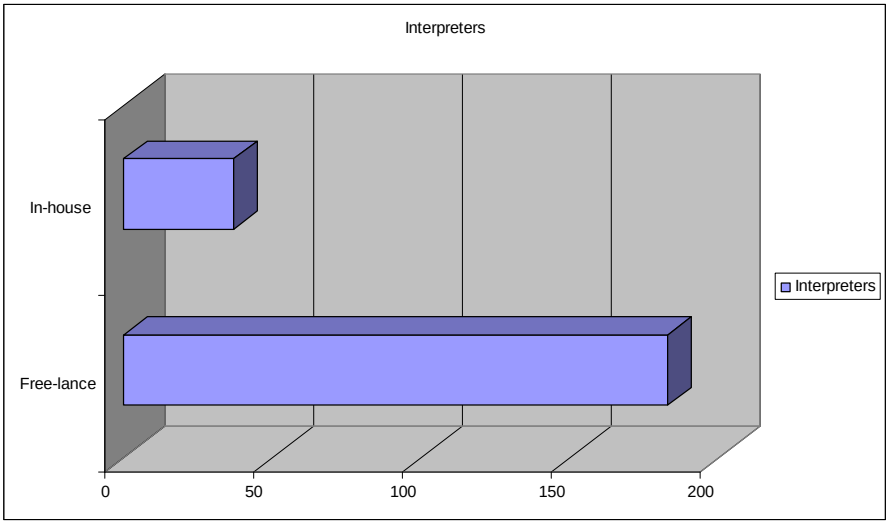
almost imperceptible. Such interpreting is generally performed in two modes: consecutive and simultaneous" (MIIS 2009). For this work, the term "conference interpreting" mainly refers to the simultaneous mode.

Conference interpreter: The definition prepared by the Legal Committee of the *Association Internationale des Interprètes de Conférence* (AIIC) as quoted by Sauer (1997: 15) reads:

> A conference interpreter renders verbally in one language a statement spoken in another language at a formal or informal meeting or in a conference-like situation. Professional conference interpretation may be consecutive or simultaneous regardless of the length and/or complexity of the original statement.

To this general definition, it should be added that conference interpreters need to have a broad range of knowledge and of interests, as well as a rapid grasp of new information, in order to be able to cope with the large variety of topics that may come up in the conferences they work in (Phelan 2001: 7). The professional conference interpreters (CIs) I have addressed fall into two main categories: in-house and freelance. The proportion of each category in the responses received is reflected in the chart in Figure 4.1.

Figure 4.1. Proportion of in-house and freelance interpreters participating in the survey



Conference interpreters - Freelance interpreters: I am considering in this category two types of CIs: those affiliated with international organizations or institutions such as the UN and the EU or others, but working for them with shorter and sporadic contracts (although they may be considered staff members of the organization

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in question for the duration of the contract), or those who are neither affiliated to any international organization nor to any local institution and work for various customers. Among the responses, there were 43 freelance interpreters working regularly for the EU and 37 freelance interpreters working on a regular basis for the UN. In all, 37 in-house and 183 freelance interpreters responded to the survey.

Conference interpreters - In-house interpreters, staff interpreters: In-house or staff interpreters are those who are permanently, or for a longer period of time, affiliated to only one institution. In the responses received, there were only 37, a clear minority, in this category, working for the EU, UN, national governments, other international organizations, as well as in the private sector.

Domains, settings, nature of meetings, and fields: Conference interpreters work in different environments known as domains, settings, nature of meetings, or fields. A setting is "the [...] circumstances in which something occurs..." (Merriam-Webster 2009), while the nature in this case of a meeting is the character, constitution, essence, kind, or class usually distinguished by fundamental characteristics (Merriam-Webster 2009). I used those two terms, which are understood generally, in my questionnaires, since there are other types of meetings besides the three domains defined by Poole (2005) that do not involve the money factor predominant in the business domain or the powerplay present in the diplomatic one. With the aid of the classification made by Poole from AUSIT (2005a), I will here try to clarify what is meant by all these terms.

Poole (2005) states that a domain is the type of work, more specifically, a subdivision of the market for interpreting that is characterized by the following: a) a power structure that exists between the interpreter and the representatives of the languages to be interpreted; and b) the mechanisms by which the services of the interpreter are sought, offered, paid, etc. According to that classification, there are only three domains: community, business, and diplomatic. These are defined separately in this glossary. The domain in which the interpreting work takes place has absolutely no bearing on the field, subject or topic of the material being interpreted.

Business domain: a conference setting that is characterized by a commercial relationship, where economic agents, either individuals or companies, are involved in import, export, marketing, and have the aim of a free exchange of goods or services for money (AUSIT 2005a).

Community domain: where interpreting is provided to facilitate the communication of the government or non-profit NGOs with a person or persons who

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do(es) not speak the language of the country in question. This includes clinical medicine, police, criminal courts, education (communication with the parents of a child, for example) (AUSIT 2005a). In this work, community interpreting is not discussed.

Diplomatic domain: where interpreting aims to facilitate the relationship between one sovereign state or international organization, whether governmental or non-governmental, and another similar entity. The power structures, mechanisms of accountability, definitions of success, etc., in this domain will be significantly different from those in the business domain (AUSIT 2005a).

Fields: refer to the subject or topic of the material interpreted, such as chemistry, politics, engineering, medicine, etc., while its subdivisions would be more specific, such as AIDS (AUSIT 2005a).

Modes of interpreting – Bilateral interpreting: In this mode, the interpreter uses two languages to interpret for two or more persons (Phelan 2001: 12).

Modes of interpreting - Consecutive interpreting: In this interpreting mode, the interpreter listens to the speech and takes notes. Once the speaker has finished, the interpreter will deliver the speech in another language. As it is a complete rendition of the original speech, it is time-consuming, especially when there are several languages involved (Phelan 2001: 19).

Modes of interpreting - Simultaneous interpreting: The method of simultaneous interpretation (SI) which consists of "the oral translation of spoken language into another language, at the same time and at the same rate of speech as the speaker" (Barinas 2009), that is, listening to a message delivered in a language while rendering the words into another language, all in real time. The rate of speech of the speaker will differ greatly according to the situation, that is, if they are reading a speech, if the speech is well structured, or if the speech is improvised. Such circumstances can greatly affect the amount of effort undertaken by the conference interpreter, and it is linked to the Efforts Model discussed in this work. SI is used in general in conferences so as to deliver a message to a wide audience. It is "a service which allows participants at international meetings to speak and follow proceedings in their own languages" (Setton 1999: 1). Simultaneous interpreters work in sound-proof booths, where they listen to the original texts or the interpretation from relay by pivot through headphones, and their interpretation into the microphone reaches the headphones of the participants in the event through the channels according to the language they are interpreting into. The primary objective of this type of interpretation is to achieve effective and accurate

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communication in the shortest time possible and in various languages at the same time; therefore, it is the method of interpreting employed in the majority of congresses, conferences, colloquia, symposia, seminars and other multilingual meetings (CMIC 2009a), as well as in the media – mainly TV.

Working environments – Distance interpreting, teleinterpreting: In my study, I have classified as modes of distance interpreting the following three: remote interpreting, videoconferencing, and telephone interpreting. Both remote interpreting and videoconferencing are often discussed together under the umbrella terms "teleinterpreting" or "distance interpreting", terms which also frequently include telephone interpreting.

Working environments – Telephone interpreting: This mode is basically bilateral interpreting over the telephone. It is widely used for business contacts. It has many important advantages for globalization: it can be available anywhere, at any time, and in a large number of languages. It also has more potential, as advances in voice recognition processes mean that machine interpreting could eventually become available over the phone (Phelan 2001: 13). It is one of the three distance interpreting environments or modes I have classified – the other two being videoconferencing and remote interpreting.

Working environments – Television interpreting: This is done for TV programs, especially for interviews with foreign guests. Some TV channels employ interpreters, such as the Franco-German TV Arte which employs both full-time and freelance interpreters (Phelan 2001: 15). The mode of interpreting can be consecutive or simultaneous.

Working environments – Videoconferencing: In videoconferencing, conference interpreters are in the same room as most of the delegates, but one or several of the delegates are located at a different venue (Mouzourakis 2006: 46).

Working environments – Remote interpreting. Remote interpreting differs from videoconferencing in that in remote interpreting all the delegates to a conference are in the conference room, but the interpreters are located at a different venue (Mouzourakis 2006: 46).

Pedagogical uses - e-learning and distance teaching: Distance teaching and e-learning differ in one main aspect, that is, distance teaching has an emphasis on the subject, while in e-learning the emphasis is on the method to facilitate the learning process. "E-learning is learning enabled and supported by the use of digital tools and

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content" (Nichols 2008: 2), involving online interactivity. Distance teaching, on the other hand, does not necessary happen through digital means. When discussing these concepts in this work, I shall use them, mainly narrowing them to the application of digital resources on online interactivity rather than the most comprehensive definition of "any application of ICTs in learning and teaching, from producing a word-processed handout to a full course on the Web" (Davies and Hewer 2008: 2).

4.1.2 Terms related to technologies

Technology: "Application of observed knowledge to manipulate the environment for the improvement of the human condition" (Wright 2009). This general definition supports the idea that ICTs have been developed to improve and facilitate the work, in this case, of interpreters and interpreter trainers.

ICTs (information and communication technologies):

> […] an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware or software, satellite systems, and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. (Whatis.com 2008)

Within ICTs, there are two general types of technologies: *information technology*, represented by software and hardware; and *communications technology,* represented basically, but not solely, by the Internet (Torres del Rey 2005: 110). Besides this main distinction, which can be subject to discussion because the Internet has developed into different realms so it can no longer be considered only as a communications technology, I would like to define them based on the scope of their application to show the variety and endless possibilities of their applications: *External ICTs:* All the aids meant to improve the process, preparation or function of the product of the interpreter that are not used with, or available within, the computer. They are external, such as cameras, audio-visual recorders, television, cellular telephones, microphones, headphones, and pocket electronic dictionaries not connectable to the computer. *Internal ICTs:* All the aids meant to improve the process, preparation, or function of the product of the interpreter that are used or available within the computer or through the Internet, such as on-line dictionaries, encyclopedias, search engines, CD-ROMs whether commercial or do-it-yourself (DIY), and remote and videoconferencing.

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A more detailed definition of what constitutes information technology is the following:

> the use of hardware, software, services, and supporting infrastructure to manage and deliver information using voice, data, and video. […] Information Technology includes: a) all computers with a human interface; b) all computer peripherals which will not operate unless connected to a computer or network; c) all voice, video and data networks and the equipment necessary to operate them. Examples of Information Technology: a) Telephone and radio equipment and switches used for voice communications; b) Traditional computer applications that include data storage and programs to input, process, and output the data; c) Software and support for office automation systems such as word processing and spreadsheets, as well as the computer to run them; d) Users' PCs and software; e) Server hardware and software used to support applications such as electronic mail/groupware, file and print services, database, application/ web servers, storage systems, and other hosting services; f) Data, voice, and video networks and all associated communications equipment and software; g) Peripherals directly connected to computer information systems used to collect or transmit audio, video or graphic information, such as scanners and digitizers; h) Voice response systems that interact with a computer database or application. i) The state radio communications network; j) Computers and network systems used by teachers, trainers, and students for educational purposes […]. Examples of items excluded from the definition are "closed/stand-alone" computer systems that monitor or automate mechanical or chemical processes, such as a fire alarm system; and copy machines and fax machines. […] (ITD 2007)

Online resources: information sources available on the web or the Internet or on a network of computers (Whatis.com 2007a), or on cellular phones.

Search engines: a coordinated set of programs on the Internet. One of the programs goes to the pages on every Website that is available to be searched, using hypertext links on each page. The second program creates an index from the pages read, and a third program receives the user's search request, compares it to the entries in the index, and delivers the results to the user (What is.com 2007b). There also exist metasearch engines, which go to several search engines and present the results obtained classified by categories (*Lost in Babel* 2009).

Online dictionaries: dictionaries available on the Internet. Some of these are derived from the traditional book ones, such as the Merriam-Webster (2009d), but which include many more options than the book version, such as access to other dictionaries and encyclopedias, as well as updates and other downloads. Not all online dictionaries have been derived from book dictionaries; some have been developed exclusively for the Internet.

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Online encyclopedias: encyclopedias available on the Internet. The best known and most popular is Wikipedia, which is free, and is created through the input of a community of users, known as Wikipedians. Anyone can register as a Wikipedian and thus can create an article for publication, and anyone, even without registering, can edit an article (Whatis.com 2007b). Other online encyclopedias are based on the traditional book versions, such as the *Encyclopaedia Britannica* (2009).

Online terminology data bases: glossaries compiled by academic institutions or by international organizations, as a reference source mainly for their own translators and interpreters. One of the best known has been Eurodicautom, which is no longer being updated, and which has now been replaced by IATE (Inter Active Terminology for Europe), a common terminology database for all EU institutions which opened to the public in 2007 (IATE 2009).

Online parallel texts: a translation or translations of a text, for comparison and reference, that can be found in the Internet, or "collections of texts produced in similar communicative situations, as a way of checking text-typological conventions in the source and target languages" (Zanettin 2002: 1).

Online electronic norms manuals: manuals elaborated by some institutions to guide the standards for the people who work for them.

Offline resources: all the aids meant to improve the process, preparation or function of the product of the interpreter, which are not available through the Internet but are used with the computer, such as CD-ROMs or programs, or externally from the computer, such as pocket electronic dictionaries.

DIY corpora: DIY or do-it-yourself corpora are "small, specialized corpora created ad-hoc to serve the needs of a translator [interpreter] for a specific translation [interpreting] project" (Zanettin 2002: 1). To elaborate these, interpreters often recur to translation-related terminology systems or to more general tools, such as Word tables.

Pocket electronic dictionaries: handheld microcomputers. Some are not only dictionaries, but can include the following features: a full text translating system, e-mail, a fax machine, a digital voice recorder, a databank, a grammar book (*Language Teacher* 2008).

CD-ROM dictionaries: automatically searchable dictionaries where terms, definitions, sample sentences, graphics and sound can be found, on a CD-ROM, that is, a Compact Disc, read-only-memory (Whatis.com 2000). They can be based either on book versions or be developed specifically for the CD-ROM version.

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CD-ROM encyclopedias: automatically searchable encyclopedias where articles, graphics, and sound can be found on a CD-ROM format. They can be based either on book versions, such as *Encyclopedia Britannica,* or be developed specifically for the CD-ROM version, such as *Encarta* (which used to be also available online, but was discontinued in October 2009) (*Encarta* 2009).

CD-ROM terminology databases: like their online counterparts, they are glossaries compiled by academic institutions or by international organizations, as a reference source mainly for translators and interpreters, available on a CD-ROM format.

4.1.3 Terms related to quality and professionalism

Professionalism, profession: To define "profession" I shall work from the definition given by Luccarelli (2004) when he discusses the notion in reference to conference interpreting: "a field of work that requires specialized knowledge and training on the one hand, and the body of qualified practitioners on the other". This body of qualified practitioners, it should be emphasized, must be organized and registered. Wadensjö (2007: 1) emphasizes that there should exist "shared feelings of pride and responsibility for the everyday activities performed", and the skills, knowledge, efficiency, precision, etc., evaluated by the people who receive the services or observe them. Traditionally, the professional should have three main characteristics: 1) neutrality, 2) restriction to the function, and 3) training (Wadensjö 2007: 2). Further, AIIC (2005) describes the professionalism of its members as consisting of three main components: a) conference interpreters are to give service only according to their training, qualifications, and experience; b) they will not agree to work if it does not meet the previous condition; c) they will constantly develop their skills. However, most importantly for our purposes, the AIIC also extends the definition of professionalism to the use of equipment and material, known in marketing as collaterals, which is material that provides an image of interpreters or the company they work for, and to attitudes. Diriker (2009) considers that both the use of material and equipment and the affiliation to professional organizations, plus the representations by the media and in fictional films, influence such an image. In this respect, I could summarize that the professional image of conference interpreters is made up of four main points: 1) quality performance, 2) social and professional manners, 3) use of equipment and material, and 4) affiliation to a professional and/or academic organization. See section 5.3.1. for further details and discussion.

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Quality: Quality in interpreting is defined as "[t]he interpreter's capability to perform the function offered or required" (Mack and Cattarruza 1995: 38). The concept may be approached from two points of view: that of the providers of the service, i.e. the conference interpreters themselves, and that of the users of the service, that is, their customers and commissioners (Moser 1996). A third point of view has been introduced by Messina (2002: 104): that of external observers, which may be fellow interpreters, trainers, or employers, and here I might add researchers. Quality interpreting is studied in the light of many small and large details: "1) sense consistency, 2) coherence, 3) correct target language, 4) technical terms, 5) syntax and style, 6) delivery, 7) voice and articulation, and 8) booth manners" (Pöchhacker 1999: 168). It is often studied from the point of view of errors, additions, omissions, or substitutions. Quality can also be analyzed in regard to its disfluences, e.g. pauses, false starts, repetitions; also in view of synchronicity: ear-voice span (EVS), segmentation and processing units, delivery speed (speech rate) (Setton 1999: 27-31). I am regarding quality as an essential element of professionalism, and thus I am interested in finding out how professional conference interpreters and conference interpreter trainers perceive ICTs in relation to these elements of quality; if they believe ICTs can help them achieve them or develop them through their use. More information on quality is to be found in section 5.3.2.

4.2 A typology of ICTs in conference interpreting

Why an effort to classify the ICTs available for conference interpreting? Given that conference interpreting is a communicative activity *par excellence*, it would presumably rely mostly on communications technology, but the definition of each term presented in section 4.1. has provided the basic information in order to understand their relationship to the objectives and aims pursued, and the needs to be fulfilled, as ICT refers to the merging of computers and communications (ILO 2007).

Enríquez and Austermühl (2003: 227) propose a typology for translation and localization technology, with an approach that reflects the needs that arise during the different phases of the translation process. Taking Enríquez and Austermühl's typology as a basis, I shall develop one specifically for interpreters, taking into account the following:

- the target purpose of the ICTs (for training or for professional use),
- the aims of the ICTs (as a means or as support).

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4.2.1 Existing forms of conference interpreting

Traditionally, conference interpreting has been divided into two modes: consecutive (CI) and simultaneous (SI) interpreting. Besides the traditional method, there are, however, three distance forms of performing CI and SI, namely, telephone interpreting, videoconferencing, and remote interpreting.

Telephone interpreting, which was used in the 1920s for training interpreters (Baigorri-Jalón 2007), is not so commonly used in conference interpreting nowadays. It is mostly related to community interpreting settings such as health care, and also for court interpreting, which can be simultaneous with the appropriate equipment (Rauch 2007 and Ghusa 2007). Because telephone interpreting is very convenient as there is a greater availability of interpreters who can be located anywhere in the world (Lee 2007: 231), there are companies that offer telephone interpreting for business meetings (Applied Language 2007; Certified Languages 2007). With the major innovations in the telephone technology that are bringing video, computer communications, etc. to cellular phones, the day they will become standard equipment for conference interpreting does not seem to be far off.

Regarding videoconferencing and remote interpreting, here is an explanation of the importance of their differentiation, as stated by European Parliament staff interpreter Panayotis Mouzourakis (in Buck 2000: 2):

> Remote conferencing generally refers to any meeting where all of the participants are not physically present in one place but are linked via video and/or audio. In the specific context of interpreting, this implies that interpreters work in front of a screen without direct view of the meeting room or the speaker. This is different from videoconferencing where the interpreter is still physically present in the meeting room where most delegates are gathered, except for one or more participants who are attending remotely via a video link-up.

This differentiation between remote and videoconferencing is interesting since, as stated in the Code and the Guidelines of the AIIC (2000a and 2000b), remote conferencing was considered unacceptable and it was recommended that interpreters be located in the same room as the delegates, while nothing in particular is said in this respect about videoconferencing.

Within videoconferencing and occasionally within remote conferencing, new varieties of working methods are being introduced, which eventually can also become training tools. Some of these would be interactive virtual conferences, multilingual on-

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demand streaming, multilingual online Internet chat and web streaming or webcasting (DG SCIC, 2003a, b, c, d).

4.2.2 On the purpose and types of ICTs

ICTs – information and communication technology or technologies – is "an umbrella term that includes any communication device or application" (Whatis.com 2008).

There seems to be no consensus among researchers in interpreting regarding the purpose and types of ICTs used in this field – except for CAIT, a type of resources that which will be explained further on in this chapter –; thus the aim of this typology is to establish a common ground classification.

With regard to translation, two general types of technologies have been clearly differentiated based on the term ICTs by Torres del Rey (2005: 110). This differentiation, however, is not relevant for our typology. Instead, I have incorporated the classification of the electronic tools for interpreting advocated by Jiménez Serrano (2003: 190-191), that is, terminological and consultation tools in one group, and for work and support, in another group. To the terminological and consultation group belong all tools of reference, that is, dictionaries, encyclopedias, newspapers, magazines, journals, terminological data bases, etc., whether they appear on the Internet or as CD-ROMS or in any other electronic form. In the second group, work and support, we find teleinterpreting devices, that is, for remote, telephone, and videoconferencing, as well as voice-recognition programs.

The purpose of this typology is to address a very important issue: how to understand the uses and possibilities of the wide array of technology available today. It also illustrates how the same type of tools and modes can use different technologies, opening new opportunities for the development of tools.

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Table 4.1. A typology of ICTs used in conference interpreting

ICTs for Training	**Terminological and consultation tools:** Tools (online) used in professional conference interpreting: - the Internet: parallel texts, on-line dictionaries, encyclopedias, terminology databases, e-mail, chat Tools (off-line) used in professional conference interpreting: - Commercial CD-ROMS: dictionaries, encyclopedias - DIY (do-it-yourself) corpora - Programs (such as voice-recognition programs or specific commercial brands for specific purposes) **Pedagogical tools:** - Software to practice and develop interpreting skills **(CAIT)**: DVDS, CD-ROMS, etc. - Material for practicing, such as the digital TV channel EbS (Europe by Satellite)[11] - Virtual Learning Environments **Tools for work and support:** - Tools to deliver distance teaching, such as e-learning or virtual learning platforms, teleconferencing and videoconferencing (via LANs – Local Area Networks – for example), DVDS, and CMC (computer-mediated communication): e-mail, chat , the Internet **Working environments or contexts - modes of teleinterpreting or distance interpreting:** - Videoconferencing - Remote interpreting - Telephone interpreting
ICTs for Professional Practice	**Terminological and consultation tools:** Online: - the Internet - parallel texts, on-line dictionaries, encyclopedias, terminology databases, e-mail Offline: - Commercial CD-ROMS: dictionaries, encyclopedias - Intranet - Digital TV channels such as EbS - DIY (do-it-yourself) corpora **Tools for work and support:** - Programs (such as voice-recognition programs or specific commercial brands for specific purposes) **Working environments or contexts – modes of teleinterpreting or distance interpreting:** - Videoconferencing (for example, via LANs or ISDN – Integrated Services Digital Network, as opposed to normal telephone lines - lines , or via the Internet) - Remote interpreting - Telephone interpreting

ICT tools in the training setting have two major aims: the ICTs which are meant for the actual practice of the professional interpreter – as support for their work –, and the ICTs used as a pedagogical means, which will have an impact on our way of

[11] EbS (Europe by Satellite) is the digital TV channel of the European Union, which since 1999 has been broadcasting in digital form mainly events that are interpreted into various languages (de Manuel Jerez 2006: 192). This provides a world of possibilities both for teaching and for research.

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teaching as well as provide new opportunities to interact with students (Gambier 2003: 58).

In Table 4.1, I started the classification with the Information Technology tools used to practice and develop skills; that is, pedagogical tools, developed with a didactic objective. Jiménez Serrano's classification, however, does not account specifically for CAIT and for digital TV channels, so I have grouped these under "pedagogical tools", without indicating whether they are for work and support or terminological and consultation tools. The reports on the use of CAIT (Computer Assisted Interpreter Training) are very positive and encouraging, both on the part of students and of trainers, including dramatic improvement in the performance of the students (Hansen and Shlesinger 2007). What this typology first highlights, however, is that CAIT, the tools that have been developed with a didactic objective used for practicing and developing skills, are certainly not the only ICTs used for training. CAIT complements other equipment and tools and together they all play a very important role in today's conference interpreter training programs. Besides CAIT and the digital TV channels, there is another group of tools: the means to deliver the teaching (such as e-learning platforms) and yet another important section, both in information and in communication technologies, consists of the tools the students will use in professional conference interpreting.

4.3 A description of the ICTs used today by CIs and CITs around the world

Is there a justification for the use of ICTs? Austermühl (2001: 7) makes a remark that in itself would more than justify the use of ICTs today: "the amount of knowledge to be processed within the next decade is larger than the amount of knowledge accumulated during the past 2500 years […]. The brain's natural capacities [here it would be necessary to highlight the memory] have to be supported by electronic tools in order to help avoid a potential synaptic collapse."

First, I would like to discuss briefly some terms that have been applied over the years regarding the use of computers in translation and interpreting. The terms 'CAT' or 'MAT' refer respectively to computer-assisted and machine-assisted translation as "any use of computers during the translation process" (Austermühl 2001: 178; Bowker 2002: 6). The term 'CAI' refers to computer-assisted interpreting tools, and it is taken to mean

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that they involve both Human-Aided Machine Translation (or interpreting) (HAMT) and Machine-Aided Human Translation (MAHT) (Austermühl 2001: 10).

This section provides a brief description of the various ICTs mentioned in this work, the specific brands and formats having been provided by my respondents. I record directly the definitions and characteristics given by producers or researchers about each one, as the discussion about their use will be based on the comments of the respondents. Whenever possible, I include the URLs of the manufacturers, producers, or managers for further information. In cases where no description or information was provided or found, only the name of the ICT and the country where it is reported as being used is provided.

Regarding ICTs used in interpreter training, the ICTs presented as supports do not have a pedagogical aims but are used in practice in the profession for terminology and knowledge management and development. They are terminology databases and voice-recognition programs, plus DIY corpora which can be elaborated in translation-related terminology systems and in other programs of general use. Further possibilities of use in the booth for these can be easily identified: interpreters tend to use clichés and formulas in their speech, not only sayings and idioms but also more subtle aspects such as the ways of saying everyday expressions (García-Landa 1999: 103), and these could be eventually recorded in the same way as specific terminology is registered.

As to the different stages of the interpreting process where they can be applied (pre-interpreting tasks, in the booth, and post-interpreting research), ICTs are used mainly, but not exclusively, for pre- and post-interpreting research. Internet resources such as parallel texts, e-mail, on-line dictionaries, terminology databases and encyclopedias (several of which can be used simultaneously in a parallel search with systems [Stoll 2002: 4]), as well as CD-ROM dictionaries, encyclopedias, and terminology databases, are all widely used in preparing for interpreting, for pre-interpreting research, and also, to a lesser extent, for post-interpreting research. More and more professional conference interpreters, however, are using PCs and other ICTs in the booth for consultation.

The capacities that are represented in the Efforts Model (Gile 1995a: 162-169) are: 1) listening and analysis, 2) production, and 3) memory, plus the coordination of the three. It can be said that ICTs in general serve amply to support Efforts 1 and 3. Aimed at effort 2, production, we can identify information technology in the form of interpreter training tools (CAIT), where students can listen to themselves repeatedly for

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self-evaluation and improvement of production skills. For the coordination of the three efforts, a combination of ICTs including CAIT tools needs to be applied.

In the case of ICTs for the practice of the profession, for terminology and knowledge management and development, commercial tools can be found, such as CD-ROMS containing dictionaries, encyclopedias, and terminology data bases. A few institutions may have electronic norms manuals which they expect the interpreters who work for them to use. DIY (do-it-yourself) corpora are also used by conference interpreters who often use for them translation-related terminology systems such as *Trados Multiterm* (Stoll 2002: 3), or others of more general use such as Word tables or Excel.

Before proceeding to describe the different individual ICTs, let us examine the general premises and equipment professional conference interpreters work with.

4.3.1 Premises and booths

It should be stated that some of the respondents said they used "normal" booths as ICTs, that is, they already consider their booths to represent ICTs. Figure 4.2 depicts the interpretation booths in the Plenary Hall of the European Parliament in Brussels, and Figure 4.3 shows the interpretation booths in the courtroom of the Court of Justice of the European Communities in Luxembourg. They illustrate why there have been so many discussions in the media about further expansion of the EU that would entail more interpreting into and from several languages, and therefore the need to have more booths. The two levels of dark windows seen on the wall are the interpretation booths, so physically in the present premises – the photographs were taken in 2008 and 2009 - there is no more room to include other languages.

Figure 4.2. The booths in the European Parliament in Brussels

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Figure 4.3. The booths in the Court of Justice of the European Communities in Luxembourg

Today, a standard interpretation booth, according to the ISO 2603 norm, that is, what can be expected to be found in most conference venues, has room for two (Figure 4.4) or three conference interpreters (Figure 4.5).

Figure 4.4. The standard interpretation booth for two interpreters

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Figure 4.5. An interpretation booth with room for three or four interpreters

A booth is defined as "a sound barrier that surrounds the interpreters, allowing the interpreters to concentrate better on the message without distractions. When placed in the same room as the event, they also insulate the voices of interpreters from the delegates sitting nearby" (Clear Signals 2009). There are built-in (Figures 4.4 and 4.5) and portable booths (Figure 4.9)

The booth includes the interpreter's console (Figures 4.6 and 4.7), which is "an audio control center which allows interpreters to control the volume of the incoming message as well as direct the interpreters' outbound (interpreted) signal to a particular transmitter" (Clear Signals 2009). It can be designed for two to twelve interpreted languages (Auditel 2009), and it consists of the microphone into which the interpreter speaks, and of the following controls the interpreter has access to, with their corresponding functions (CIE 1996: 17-18): a) Volume: for adjusting the headphone sound level; b) Bass: for attenuating or enhancing lower frequencies (+/- 12dB at 125 Hz with respect to 1 kHz); c) Treble: for attenuating or enhancing higher frequencies (+/- 12db at 8 kHz with respect to 1 kHz); d) Relay/original: for switching between the Original (floor sound) and the Relay (one of the other interpreters); e) Mute: when pressed, it mutes the microphone, so that the delegates will only hear a muted channel, for example, if the interpreter needs to ask or comment with his booth partner something, or if he is coughing, so as not to bother the delegates; f) Mic (microphone):

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for switching on and off the microphone – the button itself and the ring light in the microphone will illuminate when it is on, so that the interpreter is careful not to make any noise or comments that may annoy the delegates; g) A-B: for switching between the outgoing language A and the outgoing language B (the selection of languages is pre-set); h) Occupied: illuminates to indicate that the outgoing channel A or B is occupied; i) Speaking too fast: the interpreter can activate it if they find the speaker is speaking too quickly for an appropriate interpretation; a beeper will sound in the control room; the operator will pass a note either to the chair or the speaker; j) Alarm: pressing this button will also trigger a beeper in the control room, showing in which booth the alarm is pressed; k) Intercom: by pressing the button, the interpreter calls the operator. This list clearly shows that the controls have been developed from the beginning with the needs of the interpreters and also of the listeners in mind (specifically the mute control).

Figure 4.6. A standard interpreter's console

Some of our respondents mentioned specific brands of booth technology with additional features, such as *Brähler,* which is conference and meeting technology, such as sound and picture transmission systems (cameras, monitors, microphones, etc.). "CDSVAN combines a conference system (Congress Data System) with software for audio processing (Virtual audio network). […]. CDSVAN is the first conference system with an open architecture. This enables systems featuring multiroom-management, control of functions via IP network or interfaces to other systems. Such interfaces are available for each channel and in multiple formats such as AES-EBU, S/PDIF, ADAT, ASIO, WAV, etc." (Brähler 2007).

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Figure 4.7. Brähler's CDSVAN Digital Conference Solution

Figure 4.8. Brähler's INFRACOM® Simultaneous Interpretation System

The conference equipment is complemented with a wireless simultaneous interpreter system, such as the one depicted in Figure 4.8 which has infrared light audio transmission up to 32 channels.

The interpreter ideally has to have a clear view of the room, as can be appreciated in Figure 4.10, of both speakers and audience, and of the screens being used by the speaker, in order to perform to quality standards. Other factors that can affect the quality of the interpreting are sound insulation, microphones, headsets, and the controls on the console. Thus, for portable booths the same requirements apply.

Figure 4.9. An interpreter at work in a portable booth

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Figure 4.10. View of the floor from the interpreters' booth

A training interpreter's booth is composed of the same features plus the necessary technology for practicing and evaluating the performance of the trainee. The device shown in Figure 4.11 has been custom-made with language lab equipment plus a tape recorder. The idea of such a device is that the CI trainee can record their performance and listen to it later – the device is not a playback, only a recorder. Although this device in particular is antiquated, it is still in use by some trainees. There is also the possibility of using the CI trainee's own MP3 for example, for the same purposes, by connecting it to the console.

Figure 4.11. Inside a training interpretation booth

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Figure 4.12. The console of the speakers

The console available to the speakers (Figure 4.12) is far simpler, consisting only of a switch to turn the microphone on and off, the volume controls, and the language channel controls. They also have the possibility to connect their laptops to the outlet integrated in the speakers' console. Speakers should also have a complete view of the room with the speakers and audience, and of the interpreters' booths, with the languages clearly marked along with the channel on each booth.

Figure 4.13. View of the floor

4.3.2 Distance interpreting

Distance interpreting is the umbrella term that covers three working environments: videoconferencing, remote interpreting, and telephone interpreting. I have also

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mentioned television interpreting in the definitions, but since it is not the means for interpreting, but rather the premises where the action takes place, I am not including it in this catalogue.

Of those new technologies, the two that have dramatically changed the working environment of the interpreter are remote interpreting (communications) and virtual learning environments (software) (Moser-Mercer 2005a). Videoconferencing and telephone interpreting are affecting the profession to perhaps a lesser extent, but have great potential. In this section I examine the three distance interpreting working environments.

As explained in the definitions in section 4.1, in remote interpreting all the delegates to a conference are in the conference room, but the interpreters are located in a different venue, so their presence in the conference room is only virtual (Mouzourakis 2006:46). The CIs use video or web cameras, television or computer screens, and telephones to provide the services. The main obstacles for this mode of interpreting, which otherwise has several economic advantages as listed in section 5.2., is that the interpreter cannot see all the body language and much of the "surrounding" information is lost, and therefore this mode increases the demands on the interpreter's professional ability. The CI has to listen more intensely than usual, which makes it very tiring, as has been expressed by many interpreters in experiments carried out in various organizations and as we will see in the analysis of answers on this point (Fors 1998). Furthermore, this is not only the opinion of the CIs: there is quantitative evidence from at least one experiment (the ETI-ITU April 1999 test) that demonstrates that remote interpreting is significantly more stressful than normal interpreting. This stress has come in the form of psychological and physical discomfort, a feeling of alienation, loss of concentration, increased fatigue, reduced self-perceived quality, and what is worse, in the long run 'after effects' appear such as mild cognitive disturbances as a result of prolonged exposure to RI (Mouzourakis 2003).

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Figure 4.14. Remote interpreting *(Source: Congressrental 2010)*

In videoconferencing, conference interpreters are in the same room as most of the delegates, but one or more of the delegates are located in a different venue (Mouzourakis 2006: 46). Although reported by CIs as a much easier modality than remote interpreting, CIs are not yet enthusiastic about doing this mode either, since the sound and images often have problems, that is, the sound fading or disappearing for a few seconds, or the image is of poor quality and not synchronized with the sound. This has improved since Allain (2007) reported it, but the presence of technicians that can ensure a good quality and synchronization of image and sound is of utmost importance for the success of the conference, and for the good performance as well as the welfare of the interpreters.

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Figure 4.15. Videoconferencing *(Source: Tandberg 2010)*

Telephone interpreting (TI) is "a real-time language service that enables speakers of different languages to communicate by telephone with the assistance of an interpreter via a three-way conference call" (Heh and Qian 1997). This type of interpreting is convenient economically since through the telephone there can be more availability of interpreters, especially of languages less available in the area where the interpreting is needed. TI reduces costs and simplifies the logistics of having interpreting services available any day and any time. In spite of these advantages, interpreters "complain they feel insecure and less accurate doing TI. They feel they are not so much in control of the situation, because they cannot see what [the speakers] are doing and often do not know who is in the room and who is speaking. […] If [the CI] cannot see the [speaker's] appearance (age, etc.), it seems to be more difficult to choose the adequate style and register (Gracia-Garcia 2009: 13). TI is very often used in the consecutive mode and is mostly used for community interpreting, but now it is being widely advertised as being for simultaneous work as well, and for business situations and even full-fledged meetings.

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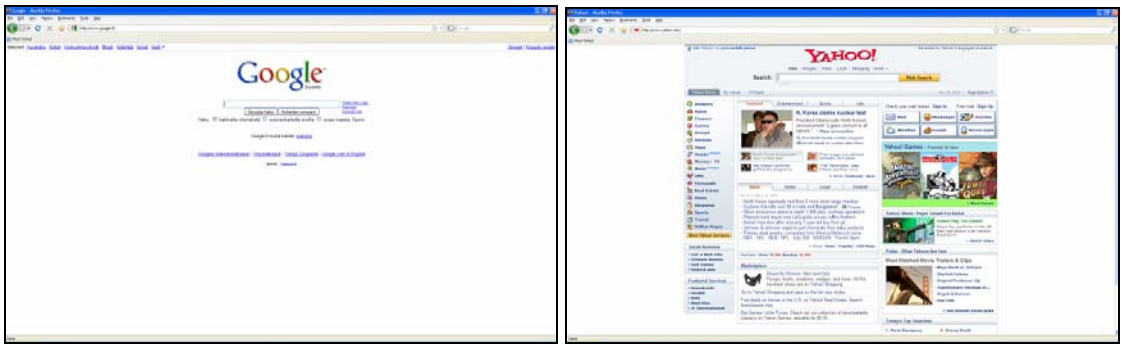
Figure 4.16. Telephone interpreting *(Source: Altavista images)*

4.3.3 ICTs for both professionals and trainees

Having presented the general working environment of the interpreter, I will now introduce and illustrate whenever possible each of the ICTs discussed in the questionnaires and interviews.

Search engines: Although it is a set of programs, a search engine appears as a single unit to the user on the Internet. On their portal, search engines now offer not only search and advanced search options but also machine translation possibilities. What conference interpreters can find through search engines is material such as parallel texts or the website of the prospective client, among a wide array of information. The major search engines are Google, Yahoo (which uses Google), AltaVista, and Lycos (Whatis.com 2001), which are all shown in Figure 4.17.

Figure 4.17. The portals of the four major search engines



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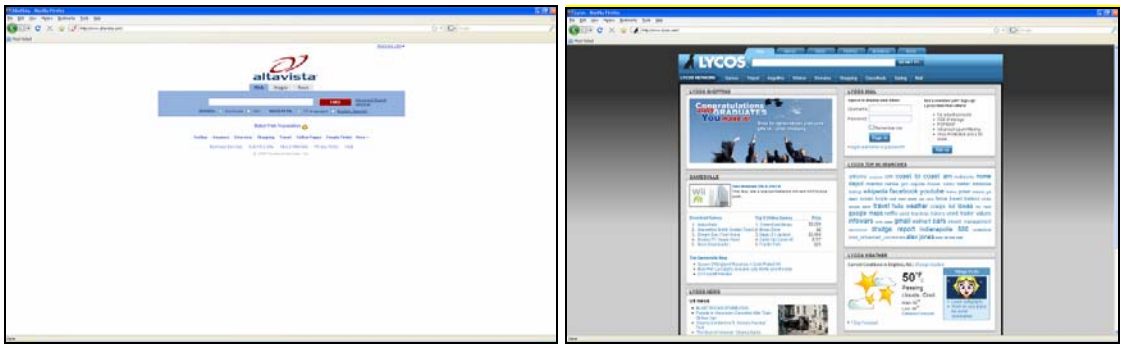

Online dictionaries: They can be derived either from the traditional book ones, such as the Merriam-Webster (2009d) or the Oxford Dictionary (AskOxford 2009), or specifically developed for the Internet, such as Dictionary.com (2009). Among the various possibilities offered by the online versions are: audio pronunciation, updates on the language, access to unabridged and visual dictionaries and to thesaurus, grammar and style, toolbar to look up words while browsing on the web. Figure 4.18 shows the portal of a few online dictionaries, the two first ones are based on book versions and the third is entirely online.

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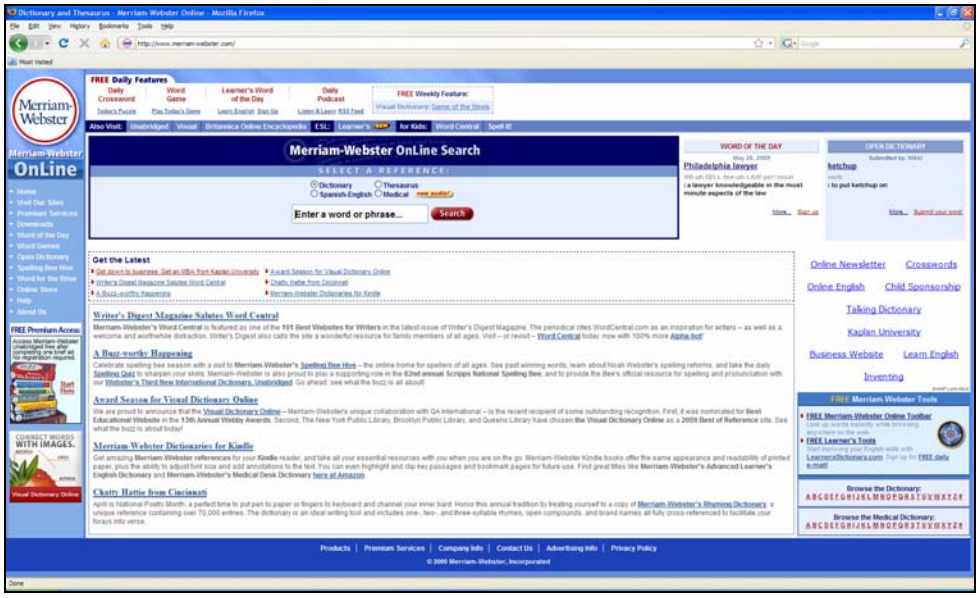
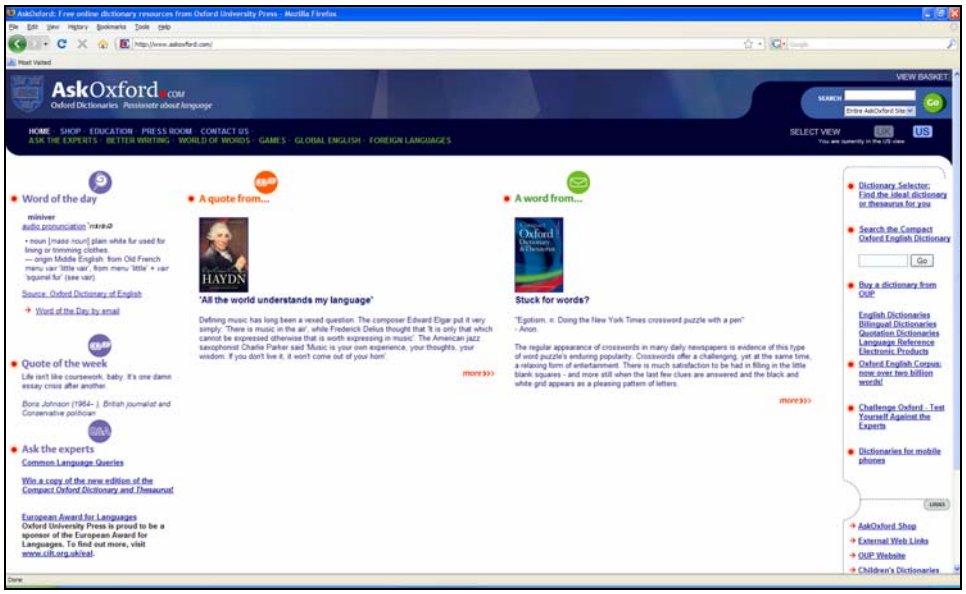
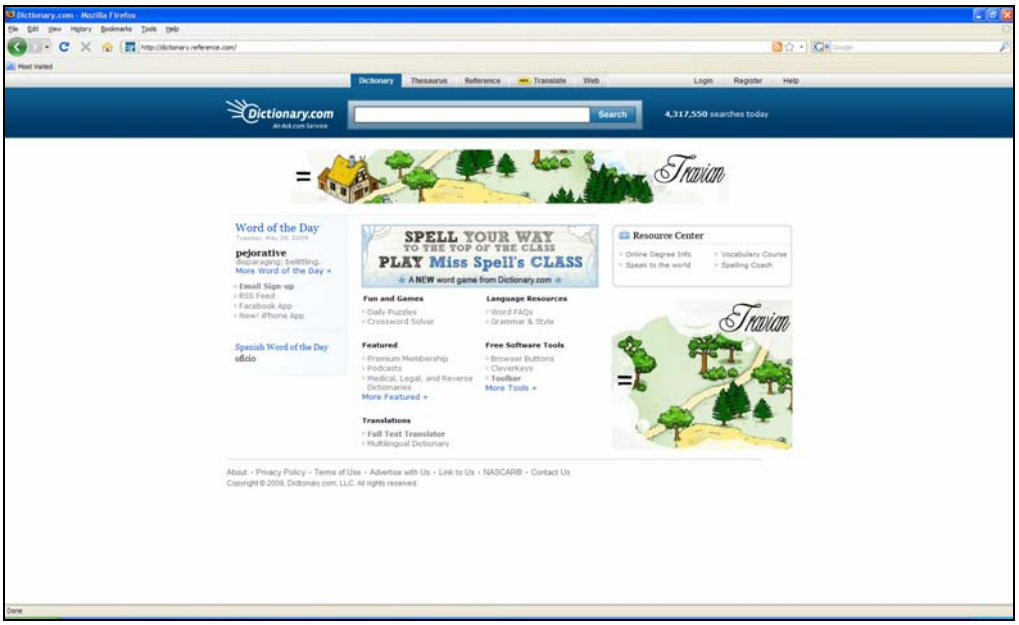
Figure 4.18. Online dictionaries







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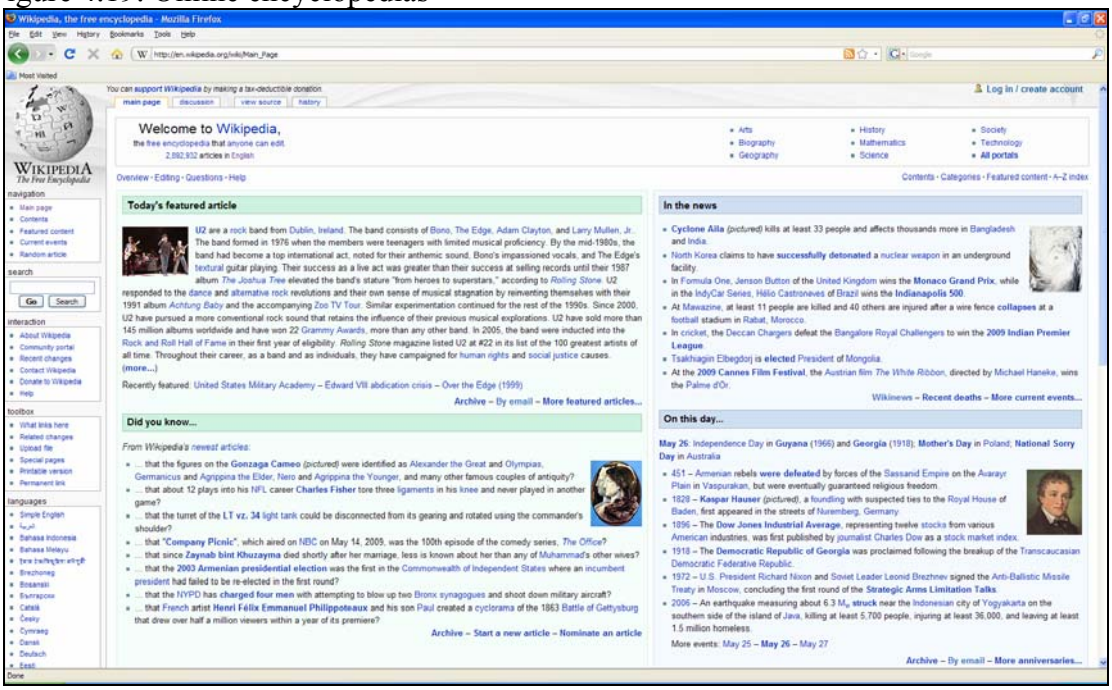
Online encyclopedias: Wikipedia, the most popular online encyclopedia, although not academically reliable because anyone can register to introduce input, provides general and up-dated information about almost anything conference interpreters may want to know about a topic or country. There are also online encyclopedias based on the original book versions, such as the Encyclopaedia Britannica, where the conference interpreter will find more solid information on what he may need. Figure 4.19 shows both Wikipedia and the Encyclopaedia Britannica.

Figure 4.19. Online encyclopedias



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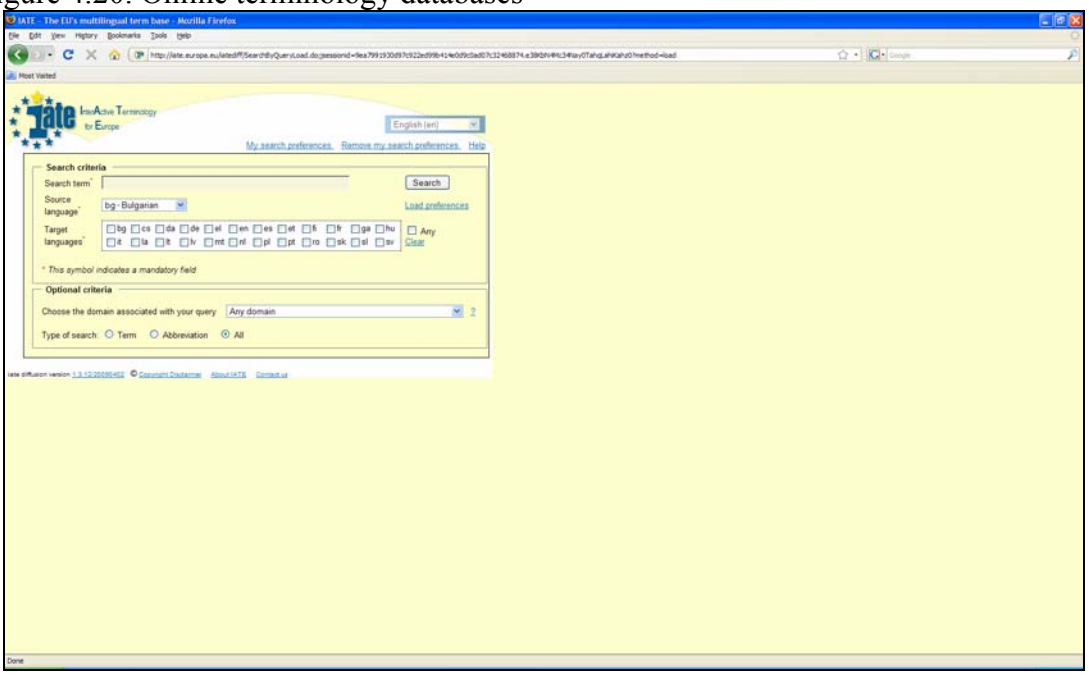
Online terminology data bases: They are linguistic tools that allow the search from various source languages to various target languages, which can be saved according to the user's search preferences. They offer the term in the target language according to the domain and provide a context when necessary, for further clarity. Figure 4.20 shows terminology data bases of the major international organizations.

Figure 4.20. Online terminology databases



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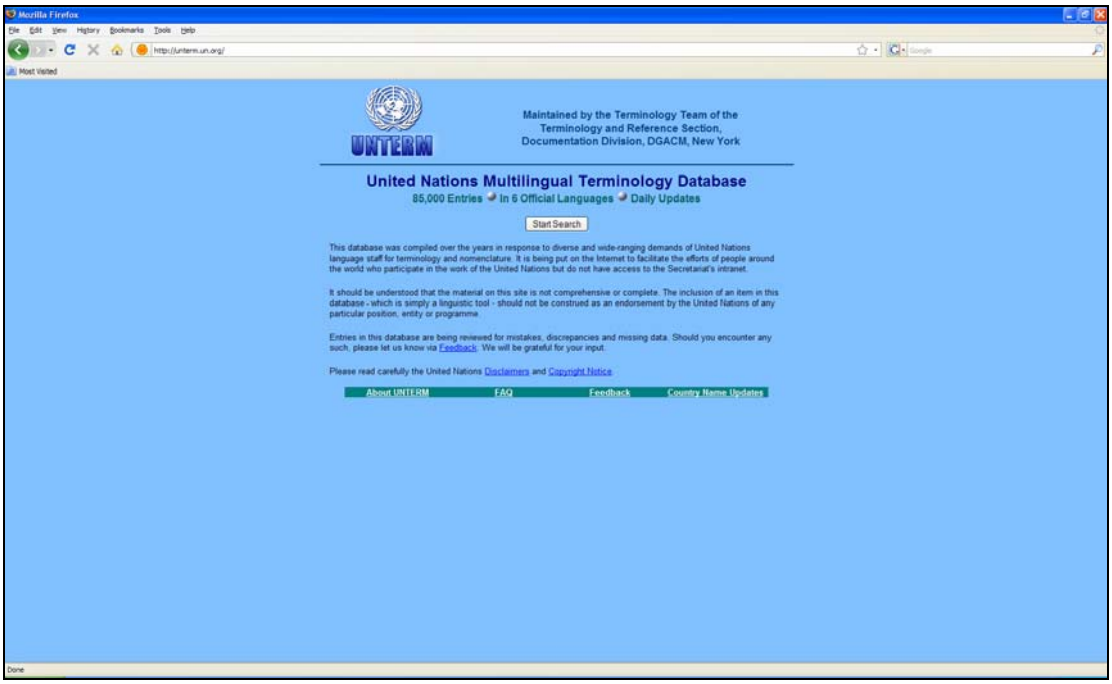

Online parallel texts: They can be of two kinds: either a translation or translations of a text, or texts that are related to the same subject in a similar communicative situation. Figure 4.21 shows the two kinds of parallel texts: first parallel texts of the first page of *Don Quijote de la Mancha*, in Spanish and in English, and then two texts from medical sources explaining what swine influenza is in Spanish and in English, in similar communicative situations.

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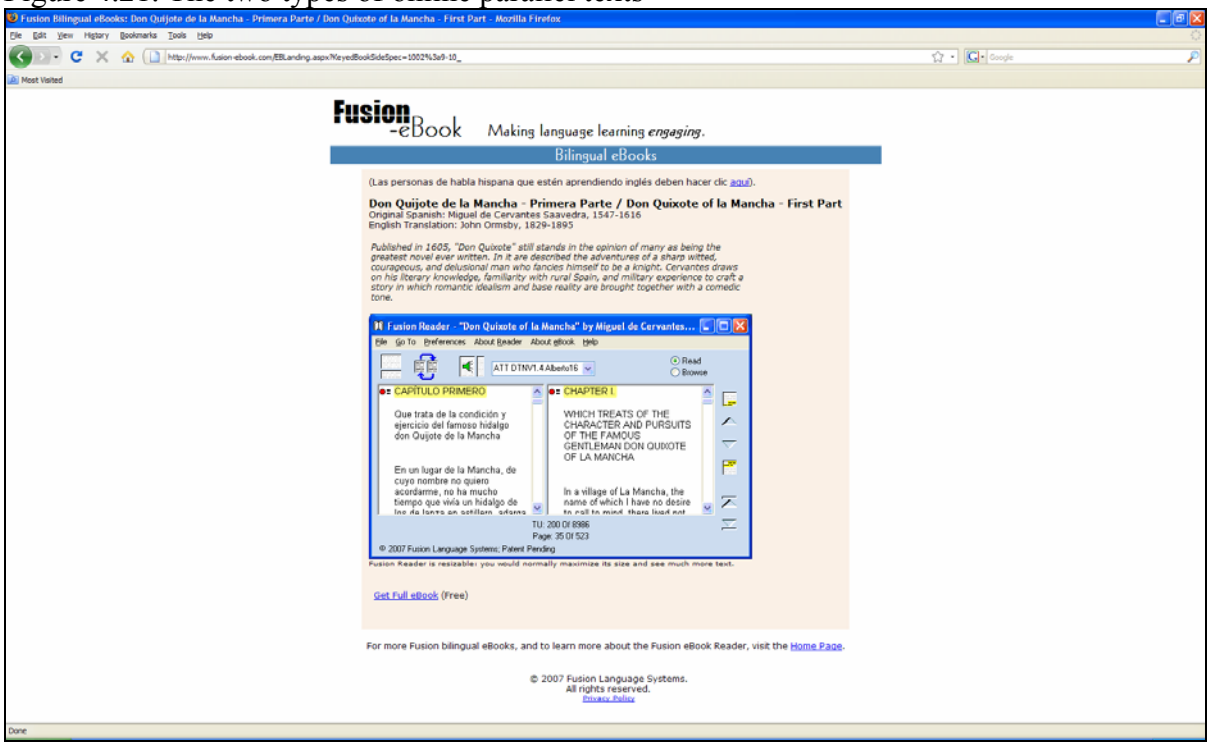
Figure 4.21. The two types of online parallel texts



What is the swine flu?
The swine influenza A (H1N1) virus that has infected humans in the U.S. and Mexico is a novel influenza A virus that has not previously been identified in North America. This virus is resistant to the antiviral medications amantadine (Symmetrel) and rimantadine (Flumadine), but is sensitive to oseltamivir (Tamiflu) and zanamivir (Relenza). Investigations of these cases suggest that on-going human-to-human swine influenza A (H1N1) virus is occurring. (MedicineNet.com 2009)
Swine influenza is an acute, highly contagious, respiratory disease that results from infection with type A influenza virus. Field isolates of variable virulence exist, and clinical manifestation may be determined by secondary organisms. Pigs are the principal hosts of classic swine influenza virus. (Human infections have been reported, but porcine strains of influenza A do not appear to easily spread in the human population. However, deaths have occurred in immunocompromised people.) The disease in swine occurs commonly in the midwestern USA (and occasionally in other states), Mexico, Canada, South America, Europe (including the UK, Sweden, and Italy), Kenya, China, Japan, Taiwan, and other parts of eastern Asia. (Merck Veterinary Manual 2008)

Online electronic norms manuals: these manuals outline the duties, guidelines, procedures, policies, responsibilities, etc. expected from, and recommended to, the people working for an institution. Since they are internal, they are available in the intranet of the institution in question and are protected by passwords, so as not to be available to the general public.

DIY corpora: do-it-yourself corpora can be compiled in different ways. Some respondents reported elaborating their corpora by hand, with pencil and paper. Others said they elaborate their corpora electronically, specifying using either *Word* tables or *Excel*. *Word* tables are a feature of *Word* that allows the creation of tables using true

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rows and columns, as opposed to simply containing tabular text. It enables the user to add, delete, or amend data and categories that have been classified, without altering the text in a column of the table, for example. Figure 4.22 shows the icons that are used for this feature and the resulting table (Microsoft Word MVP 2007). *Microsoft Office Excel* is a software program that, in a similar way as *Word* tables, allows the users to organize information in rows and columns (BusinessDictionary.com 2009). Additional advantages of Excel are that the spreadsheet application is already in the program, so the user only has to enter the information in as many cells as necessary. The cells, columns, and rows can also be inserted, deleted, interchanged, extended, merged, and re-arranged according to the needs of the user. The conference interpreter can elaborate their own corpora in several languages and align the same information by interchanging and organizing the different columns (see Figure 4.23).

Figure 4.22. Word Tables: the icons and the result

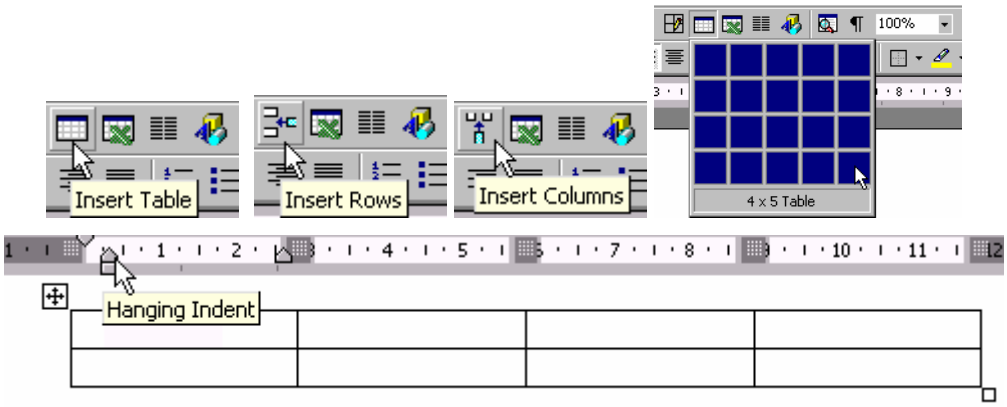

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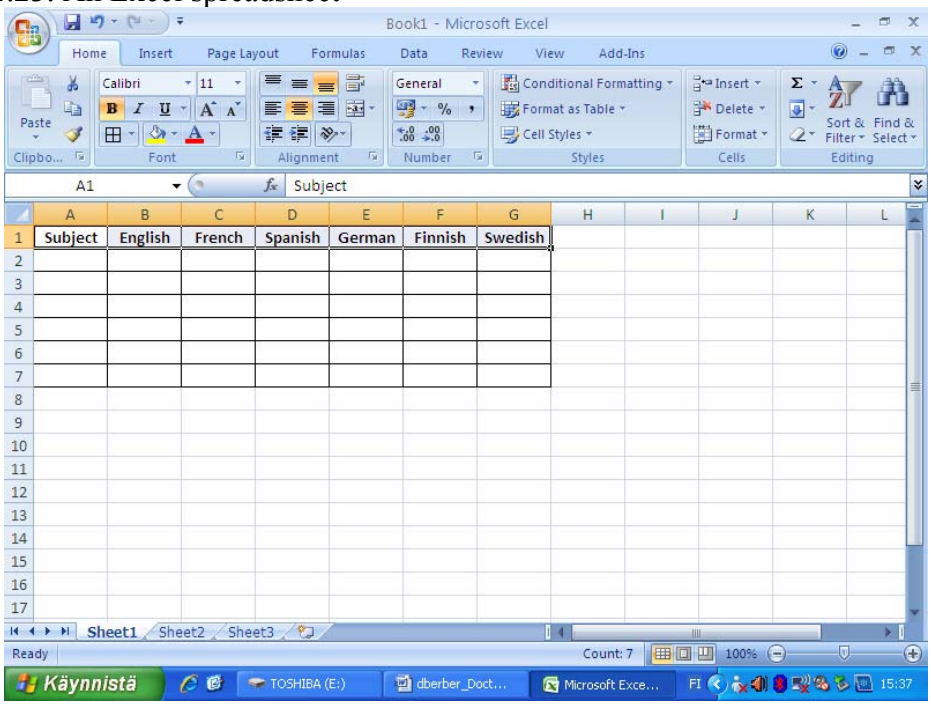
Figure 4.23. An Excel spreadsheet



Pocket electronic dictionaries: The most direct advantage of electronic pocket dictionaries for conference interpreters has been that they are usable in any place, indoors or outdoors, without the bulk of carrying several bilingual book dictionaries and without needing a connection to the Internet. The most advanced pocket electronic dictionaries can include time zone and currency converters, encyclopedias, a calculator, and PDA (personal digital assistant)-like organizer functions. PDA functions include audio capabilities so that they can be used as cellular phones, and can also access the Internet via Wi-Fi or WWANs (Wireless Wide-Area Networks). A typical pocket electronic dictionary is shown in Figure 4.24.

Figure 4.24. A pocket electronic dictionary

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CD-ROM dictionaries: Although many conference interpreters reported still using the book version of dictionaries, CD-ROM dictionaries are very popular among CIs because they are much more practical to carry around than several book dictionaries. Technology allows the storage of 500,000 typewritten pages on a single disc, while allowing a fast search of terms and indexing. Many CD-ROM dictionaries are specialized and offer several additional options, as seen in the following commercial example. *PC-library ® of Langenscheidt* Electronic specialized dictionaries in German, English, French, Spanish, Russian, and Italian, intended for translators and professionals, which include various quick search options, pop-up function, and online updates. The subjects on which Langenscheidt has specialized dictionaries include mechanical engineering, plant manufacturing, architecture, building and civil engineering, biology, chemistry, medicine, technology and applied sciences, electrical engineering, electronics, business, commerce, finance, law, microelectronics and telecommunications. One of the CD-ROM dictionaries illustrated in Figure 4.25 is a German-English dictionary specialized in architecture and building (Langenscheidt 2007), while the other is a monolingual Spanish dictionary, with the options it offers on the navigator on the left-hand side. These options include, among others, inverse dictionary, an index of abbreviations, language family trees and grammar family trees.

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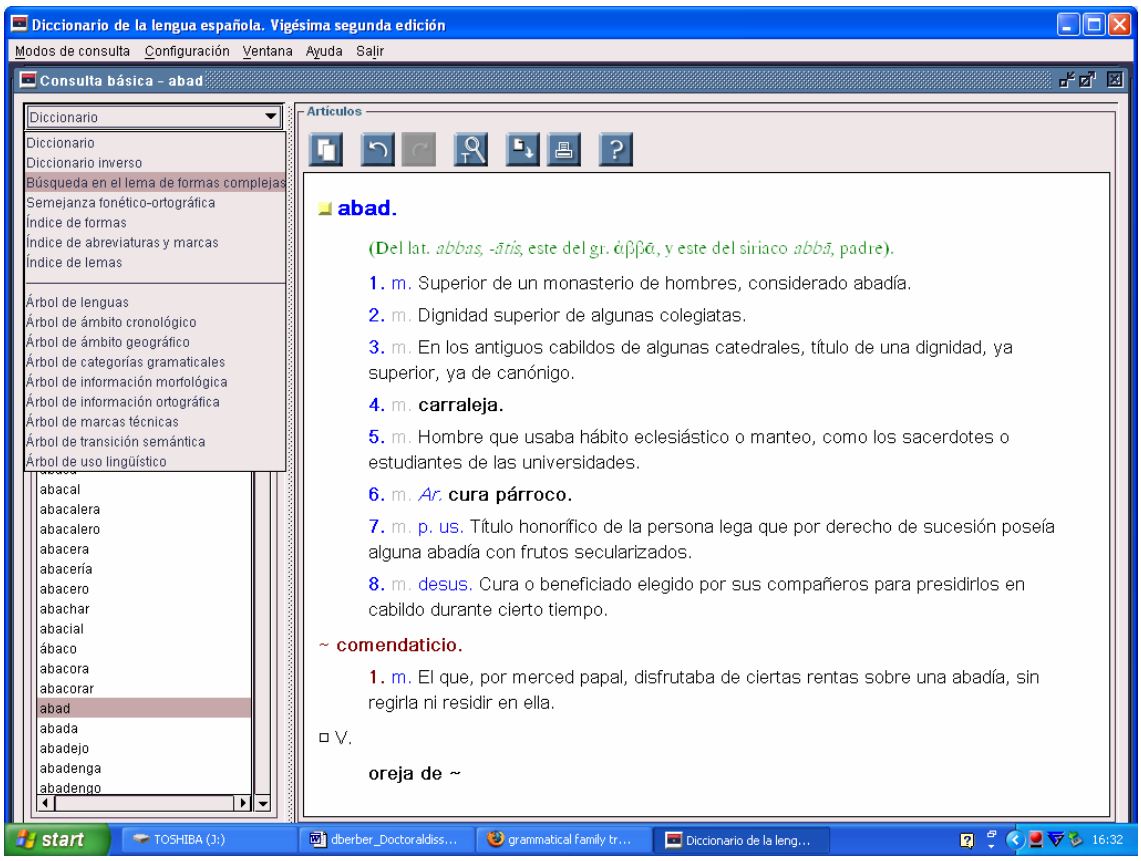
Figure 4.25. Dictionaries in CD-ROM



CD-ROM encyclopedias: In CD-ROM encyclopedias, articles are organized in a completely different manner from the traditional book ones: they are first organized by categories and subcategories, and then alphabetically. Additional material that can be found in these encyclopedias are other documents, for example, famous speeches, historical documents, library excerpts, year-by-year events, literature guides which include information on authors and renowned works of literature, among other multimedia features. The CD-ROM encyclopedia illustrated in Figure 4.26 is a specialized medical encyclopedia.

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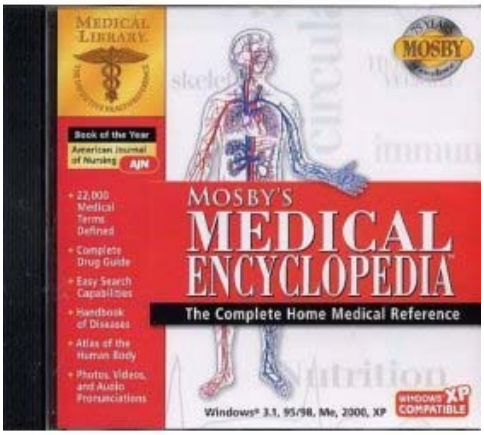
Figure 4.26. A medical CD-ROM encyclopedia



CD-ROM terminology databases: As they are glossaries generally compiled by academic institutions or by international organizations as a reference source for translators and interpreters working for them, they are therefore not commercially available to the general public.

Terminology management software: Some of these tools have been developed to be used mainly in the booth, while others have been developed for translators. Examples of these are the following: *LookUp © Professional*, a terminology research and management tool conceived to be used during simultaneous interpreting, that is, in the booth. It supports up to five working languages. After selecting the A, B and C languages of the interpreter, projects and subjects are created to group words. When a term is entered, it is automatically assigned to the subject previously selected. To be used in the booth, one can click to display the terms of a subject, of a sub-subject, or a particular conference, or even only the terms for a session within a conference. To search for a term instantly, one enters part of a term, only three to four letters, and all words containing the search string are displayed. It is a tool that can be used also by translators, but its strength lies in its potential use in the interpreters' booth (LookUp 2005). A similar tool is *INTERPLEX,* also developed for the booth, which is Excel-based software that has various search functions, thus enabling the interpreter to find terms very fast and easily. It supports up to six languages. It also has functions to import and export tables stored in other software. In Interplex the CI enters the word or term and will then retrieve all the occurrences of the word, even if it is embedded in another word. The program searches through all the languages in the glossary. There can be more than 200 glossaries, and it can store more than 18,000 expressions. In Figure 4.27,

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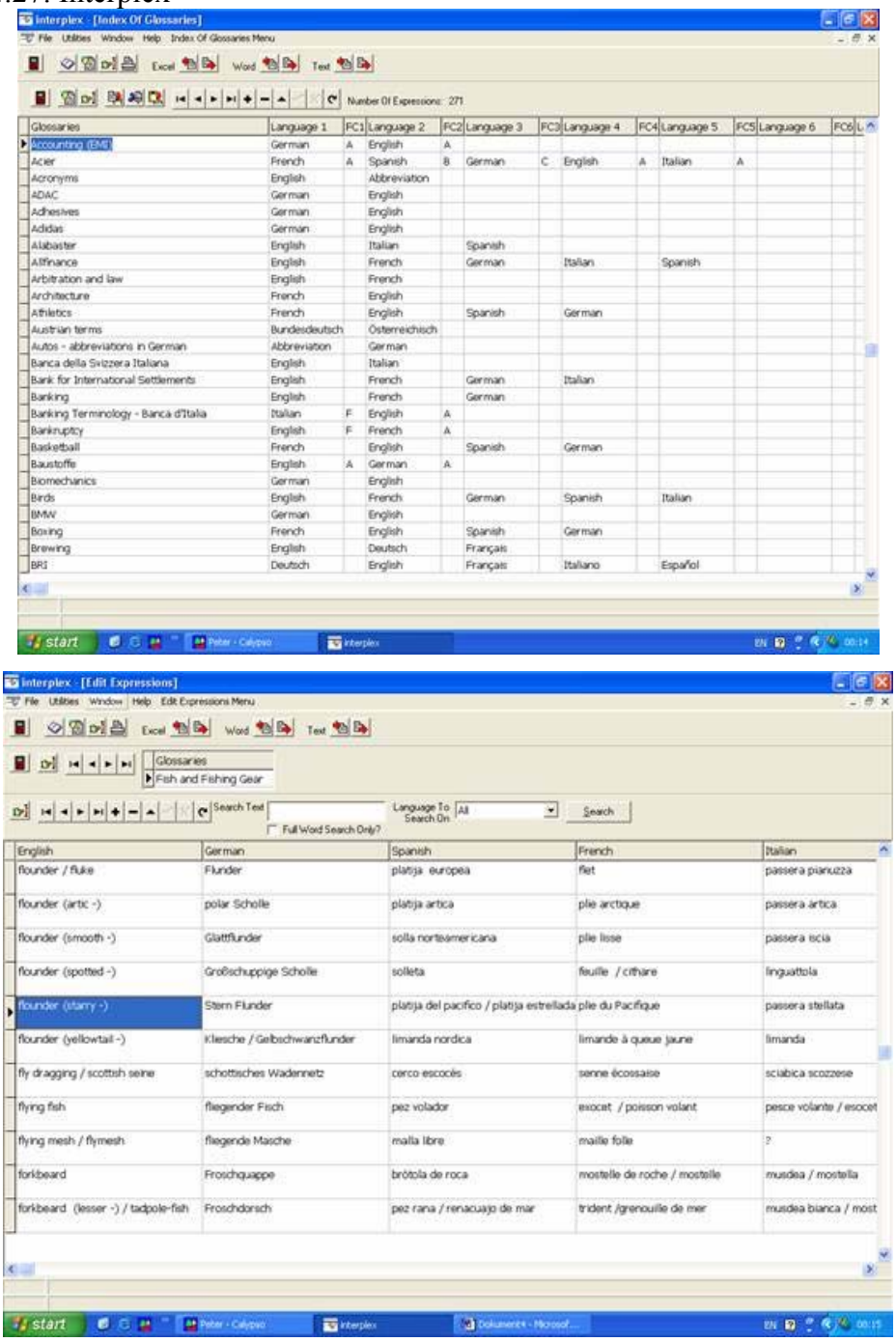
the first image is an index of the glossaries by name, languages, number of expressions, and the second image is the search function (Sand 2003 and Gillies 2009)

Figure 4.27. Interplex



DataSearch is yet another program for managing terminology, which searches through all the glossaries one has for the word one enters in the search function. It then highlights the term and lists all the glossaries in which the term is included (Sand 2003).

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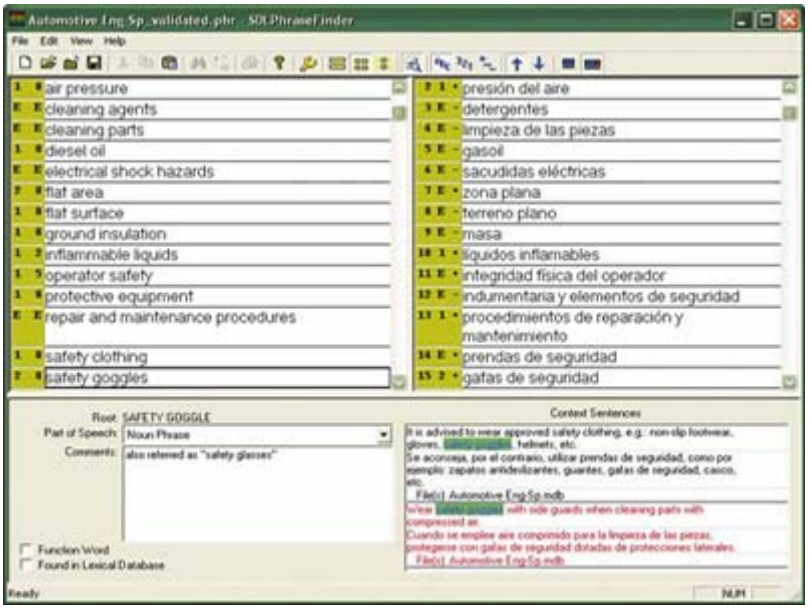
Trados and *Trados Multiterm*® are translation-related terminology systems. *Trados* is a translation memory tool, and although developed primarily for translators, it is amply used by conference interpreters for developing their DIY. *Trados Multiterm* is one of the various modules which compose *Trados*, one of which, the *Phrase Finder*, is shown in Figure 4.28. It is a dictionary or terminology solution where one can input a term with its translation into several languages, as well as the definitions. Another of the modules that make up *Trados* is *Trados WorkBench* or *TWB*, which handles the translation memory, analyzing documents and segmenting them. They both work with *Word*, installing a *Word* template (SDL Trados 2007).

Figure 4.28. *SDL Phrase Finder* for automatic terminology extraction



PureVoice A voice recognition or speech recognition software – a voicemail program – for use in wireless handsets, developed by QualComm (Pym et al. 2003: 91; QualComm 2000). Voice recognition utilizes audio input for entering data, i.e., it works by entering data through a microphone instead of through the keyboard. This software has an internal database of recognizable words or phrases, and the program matches the audio with corresponding entries in the database. Due to the difficulties of various accents and speech patterns, voice recognition software is still facing its complex task with limitations. To illustrate the challenges of voice recognition software, there is a T-shirt created by Apple researchers which reads, "I helped Apple wreck a nice beach." When spoken aloud, it sounds like, *I helped Apple recognize speech.* For this reason,

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voice recognition software is still limited to a single speaker, since the software can be trained to recognize an individual style (Kayne 2009). Voice recognition software programs such as Dragon Naturally Speaking (shown in Figure 4.29), IBM Via Voice, and PureVoice have been used to transcribe speeches for creating corpora. As described by Bendazzoli and Sandrelli (2005: 6), they listen to the speech and repeat aloud what the interpreter says applying the shadowing technique, as the voice recognition programs are "trained" to recognize one voice, in this case, of the person who is doing the shadowing. Then the programs produce a draft transcript automatically. Voice recognition software is used for live subtitling, an area that is developing at great speed and has great potential as work for both interpreters and translators, as it is a combination of interpreting and translating. Live subtitling (2008: 3) is used for live or near live events, such as news, sports, and other special events. The method of work in live subtitling using voice-recognition technology is that a person who has been trained to use the voice-recognition system is the one who "re-speaks" by condensing what is being said, and then the voice-recognition software produces subtitles directly on the screen.

Figure 4.29. The Dragon Naturally Speaking voice recognition software

The competence of the conference interpreter or student of interpreting in these new technologies is the first challenge to be met, but more constraints (or additional efforts, if we take Gile's Efforts model [1997/2002: 163-176]) are added by the distance and the need to integrate and to have access to information coming from various sources. Moser-Mercer's point that a "cognitive task can be constrained by technology while benefiting from it" (2005b) is discussed taking into consideration the responses from the CIs and CITs.

4.3.4 ICTs for interpreter training

Globalization and wars have highlighted the need to train, more quickly and better, an increased number of professional conference interpreters. Wars are certainly not a new

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phenomenon, but now they are being fought in areas with languages previously not learned in the West. Such is the case of the Iraq and Afghanistan wars. Not only have the places changed, but also the thematics: now there is the war against terrorism. Thus conference interpreter training institutions have gone from a handful to a burgeoning number in some regions of the world, and the number of formal conference interpreting trainees has also increased around the world. A very good example of this would be China, where of the 37 top universities, 11 are now offering academic courses in interpreting, and where the people who took tests for advanced interpreting courses rose dramatically from 704 in 1995 to 81,000 in 2005, while the trainees went from 5,000 in 2003 to 20,000 just two years later (Zhang 2006).

On the other hand, ICTs are the reality of today. Their usage has increased not only exponentially, but also at an amazingly fast speed: in 1988 fewer than 100,000 people were Internet users, but by 2001 there were at least 700 million users (ILO 2007), and over a billion and a half in December 2008. However, are they affecting profoundly the essence of the profession of conference interpreting, and even more, the didactics of it?

4.3.5 CAIT and other training resources

Computer Assisted Interpreting Training (CAIT) is software that can be on CD-ROMs DVDs, or online (e-mail, chat) (Sandrelli 2003c: 76-80, 82). Some of the CAIT mentioned in the literature I reviewed included the programs Black Box, Interpretations and Interpr-It, the IRIS database, (Sandrelli 2003a, 2005; Sandrelli and de Manuel Jerez 2007) and Divace sound files (Blasco Mayor 2005: 2, 6). More recently, a specific study of technology-assisted consecutive interpreting of digital voice recording has been tested, with positive results (Hamidi and Pöchhacker 2007: 276).

There are also training resources for the distance-mode teaching and e-learning of interpreting, such as teleconferencing by telephone and videoconferencing through Local Area Networks (LANs) or via the Internet (Ko 2006: 82), virtual learning environments and virtual learning platforms such as *Moodle*, *Blackboard*, and *Optima*, which help in course management and support. The latter will be presented in this section.

In spite of the many advantages that e-learning and CAIT can bring, the main aspect that should be taken into account when planning the distance-mode teaching and e-

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learning of interpreting is that the role of the teacher evolves from being a simple conveyor of information to become threefold: teacher, tutor, and guide. The distance-mode teacher, as facilitator, will have to communicate, organize, motivate, and create (Tella et al. 2001: 252-254).

The CAIT and other training resources mentioned by our interpreter-trainer respondents are listed in alphabetical order as follows:

Black Box: Software developed as a stand-alone program, with functions to create simultaneous, consecutive and liaison interpreting exercises (Sandrelli 2005: 9). The software is available currently for downloading for a price of 175 US dollars per copy. (Melissi 2009b). Figure 4.30 shows a sight translation exercise in *Black Box*.

Figure 4.30. *Black Box*

Divace sound files: Software for digital interactive audio video recording. It is a dual-track player and recorder for interacting with multimedia material in various formats: one track for source material and another for recording the student's input. The main window of the soundfiles is shown in Figure 4.31 (Divace 2007a and 2007b).

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Figure 4.31. *Divace*

Elice. Elice (Enhanced Language Instruction Centre) is software for a digital system for audio-based exercises in the language lab (Elice 2007). Elice was linked to Sanako's Lab100, now Lab 100 STS (Simultaneous Interpretation Training System), seen in Figure 4.32. (Sanako Lab100 2009).

Figure 4.32. Sanako Lab 100 STS

Interpretations. Sandrelli (2005: 6) reports that *Interpretations* software developed between 1999 and 2002 as a result of the need for a "multimedia environment in which training materials could be created for any language combination on the basis of the resources available to teachers". It was a prototype which was developed to "verify whether CAIT was both viable and desirable". The targeted users were "beginners in simultaneous interpreting who had already received training in consecutive interpreting" (Sandrelli 2005: 6).

Interpr-It A package for teaching Italian-English liaison interpreting, developed around 1995 by the Tell Consortium. It was eventually extended to other languages and became the basis for *Interpretations* (Sandrelli 2005: 6).

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IRIS database: IRIS (The Interpreter's Research Information System) software/hardware is a multimedia database for interpreter and translator training, through which written and oral texts on a wide range of subjects can be available, as well as context and background information on a given text. It also includes the possibility of recording and storing translations, glossaries, feedback, and glossaries (Carabelli 2003: 113).

Marius: A database developed in 2001 at the University of Granada in Spain, which collects material based on the seven types of communicative situations or hypertexts or the conference typology differentiated by Franz Pöchhacker (1995: 36): assembly of an international organization, scientific and/or technical congress, seminar, work/negotiations session, thematic forum, press conference, and special guest conference. *Marius* includes an eighth classification: solemn acts. All the material is divided according to the duration of the speeches, number of words, words per minute, as well as the mode of presentation, the accent of the speaker, level of specialization, etc. This classification allows one to specify the level of difficulty of the text, thus allowing the trainee to choose the material accordingly (de Manuel Jerez 2003b: 7-10). It contains 1805 items in 13 languages, with French-language material having the most entries, but also a high percentage of material in English and Spanish (Marius 2009).

Melissi: The *Melissi Digital Classroom* is software for multimedia teaching, developed as a language lab featuring audio, video, pictures, text, and instructions, access to the Internet, telephones, MP3, subtitling, etc. (Melissi 2009a). Multimedia combined with language-lab features makes this software appropriate for interpreter training. In the Melissi Digital Classroom, the classroom can be arranged on the screen to reflect the reality of a room, as shown in Figure 4.33.

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Figure 4.33. The Melissi Digital Classroom

4.3.6 Other ICTs used for interpreter training and professional updating

This section deals with other ICTs our respondents mentioned but which were not specifically developed only for translation or interpreting needs. The first group discussed is virtual learning environments and their closely related e-learning platforms.

Although there is no consensus on what constitutes a virtual environment, it can be defined in general as a social space using computer-mediated communication where presence and participation occurs, and in the case of a virtual learning environment (VLE), where tools are available to be used by pedagogical strategies (Edutech 2009). As can be seen from this definition, virtual learning environments are not tools but a communication technology, as they function through the Internet. The following are some examples:

Claroline Virtual Campus. An eLearning platform for online courses. It has been translated into 35 languages. Figure 4.34 shows the demo page of this eLearning platform (*Claroline.Net* 2009).

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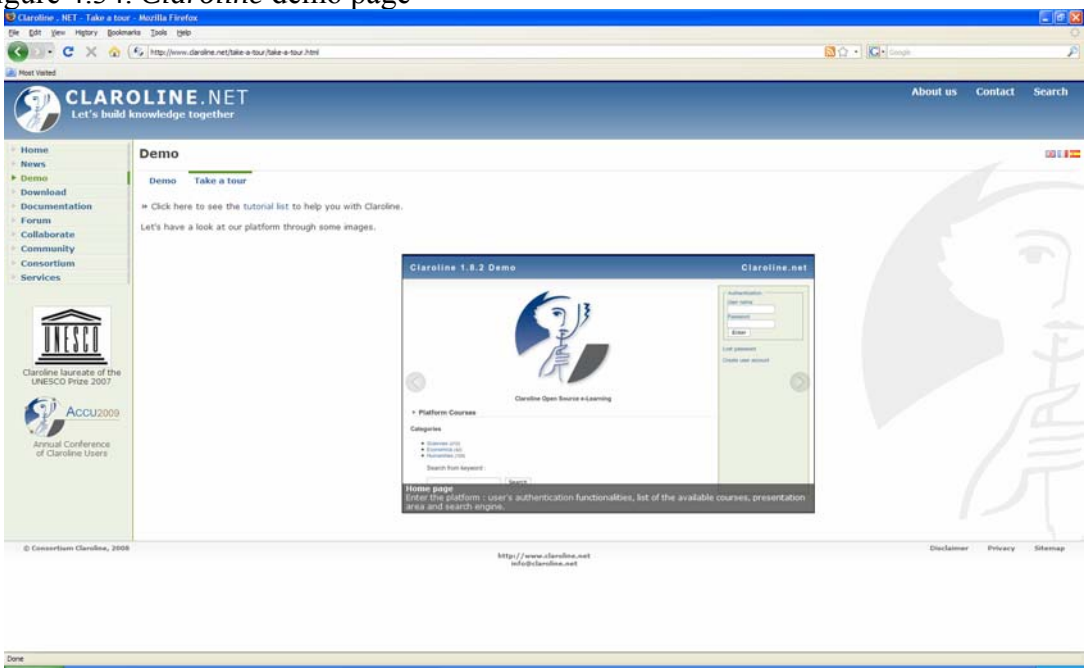
Figure 4.34. *Claroline* demo page



EVAI The acronym comes from the Spanish *Entorno Virtual de Aprendizaje Interactivo* (Virtual Interactive Learning Environment). It is an e-learning platform (Source Forge 2009).

Moodle A platform developed in Australia to serve as a course-management system for creating online courses. It is open-source with free use by educators and institutions (Moodle 2009).

Other resources, not necessarily online and not developed specifically for conference interpreters or for training conference interpreters, were reported as being used by our respondents. They range from software to spoken-language collections in various forms, and to new technologies available to the public. I am presenting first the software, followed by the spoken-language collections, and finishing with the various new technologies, which may seem banal as they are in such common use today, but they offer new possibilities to collect, accommodate, and research necessary information for the CIs.

Audacity. Free software for editing and recording audio files. Among its uses are live audio recording, converting tapes and records into digital recordings, cutting, copying and mixing sounds, changing the speed of a recording, and removing background noises (see Figure 4.35) (Audacity 2007).

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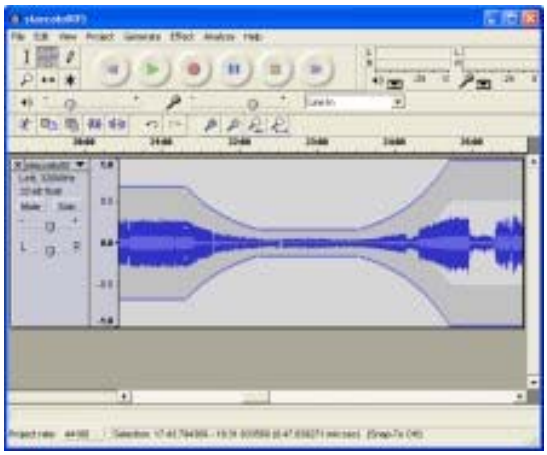
Figure 4.35. Audacity running on Windows



X-Class is a feature of *Language Weaver,* which "enables the user to identify custom tags and control how they are handled by the translation system, including 'do not translate'." (Language Weaver 2010). *Language Weaver* is machine-translation software that can translate html, pdf, and text documents, as well as Microsoft Office documents such as MS Word, Excel, and PowerPoint. The number of words that can be submitted to the Customizer tool is 2 million. It works in 19 languages: English, French, Italian, German, Spanish, French, Dutch, Portuguese, Swedish, Russian, Czech, Romanian, Polish, Arabic, Persian, Somali, Chinese, Korean, and Hindi. Figure 4.36 shows the outline of the process *Language Weaver* undertakes to give a translation parameter (Language Weaver 2006).

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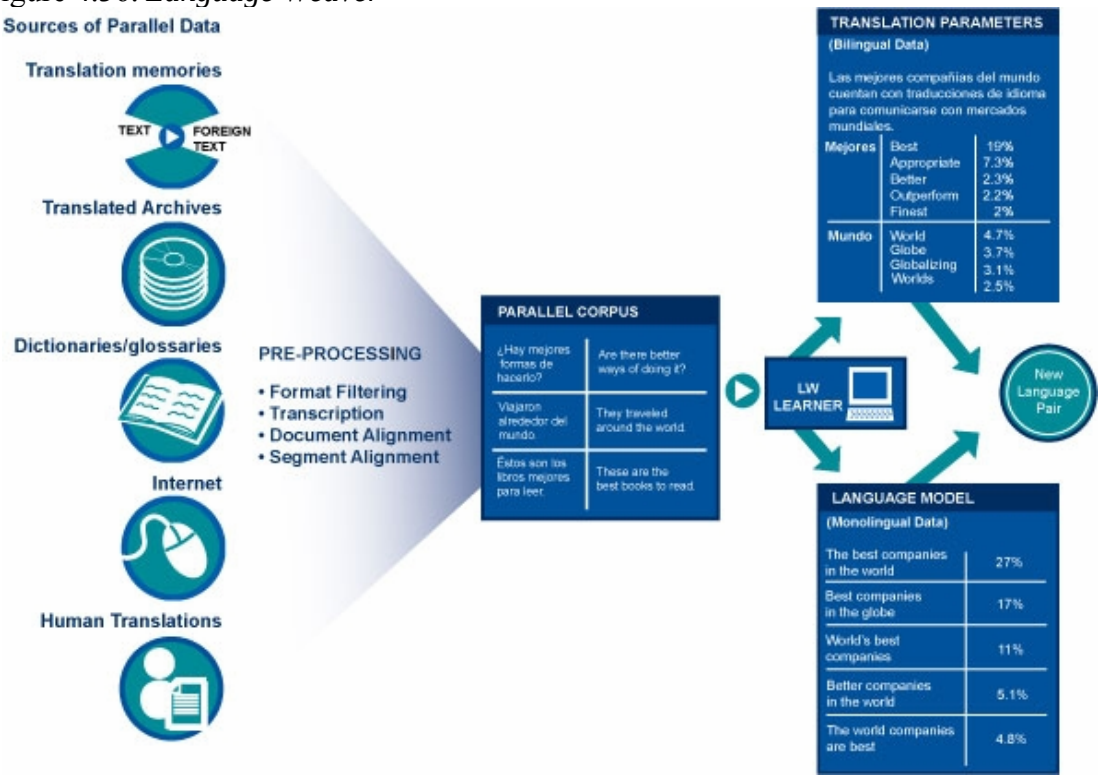
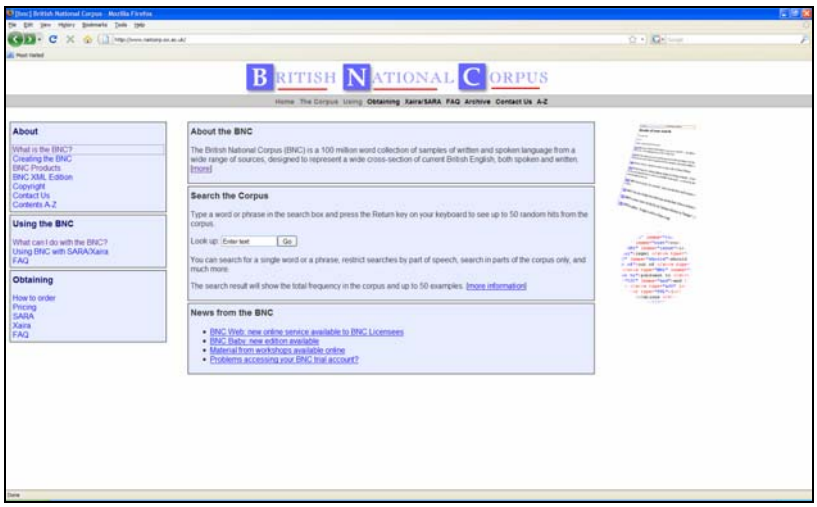
Figure 4.36. *Language Weaver*



BNC Online: The British National Corpus is a 100-million word collection of samples of written and spoken language of current British English. It is a monolingual, synchronic (second half of the 20th century) corpus. A part of the collection is spoken language, consisting of orthographic transcriptions of informal conversations on one side, and spoken language in different contexts on the other. There are 910 spoken texts, which constitute 17.78% of all the collection. The project is managed by Oxford University Press, the British Library, and major dictionary publishers. Figure 4.37 shows the portal (BNC 2007).

Figure 4.37. BNC



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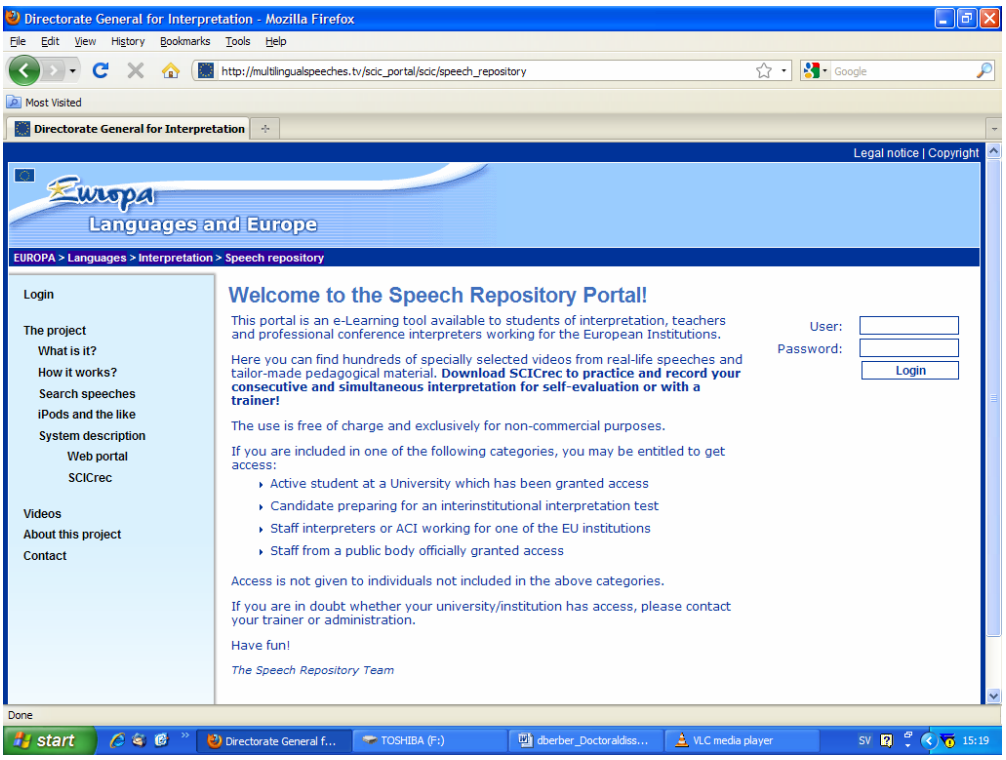
MEDATA: The European Commission's Directorate General for Interpretation has this collection of documents of meetings for the use of the CIs (Laaksonen 2007: 8), which is apparently not available to the public.

SCIC's Speech Repository: A portal of the Directorate General for Interpretation of the European Union where the trainer and trainee can find videos of real-life speeches or those made for pedagogical purposes. The videos can be downloaded to practice and record consecutive and simultaneous interpretation, whether for self-study or work with the trainer. It is free of charge, but it can be accessed only by people who fall within certain categories specified in the portal, as seen in Figure 40 (Speech Repository 2009).

Figure 4.38. The main page of the SCIC-s Speech Repository



DVD: One of our respondents from Southern Europe reported using DVD special tools for interpreter training. DVD stands for Digital Versatile Disco, and formerly for Digital Video Disc. It is an optical storage medium. A DVD can hold up to 133 minutes of high quality video with audio. Figure 4.39 illustrates both a DVD and a DVD player with its remote control (Babylon 2009).

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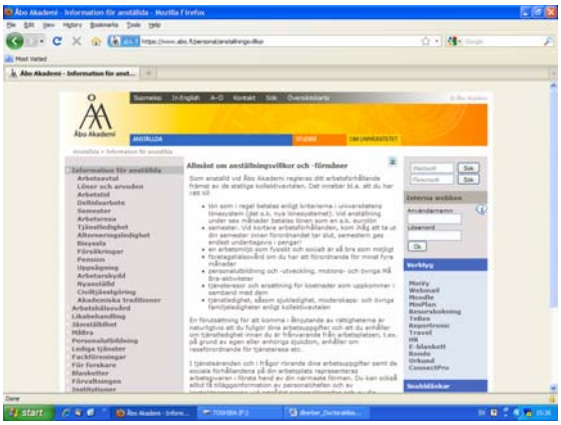
Figure 4.39. DVD and DVD player

Intranet: A privately maintained computer network that uses Internet technologies. It can be accessed only by those authorized by the organization that owns it, as it is a means of sharing the organization's private information with its employees or members in a safe manner. An Intranet may have links to the Internet, but the general public cannot access the Intranet (Intranet 2009a). The Intranet portals of two institutions are illustrated in Figure 4.40.

Figure 4.40. Intranet pages accessed only through password



MP3: The name comes from Mpeg Audio Layer 3, and refers to audio compression technology for digital music or texts. It compresses CD-quality sound on a

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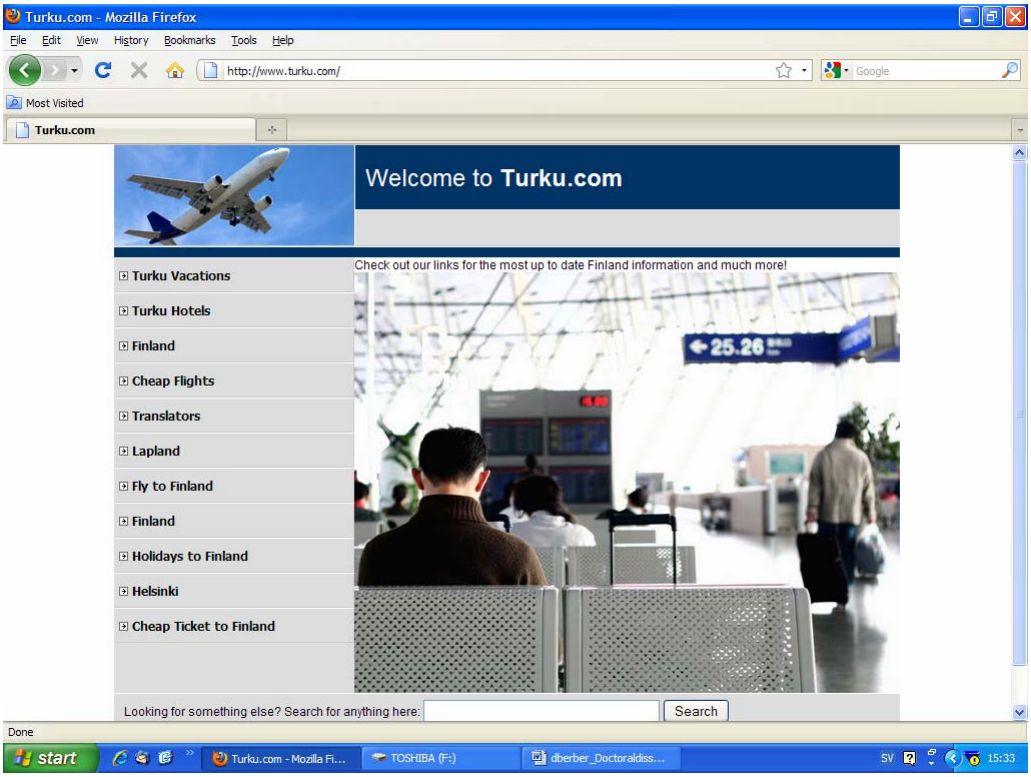
10 to 1 ratio. MP3 files can be played on the computer via media player software, for example, Microsoft's Windows Media Player, or can be played on handheld players such as iPods (see Figure 4.41). Though the sound quality does not match the original CD, thousands of songs or texts can be packed into a pocket-sized player (Answers.com 2009b).

Figure 4.41. Handheld MP3 players and iPod

Website: A collection of related web pages or documents that can include images, audio, videos, and are registered under a common name. All the websites that are accessible to the public constitute the World Wide Web. The website of the city of Turku in Finland is shown in Figure 4.42 (Answers.com 2009c).

Figure 4.42. Main page of a website



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It should be noted that an ICT called the *DEYA laboratory* was mentioned by one of our respondents from Central Europe, but it has been impossible to find any information on it, and our respondent did not give any data about it.

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5 Theoretical and Conceptual Background

5.1 The relationship between interpreting, intercultural communication and globalization

The ICT revolution had its technological origins in inventions and developments that started to appear over 60 years ago: the invention of the transistor in 1947, the application of silicon in the production of semiconductors in the 1950s, the invention of the integrated circuit later on in the same decade, and the creation of the microprocessor in 1971 (Castells 1996: 40-46).

What is known as the "Information Era", which started in the 1980s, is mainly characterized by the extraordinary boom in the use of the Internet, the best known ICT, which went from 213 computers connected to the Internet in 1981 (Unesco 2000), to the overwhelming number of 1,574,313,184 in December 2008 (Internet World Stats 2009: 1), which represent 23% of the entire world's population, when in 2003 only 3% of the world's population had access to personal computers (Cronin 2003: 107). The growth in Internet use from 2000 to 2008 has been of the order of 305% (Internet World Stats 2009: 1).

Life without computers and ICTs is for many of us inconceivable, but we use them differently, depending on various factors such as geographical location, gender, age, and economic resources. The apparent gap in relation to the opportunities to access the ICTs and the use of Internet is known as the "digital divide" (OECD 2010). Still in 1990 the majority of the Internet users were located in the United States, Western Europe, Australia, Japan, and Taiwan (Figure 5.1). However, this has also changed radically. Today the country with the largest number of the Internet users is China, with 30 million users more than the United States (China has 253 million users, the United States 220 million users). India, a newcomer, ranks fourth in the top 20 countries with the highest number of Internet users, Brazil ranks 6th, Mexico 16th, Pakistan 19th and Australia 20th (Internet World Stats 2009: 1).

The series of maps presented in Figures 5.1, 5.2, and 5.3 illustrate the changes in the regional use of the Internet.

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Figure 5.1. Map of the proportion of the Internet users in the world in 1990. (Source: *Worldmapper* 2009)

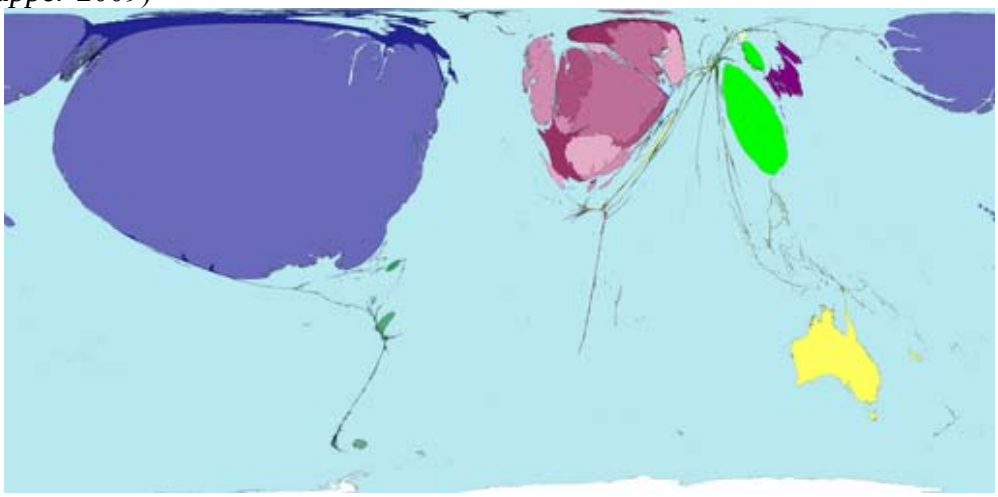


Figure 5.2. Map of the proportion of the Internet users in the world in 2002 (*Source: Worldmapper* 2009)

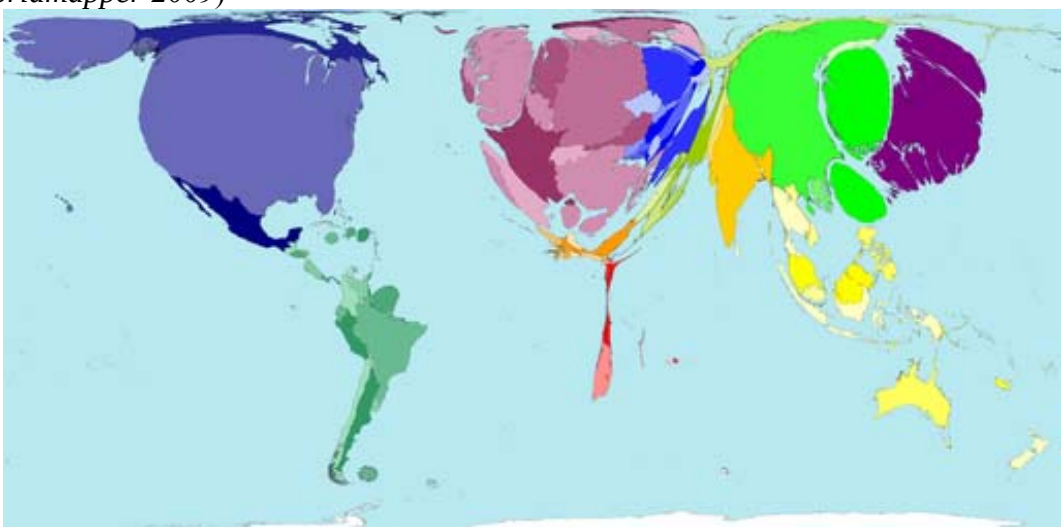
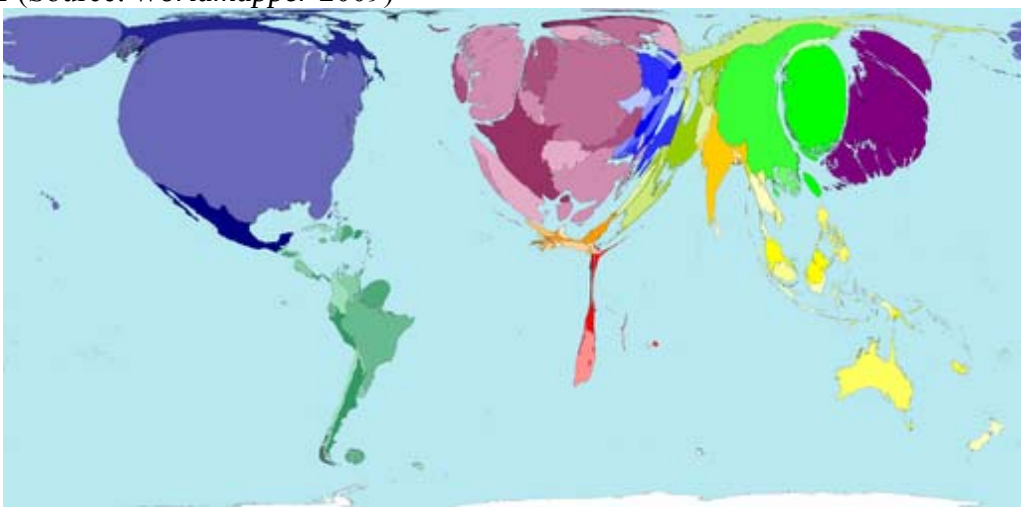


Figure 5.3. Map of the proportion of PC (personal computer) owners in the world in 2002 (Source: *Worldmapper* 2009)



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The map in Figure 5.1 shows the proportion of the Internet users in 1990, when the Internet was still new: most of the three million users at the time were located in the United States (73%) and in Western Europe (15%). The map in Figure 5.2 illustrates the proportion of the Internet users in 2002 represented by the size of the territory. When comparing these two last maps to the figures given in the previous paragraph, it is evident how the north-south/west-east polarization, the digital divide, still apparent at that time, has shifted. This is relevant to the present study since one of my hypotheses reads "the use of ICTs by CIs is uneven in the different regions of the world". The map in Figure 5.3 represents the proportion of PC owners in the world in that same year, 2002, a proportion which, as the images illustrate, was basically the same as those who were using the Internet. This means that the countries where most people could afford to buy a PC were also the countries where people could benefit from the resources on the Internet. Those countries, in 2002, were most prominently the United States, Japan, China, and Germany, showing that the west-east polarization had already shifted by then. Using the data presented here, I can compare the results obtained through my questionnaires and interviews with the proportion of the Internet users around the world, and determine to what extent they coincide. As Cronin (2003: 107) states, "the new world of electronically mediated environments where networks are everywhere will produce its own zones of privilege and exclusion". I am setting out to seek some of those zones.

This Information Era has involved two concepts that permeate our perception of the world today: globalization and intercultural communication.

In 1999 there was still a clear difference between the uses of the Internet in developed vs. developing countries. At that time, 95% of the connections took place in developed countries, the top ten being the United States, Canada, Iceland, Finland, Sweden, Norway, Denmark, Bermudas, Virgin Islands (USA), and the Netherlands. The medium-income economies accounted then for only 4.7% of computers with Internet connection, while low-income economies represented only 0.2% (UNESCO 2000). In the past ten years, however, this North/South rich/poor gap has tended to narrow, although the digital divide is far from disappearing.

It should be noted that although there exist pessimistic predictions regarding the end of the Internet (Swabey 2008), the information era is not confined to computers and the Internet. In section 7.2.1 we will see that the Internet is only part, albeit an important

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part, of the ICTs available, so even if the Internet ceases to exist in the near future, this certainly does not mean the end of ICTs, with globalization continuing to expand through new and already existing channels.

The points raised in this section will be taken up in section 5.2.2 where I discuss ecology.

5.1.1 On globalization

As stated in section 1.2, globalization is considered to bring about uniformity, yet it also raises awareness of local habits and usages, thus needing and also promoting intercultural communication.

The 2001 Nobel Laureate of Economics, American Joseph Stiglitz, defined globalization as: "the closer integration of the countries and peoples of the world which has been brought about by the enormous reduction of costs of transportation and communication" (Stiglitz 2002).

This phenomenon of globalization is acknowledged as the reason, cause, motivation, and objective for many human activities. In the last decade, the term "globalization" has been constantly present in the media, and various aspects of our daily lives are analyzed in light of it. Although the most common reference of the word is to the economic phenomenon, it has expanded its use to all aspects of life: culture, technology, politics, and society. Globalization, whether one is for or against it, is a phenomenon that affects all walks of life, and is here to stay. As stated in the call for papers to the International Symposium "Challenges of Translation Studies in a Globalized World" in Slovenia in October 2009, the term "globalization" should not be regarded as a buzzword that might soon be out of fashion. Cronin (2003: 1) in his work *Translation and Globalisation* attests that the effects of the dramatic changes in technology are closely related to the organization of economies and societies. Due to globalization, it appears that not only local social and cultural practices, but also national boundaries seem to be melting away into a single world culture. To a great extent, this exceptional upsurge of globalization, both as a concept and as a term, has been due to the "boom" of the Internet. We should not let globalization destroy us, but rather use it as a vehicle to learn to communicate with other cultures.

This is why globalization would not be successful if intercultural communication were not established, as the latter constitutes an essential tool for its expansion.

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5.1.2 Reinforcing intercultural skills: ICTs in conference interpreting

The title of this section, "Reinforcing intercultural skills: ICTs in conference interpreting", intends to emphasize the importance of intercultural communication not only in the scope of action of the profession of conference interpreting as a link between cultures, but also *within* the profession, to be able to understand colleagues from other regions of the world better.

Intercultural communication theory helps understand first the individual, and then the culture and society of the individual. It is argued, however, that globalization works fundamentally by forcing homogenization along Western lines, that is, obliterating the individual and the culture that do not go along those lines. However, the fact is that the impact of globalization – including informatization through ICTs – can also have the opposite reaction: that is, reinforcing cultural identity (Kluver 2000), therefore highlighting the differences that need to be taken into account to achieve a good flow of intercultural communication.

Effective intercultural communication is more likely through knowledge of languages and the signs that accompany human expression. That is the reason why one of the skills required to be a good conference interpreter is to be proficient in intercultural communication, that is, in "reading" beyond the words into the usages and contextual inferences, being not only a language interpreter but a cultural interpreter. In fact, "a cultural interpreter is a person who not only can translate language but has an in-depth understanding of the primary culture of both the interviewee and interviewer" (Folinsbee and Jurmo 1994: 31). Two essential elements of interpreting, quality and professionalism, require this extra knowledge, beyond the language itself, in order to be achieved. Interpreting to a large extent relies on intercultural communication. Indeed, intercultural communication for interpreters is not an option, but rather a necessity. Only when all these elements are present will intercultural communication be an effective tool for globalization.

Intercultural communication is all about building bridges while at the same time being mindful of the gap.

Training conference interpreters is essentially an intercultural activity in itself, and conference interpreter trainers, just like any other educator who is involved in a situation of cultural diversity in the teaching environment, need to be aware of the various dimensions that the concept interculturality can entail (Panisse 2006).

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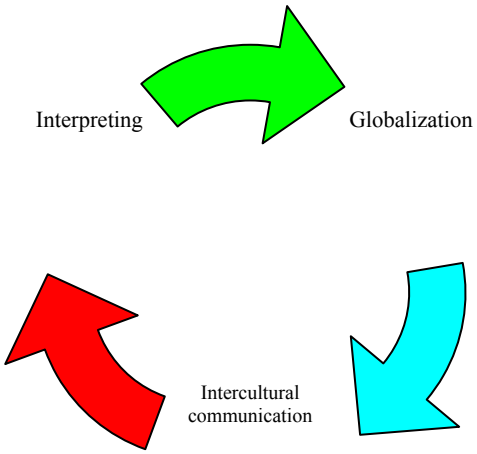
5.1.3 The "food chain"

There is a symbiotic relationship between globalization, intercultural communication, and interpreting. Globalization would not expand so successfully if it were not for intercultural communication, and intercultural communication would not be feasible if interpreting (and translation, of course) did not exist. The "food chain" such a symbiotic relationship represents could be illustrated thus:

Figure 5.4. The "Food Chain"



If this symbiotic relationship is disturbed or interrupted, the "food chain" would be broken and conflict could arise. One way of avoiding breaking the chain and the ensuing conflict or resolving conflict by restoring the cycle is by training new conference interpreters and constantly updating professional interpreters in a faster and more efficient manner, raising awareness of these issues and their importance for the development of their own career.

In summary, the changes brought about by globalization and intercultural communication need to be integrated into the professional practice of interpreting and the training of interpreters, if the profession is to remain as an effective and strong link in the "food chain". Moreover, awareness of the availability and practice of ICTs in other countries should be raised, in order to work in harmony with our counterparts around the world. ICTs have become a necessity in our era, and the more we learn about them the better we can use their advantages to strengthen the link of conference interpreting in the food chain.

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5.2 Distance Interpreting = Economy and Ecology?

The relationship between translation and interpreting on the one side and economics on the other is evident in more than one way: several universities around the world have their translation and/or interpreting departments located in a Faculty of Economics, sometimes in sections related to foreign trade and foreign relations, or in Business Schools. Such is the case of the Copenhagen Business School and the Aarhus School of Business, both in Denmark; the ESTICE (École Supérieure de Traducteurs Interprètes et de Cadres du Commerce Extérieur) in Lille, France; the Kazakh Ablai Khan State University of Foreign Relations and World Languages in Kazakhstan; the Hankuk University of Foreign Studies in Korea; the Czestochowa University of Foreign Languages and Economics in Poland; and the Instituto Superior de Contabilidade e Administração do Porto in Portugal.[12]

On the other hand, the economic implications of the field are evident: technology costs money, as Cronin (2003: 107) attests, but it certainly can save money and also save nature.

In our present world, economy and ecology increasingly go hand in hand, as economic issues can no longer be handled without considering their ecological impact.

Let me present as an example figures to be taken into consideration when discussing the economic aspect of interpreting. The cost of the simultaneous interpreting carried out by the services of the European Union – DG Interpretation, European Parliament and Court of Justice – is reported to be of less than half a euro per year per European citizen. This means 499,723,000 persons times €0.50, which gives us a cost of €249,861,500 per year (Eurostat 2009). The cost comes from 50-60 meetings per day which take place in Brussels and elsewhere (mainly Luxembourg, where the services of from 1 interpreter to 69 interpreters are needed in each one of those meetings) (DG SCIC 2009).

Travelling is one of the pleasures and concerns of today's world, as economy and ecology are closely linked to travelling. Travelling is a common recourse of language students – and here the emphasis is on interpreting students. In many courses, an obligatory requisite for obtaining a degree is spending a certain period of time in a country where the language the person is studying is spoken. For many, going to a place

[12] This list has been excerpted from the list of conference interpreter training institutions I compiled for sending the questionnaires. This does not mean that these institutions necessarily were among our respondents.

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with the sole purpose of studying a language can be economically difficult, and for some even impossible. What interpreting trainees have recurred to many times is armchair travel: reading books, newspapers, magazines, listening to radio broadcasts, watching TV and videos, and of course today there are the many possibilities of virtual travel: the Internet, chat groups, e-mail, etc. The interpreting profession is therefore an eternal nomadism, coming and going, virtual or real (Cronin 2003: 105).

Several scholars (Sandrelli and de Manuel Jerez 2007: 270, Esteban Causo 2003: 151, Ko 2006 and 2008: 815, Mouzourakis 1996: 35-37 and 2006: 46) have stated that in the future videoconferencing, remote interpreting, and e-learning for interpreter training are very likely to become a general norm precisely because of these considerations: they can easily curtail costs once they are installed and the users learn their possibilities, and since not only the clients but also the conference interpreters and the conference interpreting trainees will have to travel less, the ecological impact of their activities would be less.

5.2.1 On economy

Cronin (2003: 8-9) points out that in the Middle Ages the relics of saints were brought to Europe for the people to see and experience their holiness, rather than having a mass of people going to where the relics originally were. In this sense, it could be said that they were already considering the economic implications of such a displacement of the masses. That is what is happening with remote interpreting and videoconferencing: instead of having the mass of interpreters move to where the conferences are taking place, they bring the conference to their hometowns.

Applying concepts from economy and business to academic research is one of the major trends in higher education today, as Pym states (in Gabr 2007: 65), and it is also becoming a trend in translation and interpreting research (for example Chan 2008). As mentioned in section 5.2., several scholars have envisioned the economic and ecological advantages of remote interpreting and videoconferencing, and Mouzourakis (2006: 46) sees remote interpreting as “a means of dealing with problems of interpreter availability and cost”. He discusses the cost of travel and per diems as constituting around one third of the total cost of a freelance interpreter for large multilingual organizations. This is where Cronin’s explanation of the medieval habit of bringing the relics of the saints becomes relevant: instead of taking the mass of interpreters to the venues around the

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world with all the travelling and logistical costs involved, the conferences will be brought to the homes of the interpreters.

Mouzourakis (2006: 47) also mentions the physical building constraints regarding the number of booths for interpreters, for example, with the expansion of the EU. The formula for calculating the number of booths for interpretation needed according to the number of languages is as follows:

n x (n-1) = number of language pairs = number of booths

Therefore, for example:

6 languages x (6-1) = 30 possible combinations, therefore 30 booths needed

He proposes the alternative of remote interpreting from different rooms either in the same building or the same building complex, in the case of the EU, to avoid the costs of building larger conference rooms or accommodating more booths in the existing ones.

As Chan (2008: iii) states, the demand for translation and interpreting has increased due to globalization and to ICTs, thus more economic resources are being spent on translation and interpretation by international, regional, and national organizations, as well as institutions on the economic side, such as corporations. His analysis of the scope of economics leads us to the next link: economy and ecology. As Chan (2008: 5) points out, in the 1970s there were indications of the relationship between economics and biology – ecology. During my work for UNEP (United Nations Environment Programme) in the 1980s, where I was an Information Assistant dealing with papers and studies about all their implications, I became aware of this relationship as a most important one.

5.2.2 On ecology

Clare Donovan (2006) has suggested that remote interpreting should be regarded and sold as an environmental option, since when participants do not have to travel to venues around the world, the saving can help reduce global warming.

In their discussion of cost analysis, Pym (1995, 2004a, 2004b) and Chan (2008: 12) elaborate on the elements that make up the costs, and among them I can point out the location (the venue) and transfer of information (the mode of interpreting) as being of interest for the present study. This discussion behooves us to break down the mobility

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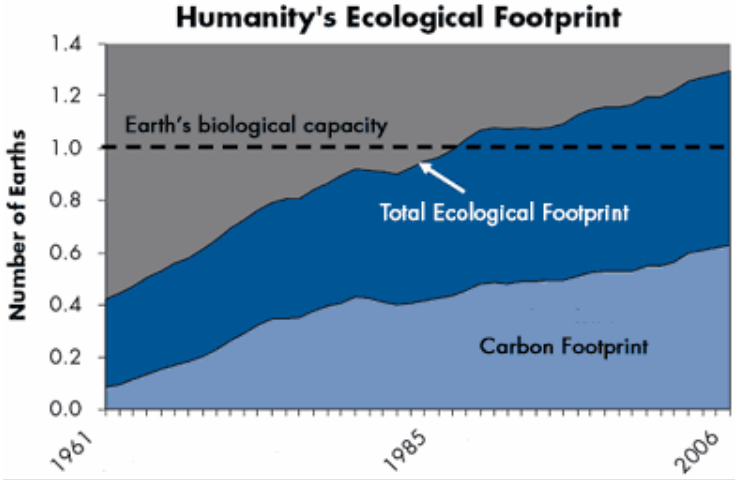
of the conference interpreters into concrete figures given as the "ecological footprint", to understand the ensuing pressure leading to the climate change.

The "ecological footprint" measure is used because it accounts for decisions made regarding mobility and services, among other aspects. The footprint can be calculated for individuals, communities, countries, businesses, etc. Certain activities, such as most forms of mobility, increase our footprints because they release carbon in the form of greenhouse gases, especially carbon dioxide (Royal Saskatchewan Museum 2005). A large number of governments and other organizations have adopted the ecological footprint as an indicator of sustainable resource use. The digits in the ecological footprint are given in global hectares of the Earth, since it represents the land and water it takes to provide us with the goods we are using and the land and water it takes to absorb our wastes (Global Footprint Network 2009a), The "carbon footprint" accounts approximately 50% of humanity's overall "ecological footprint", as illustrated in Figure 5.5 (Global Footprint Network 2009b).

Figure 5.5. Humanity's Ecological Footprint and the corresponding Carbon Footprint (source: Global Footprint Network 2009b)



In the world map in Figure 5.6 the footprints of the different nations can be seen proportionally. Although India and China have very large ecological footprints, it is merely because of the large population that lives in their territories, although a large part of the people use less than the world average of resources, while the United States with a much smaller population in proportion uses up to five times the world average (Worldmapper 2009).

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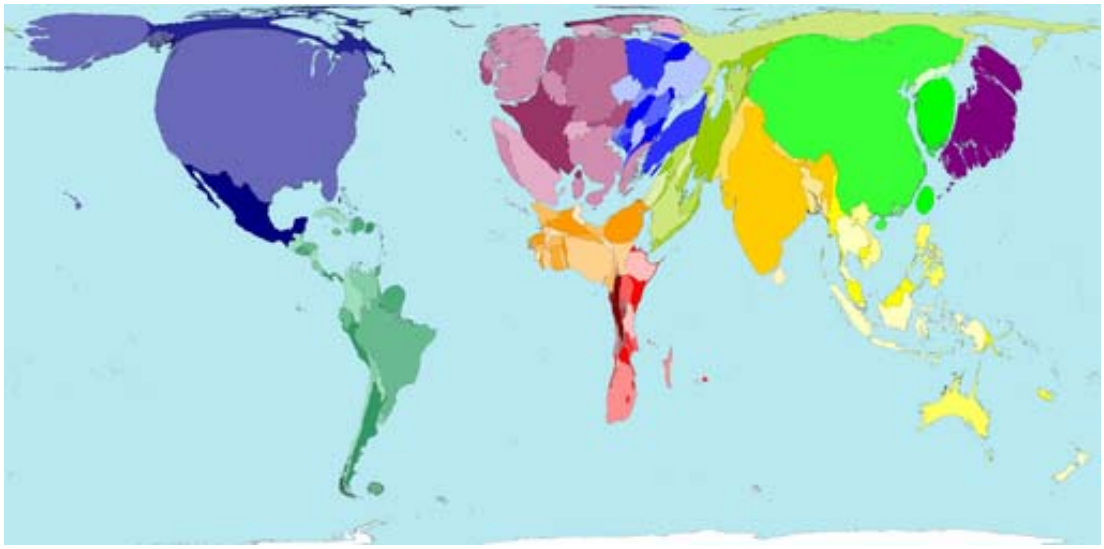
Figure 5.6. The ecological footprint left by the different nations (Source: *Worldmapper* 2009)



The first thing that strikes us about the map in Figure 5.6 is its similarity to the maps in Figures 5.2 and 5.3. The trend of the digital gap, on the economic side, spreads onto the ecological side.

Since I am concerned about the mobility of the conference interpreters, I am presenting in Table 5.1 the carbon footprint left by the three most common mobility modes conference interpreters tend to use. The carbon footprint is the amount of carbon in tons a person releases through daily activities, but it is presented as the portion of global hectares that it adds to the total ecological footprint.

Table 5.1. Comparative Carbon Footprint left by various transportation modes

Transportation means	**Unit of usage**	**Number of global hectares to be added to "Ecological Footprint"**
Car	Kms driven per week 15-50 50-150 150-300 300-500 500 or more (average of CO_2 released per person per kilometer: 180 g/km)	 0.2 0.5 1.0 1.7 2.4
Airplane	Flying hours per week ½ 1 (average of CO_2 released per person per kilometer: 172 g/km)	 1.2 2.4
Train	(average of CO_2 released per person per kilometer: 20 g/km)	

(Howe and Young 2007 and Ojanperä 2009)

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Table 5.1 in itself justifies the use of remote interpreting and even videoconferencing, since the use of such a significant number of global hectares per week or the amount of CO_2 released into the atmosphere can be totally avoided by recurring to such modes. For example: the distance by road from Brussels to Luxembourg is an average of 231 kms. If the CI travels one way, it will be 231 kms x 180 g of CO_2 gives 41,580 g of CO_2 released into the air, and one global hectare added to the ecological footprint. By train, it would mean 231 kms x 20 g of CO_2, that is, 4,620 g of CO_2 released into the atmosphere, considerably less than the calculation by car. Flights, which according to the distance would only take 13 minutes, in fact take 4 hours and 55 minutes because of the stopovers. I will not therefore calculate the CO_2 by kilometer but rather the global hectares added to the ecological footprint according to the flying hours: 5 hours x 2.4 yields 120 global hectares.

5.2.3 The "food chain" grows

It can be seen that IS cannot exist in isolation; there must be strong links in a chain, or better still, a web of disciplines to work with it. IS is indeed fed by globalization and in turn feeds intercultural communication, but other fields complement and sustain the food chain for it to become an effective "foodweb": history, economy, ecology, all interact, sustain, and need each other (Figure 5.7).

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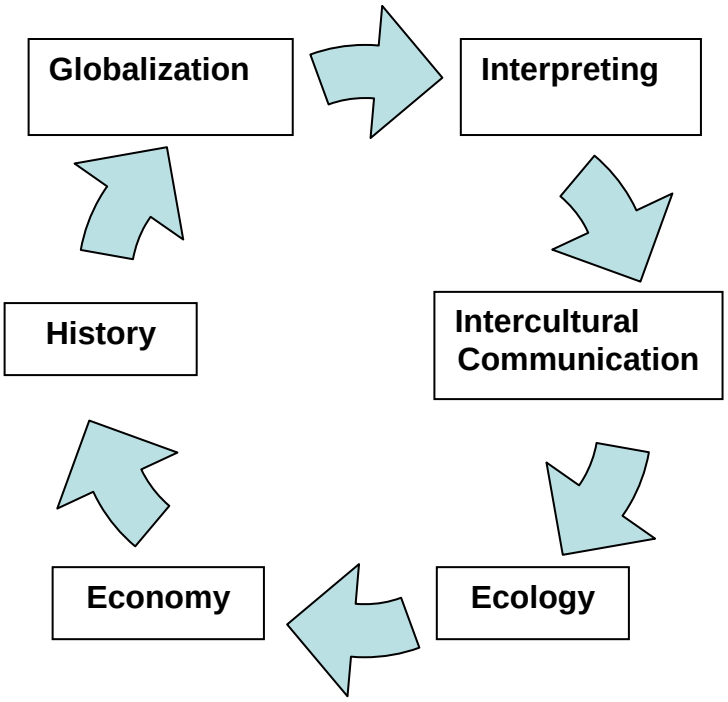
Figure 5.7. The "Food Chain" evolves into a "Food Web"



5.3 The interpreter as a professional and as a provider of a quality service

The aim of the work of an interpreter is a noble one, as its objective is "to draw individuals and communities together to enable them to acquire a fuller knowledge of one another in order to establish a closer understanding" (Herbert 1952: 3), as stated in the first handbooks of the profession. In today's terms we might refer to this as the work of an intercultural communicator. In light of this objective, the attitude as a professional of the interpreter and the quality of the service they are providing (the product), have to be of the highest level possible. I shall analyze the different levels of the status of the profession and the relationship of quality and professionalism in the following sections.

These two fields, quality and professionalism, would be described in ethnographic terms as the cultural domains. As defined by Schensul et al. (1999: 6), a cultural domain is "a set of […] behaviours, beliefs […] – a basic unit of meaning that shapes how people conceptually organize their worlds."

5.3.1 On professionalism, professionalization, and professional development

Films constitute a fantastic world where reality can be distorted at the director's will. However, sometimes they provide valuable insight: how the layman perceives a profession, or they can even mold the view of the layman of the profession presented.

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Such is the case of *The Interpreter* (Pollack 2005). Nicole Kidman, in her role as a full-time professional conference interpreter at the UN, does not seem to need ICTs in the course of her work, neither for preparation, nor in the booth, nor on the floor when she performs consecutive interpreting. She only needs her childhood knowledge of a language, plus others she studied more seriously at university, but mostly a talent received as a gift from God. The only technology regarding interpreting one sees during the film are microphones and booths, plus the sound technician whom one sees working diligently even after interpreters have left, as he is in charge of the very important job of maintaining microphones and booths in perfect shape. However, the interpreter does not seem to need to prepare or do any post-interpreting tasks.

Another film that has reached every corner of the world recently, *Lost in Translation* (Coppola 2003) – which actually should be called *Lost in Interpreting* –, portrays interpreters as loyal to one side only, without caring about the "minority" side. Bill Murray as the movie star causes hilarity in his audience because of the confusion and alienation he suffers due to the lack of intercultural communication skills of Ms. Kawasaki (Akiko Takeshita), his interpreter. After long instructions in Japanese from his employer, she renders only one short sentence in English.

These two films, plus *Babel,* have also been amply commented upon by Cronin (2009: 81-107), but they are not the only ones that have represented the profession. A recent MA thesis (Piiponen 2009) compares reality and the stereotypes presented in ten Anglo-American films from 1995-2005, which include the aforementioned and eight more: *Nixon* (Stone 1995), *The Usual Suspects* (Singer 1995), *Surviving Picasso* (Ivory 1996), *Anna and the King* (Tennant 1999), *Notting Hill* (Roger 1999), *The Insider* (Mann 1999), *X-men* (Singer 2000), and *Rollerball* (McTiernan 2002).

This "layman" point of view does not coincide with what expectations have been since conference interpreting began to be publicly recognized as a profession over half a century ago. The most common expectations of the skills an interpreter should have are: 1) excellent knowledge of languages, 2) clear voice and readiness of speech, 3) calm nerves, 4) good memory, 5) good concentration skills, 6) sound knowledge of the subject to be interpreted, 7) knowledge of current world political, economic, juridical, and social events (Herbert 1952: ix). Some of these skill components re-surfaced with additional characteristics in the Turku International Conference on Interpreting in 1994, such as the level and form of knowledge of languages and the different memory models (Moser-Mercer et al. 1997: 133-141). This set of skills is something the members of a

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group must possess in order to constitute a profession, together with a degree of free association based on a body of knowledge (Poole 2003:1).

Since films can form opinions, as mentioned, perhaps this is the reason the AIIC (Webzine & Communication 2005) has promoted the making of a documentary film about interpreters, *The Whisperers*, together with filmmakers David Bernet and Christian Beetz, which sets out to portray the real essence of conference interpreters' work. This documentary, which has also been broadcast in its TV version, tries to show the qualities interpreters must possess and what the profession really entails.

A profession is "a field of work that requires specialized knowledge and training on the one hand, and the body of qualified practitioners on the other" (Luccarelli 2004), although "professional" is frequently considered to be simply a synonym of "quality" or "good". A profession can also be defined by the fact that it contributes to the common good of society, such as the medical and law professions. Bledstein (1976: 80) explains that a profession is "the highest form in which the middle class could pursue its primary goals of earning a good living, elevating both the moral and intellectual tone of society", that is, the best possible form of achievement for the members of a community or society. He also ascribes certain characteristics to the professional: an ethic of service, scientific knowledge, and career building (Bledstein 1976: 333). This ethic of service, which Liu (2001: xvi) sees as giving "clients' interests precedence over individual profit", is an essential contribution for the common good of society, and it emulates the Weberian concept of "devotion to a common cause" (Weber 1968: 30). Interpreting also contributes to the common good of society, especially in the light of Herbert's description of the aim of the profession: "to draw individuals and communities together to enable them to acquire a fuller knowledge of one another in order to establish a closer understanding" (Herbert 1952: 3). However, as Gouadec (2002: 272) points out, it is absolutely necessary to define the professional profile and to specify the conditions through which professional status can be reached in order to improve the image of the profession in the layman's eyes. In the following discussion I intend to clarify the meaning of the notion of professionalism, and of its closely-related concepts professionalization and professional development, according to the views of different scholars.

The professionalization of conference interpreting began in the 1950s with professional organizations and codes of ethics (Pöchhacker and Shlesinger 2002: 25). This coincided with the shift from translator and interpreter training at language schools

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and colleges to university-based programs. This phenomenon took place throughout the following two decades and is regarded as the achievement of the professionalization of both translators and interpreters (Cordero 1994: 171-172). It must be emphasized that when Cordero uses the word "interpreters" she actually means only conference interpreters, as becomes clear when she discusses the term "professionalization".

The importance of the "professionalization" of interpreters of all types was the theme of the conference *Critical Link 4* held in Stockholm in 2004 (Wadensjö et al. 2007). Scholars today promote the professionalization of interpreters of every specialty, not only of conference interpreters (Kalina 2002a, Villarreal 2001, Mikkelson 2004) who have long been considered as the elite group of the interpreting profession and have been the focus of interpreting studies for approximately fifty years (Kalina 2002a: 169), and who are the only ones who have achieved wider recognition from the public as professionals. Kalina (2002a: 171) argues that the definition of professional interpreting as only relating to conference interpreting should be extended to include what she designates as NCI (non-conference interpreting), although clearly differentiating their individual characteristics, so as to professionalize interpreting as a whole. Her main point is that the profession of CI itself is also changing, in that it is no longer practiced only at international conferences but in other settings she calls "events" (Kalina 2002a: 173).

The term "professionalization" is normally applied to NCI (non-conference interpreting) interpreting types such as sign, community, and court interpreting. However, it could also be employed regarding conference interpreting itself, where conference interpreters appear to be still struggling for public recognition of their profession (CMIC 2005 and CMIC 2009b), in the sense of gaining credibility as full professionals in their community and by potential employers, not only among their peers. The term "professionalization" could also be applied to the conference interpreter trainee in relation to the process of career building, considering the latter expression first in the light of the definition of a career: "A career is the ongoing development of skills, attitudes, and relationships that lead you into and through various professional positions and objectives" (Moran 2008) and second in relation to the notion of career building, that is, planning and developing in which direction we are leading our work life, including the adoption of various skills which among many other things can include the use of ICTs (Moran 2008).

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The International Association of Conference Interpreters (AIIC 2005) describes the professionalism of its members as consisting of three main conditions: a) conference interpreters are to give service only according to their training, qualifications and experience; b) they will not accept to work if it does not meet the previous condition; and c) they will constantly develop their skills.

The AIIC (2005: sv Professionalism [2]) also recognizes that the meaning of "professionalism" can be extended to materials and equipment (collaterals such as calling cards, e-mail, fax, answering machine, invoices, and for the purpose of this study I am adding to their list ICTs) and to attitudes (courtesy, discretion, confidentiality, good manners towards colleagues and recruiters such as prompt replies, etc.).

Kiraly's (2000: 30) explanation of "expertise" and "professionalism" regarding translation can help clarify why I link "professionalism" to "quality", since he describes "expertise" as the "competence to accomplish [interpreting] tasks to the satisfaction of clients and in accordance with the norms and conventions of the profession […]". "Professionalism", Kiraly (2000: 31) continues, "would characterize the [interpreter's] ability to work within the social and ethical constraints of [interpreting] situations in a manner that is consistent with the norms of the profession. This would involve aspects like the commitment […] to charge appropriate fees […], the professional will decline the job if he or she were to determine that they could not do it adequately […]". All these elements form part of the codes of ethics of AIIC and of other national associations.

Condition c) of professionalism, "they will constantly develop their skills", according to AIIC, remits us to our next term: "professional development' (PD) is part of the codes of ethics of several associations. I am presenting two concrete cases here. In Australia, AUSIT (Australian Institute of Interpreters and Translators) members can pursue activities that earn them credits for maintaining their PD. These credits are required in order to remain a member. Among the six main types of activities AUSIT members can pursue that are recognized by AUSIT, we find "techniques and technology", concretely the use of software, CAT, and the Internet (AUSIT 2005b and 2005c). Another example of this system is found in the ATA (American Translators Association), which has continuing education points and PD programs, also as an integral part of the right of membership (ATA 2005).

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These examples show that professional associations establish a series of criteria for their members in order to guarantee performance ("professionalism"), seek to improve standards ("professionalization" of those who have not yet achieved the status of "professional"), and "professional development" (for those who need to keep such a status) (Moser 1996: 145).

5.3.2 On quality as an essential element of professionalism

In 2005 I received a chain e-mail with advice that said, among other things, the following: "Women are like translations: the good ones are not loyal, and the loyal ones are not good". This dates back to the neo-Classical *mot* concerning *les belles infidèles*. If we consider interpreting as the oral form of translation, what would be a quality interpretation, the loyal one or the good one? Are the rules different for interpreting? According to Bühler (1986: 231), "sense consistency with the original message", that is, a loyal interpretation is considered equivalent to the most important aspect – the good interpretation – by most persons involved in evaluating the performance of an interpreter. So the dichotomy that appears in translation seems to disappear in interpreting. "Loyal" and "good" interpreting together would then be "quality" interpreting, which is an over-simplification of the issue. However, as García-Landa (1999: 102) notes, it should be remembered that literality – complete loyalty or fidelity – does not exist, as will be elicited in the following discussion: it is only "a ghost".

"Quality" and "quality assessment" are some of the most frequently addressed issues in IS. Bühler (1986: 234) presents a list of 16 points to be considered as elements that constitute quality interpreting, which Pöchhacker (1999: 168) downsizes a list to eight issues: "1) sense consistency, 2) coherence, 3) correct target language, 4) technical terms, 5) syntax and style, 6) delivery, 7) voice and articulation, and 8) booth manners".

The issue of quality is taken to mean to fulfill or to respond adequately to the clients' expectations of the product of conference interpreting (Pöchhacker and Shlesinger 2002: 296). Mack and Cattaruzza (1995: 38) define it as the "interpreter's capability to perform the function offered or required". Quality interpreting can be studied in light of many small and large details, which range from macro-processing (Sunnari 1995: 109) to omissions, additions, substitutions (Barik 1969/2002: 85-87), as well as other aspects such as language direction and linguistic complexity of the source text (Tommola and Helevä 1998: 177). As Gile (1990a: 68) notes in his survey,

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"quality" is regarded by the clients as a subjective perception. It is a difference which may lead then to believe that quality can be attributed to external factors such as nationality or social environment and relationships where the interpreting takes place. One of its important components, fidelity, can be an unreliable parameter even when assessed by peers (Gile 1995c: 151).

Here it is my intention to look at quality as an essential element of the profession, in line with how the conference interpreters themselves[13] regard the issue, and as a goal of the use of electronic tools and of teaching these tools in CI programs.

Although it has been said by Mouzourakis (Buck 2000: 3) that it appears that quality can suffer with the use, or rather abuse because of the possibility of cutting costs through the use of certain tools such as remote interpreting, my intention is to determine whether CIs regard the use of ICTs as a means of improving quality.

Moser (1996) explains that quality can be approached from two points of view:

1) That of the providers of the service, that is, the conference interpreters themselves. This involves 'quality assurance' or 'pursuit of excellence' (George and Salice 1994: 42-43). To Déjean Le Féal (1990: 154) it requires a self-monitoring that is not always very reliable unless done systematically by recording one's own output.

2) That of the users of the service. This would be 'quality' as defined by Pöchhacker and Shlesinger (2002: 296). The users can be the public and/or the employer who contracts and pays the services of the interpreters. However, as Shlesinger *et al* (1997: 127) note, users are not always the best judges because they do not have access to the source text, or they may have an erroneous perception of the interpreting profession. In spite of Shlesinger et al.'s note, even if the users of either kind may not have the theoretical background to judge the performance, they know when a "doctor is good": if the doctor cures them, they will not form an opinion of his theoretical knowledge.

For Messina (2002:104) there is also a third point of view: that of external observers (which may be fellow interpreters, trainers, scholars, employers, or intermediaries). Messina uses the term 'quality assessment' for the viewpoint of interpreters.

The interplay of three elements will help determine quality: the volume, the timing, and the cost. If there is a large amount of text to be interpreted in a very short

[13] In the pilot survey, many interpreters regarded, in fact, quality and professionalism as being the same (15% of all the replies).

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time and the pay is low, it will certainly lead to low quality. The conference interpreter has to make sure that the volume of work is according to the time allotted to him to fulfill it, including the preparation, and that the pay is adequate, so as to guarantee quality performance. The interaction of these three parameters - volume, timing, and cost – is what determines the level of quality, and the ICTs are only a support to achieve quality.

5.4 Gile's Effort Models for IS and Psychology

This leads us finally to the Efforts Models in interpretation (Gile 1995a: 159-190), which started out as an evolution or refinement of the Sequential Model, and later acquired a life of its own as a conceptual tool for analyzing the process of interpretation.

5.4.1 The Effort Models

The Efforts Models view simultaneous interpretation as a set of three Efforts: the Listening and Analysis Effort, the Production Effort, and the Memory Effort. The link of these Models with ICTs is that ICTs in general have been developed to facilitate or even eliminate the stress of efforts undertaken by humans when carrying about their ordinary lives, by increasing human capacities (Biau and Pym 2006: 6). Conference interpreting is a very demanding job: the efforts that a conference interpreter has to undertake to fulfill his work are constant and strenuous. To explain how these efforts exert pressure on the mind of the conference interpreter, Gile (1983: 2-8) developed in the 1980s the Effort Models originally for simultaneous interpretation, and later applied it to other types of interpreting. It was presented first as a conceptual framework for interpretation students, and later as a conceptual framework for the research of the cognitive process (1997/2002: 163-176).

According to Gile's Effort Models, in general there are three basic efforts involved in the complex operation of interpreting:

1. The listening and analysis effort (L): analysis of the words heard by the CI and his decisions on the meaning of the sentence.

2. The production effort (P): after the decisions on the meaning of the sentence, the CI must plan what and how he will represent the message, and then the actual production of it.

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3. The memory effort (M): the demand on short-term memory represented by various factors, such as time interval between the source language (SL) speech and the processing of its meaning; the time interval between the planning of the message in the target language (TL) and the actual delivery by the CI; and the tactics and strategies the CI must recur to in order to cope with problems.

There is a fourth effort in simultaneous interpreting, known as the coordination effort (C), so the full effort model for simultaneous interpreting process looks like the following equation:

$$SI = L + P + M + C$$

I will concentrate, however, on the three basic efforts, that is, Listening and Analysis (L), Production (P), and Memory (M).

One of the aspects that Gile attempts to explain with his Efforts Models is the phenomenon of errors and omissions in interpreting and its association with the concept of processing capacity.

Errors and omissions in professional conference interpreting have been the object of study since the 1960s, with research being conducted by psychologists in the beginning. The notions of quality and professionalism, which will be discussed further on in this work, are closely related to this issue. Errors and omissions in professional conference interpreting are not necessarily associated with lack of knowledge on the part of the interpreter, but rather with an excessive cognitive load. That is, the capacity *available* for each of the efforts mentioned above should either be equal to or larger than the capacity *required* for each one of them in order to achieve a smooth, error-free production. When the capacity is less, i.e. the cognitive load exceeds that capacity, then errors and omissions occur, regardless of how experienced and professional the interpreter may be. I may, therefore, start from the assumption that the main function of ICT resources in conference interpreting is to reduce the efforts by freeing capacity. I shall analyze then the answers provided by my subjects in the light of this assumption.

When discussing these processes, it comes to the mind that in spite of the fact that the analysis of the responses received could eventually prove that ICTs can truly help alleviate the efforts, it should be remembered that throughout interpreting history, and in fact throughout history of the world, there has been resistance to the new, especially in the older professions, although it must be stated that not necessarily among the older professionals.

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As stated in the introduction to this work, there have been always those who fear or even attack anything that is new, anything that represents change. Fear or at least reluctance to change is as old as humanity, but written expressions of this fear exist at least since Roman times that we know of: Caius Petronius, an author and courtier during the reign of Nero, wrote that every time we begin to feel organized and comfortable with something new we have learned, something new comes bringing about chaos[14] (*Hufvudstadsbladet* 2004).

The etymology of the term for those who exhibit this kind of resistance to technological change, 'luddites', reflects how for centuries people have opposed or resisted technological changes that we take today for granted. Luddite comes perhaps from Ned Ludd, an English workman from the 18th century who destroyed a knitting frame, and the word came into English in the early 19th century, applied to a group of English workmen who destroyed machinery as a protest, today this term being applied to those who resist change, mainly technological change (Merriam-Webster 2009a). In interpreting history (see section 2.3), luddites came onto the scene when the equipment for simultaneous interpreting appeared, especially when it came into use with the Nuremberg trials in 1945, as they felt it was a threat to the status of the interpreters, who were very proud of their memory capacity and of the leading roles they played when they delivered their consecutive interpreting. Even though simultaneous represented a great step to the profession not only in its development but also in terms of costs, the luddites of the time felt it was an attack against their status. (Baigorri-Jalón 1999: 33-35)

5.4.2 Efforts in the process of interpreting seen through neuropsychology and neurophysiology

Neurospsychology is "concerned with the relationship between the brain and behavior" by studying "how the brain works and how this affects the way a person thinks" (Burns 2009a and 2009b), while neurophysiology studies the "functions of the nervous system"

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[14] The full quote of Caius Petronius: "We trained hard but it seemed that every time we were beginning to form up into teams we would be reorganised. I was to learn later in life that we tend to meet any new situation by reorganising...and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralisation."

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utilizing “techniques such as electroencephalography (EEG)” among others (Clinical Neurophysiology 1997-2003).

Although both disciplines are more focused on the clinical aspect, that is, to identify and describe pathophysisiologic changes in the nervous system, as for example changes resulted from damage to the brain due to aphasia (Kurz 1994: 199-200) , the neuropsychological evaluation tests mental functions which include language, attention and memory, problem solving and conceptualization (Clinical Neurophysiology 1997-2003), all of which are clearly related to the efforts exerted in the process of interpreting, and can be shown through the techniques utilized in neurophysiology.

Kurz (1994: 199-200 and 1995) discusses studies where the activity of the different hemispheres of the brain has been investigated in healthy subjects. She reports that studies have found, among other interesting aspects, gender differences in cognitive tasks, and the directionality in which the conference interpreter is working. In her own study for her post-doctoral thesis, Kurz conducted interdisciplinary research together with the Institute of Neurophysiology, to investigate the neurophysiological correlates of SI, and in her 1994 article she reported the EEG patterns she found in SI. Tommola (2006) continued in this line to compare the extent of the increase in blood circulation, that is, an increased effort, in experienced and in novice interpreters. Instead of using EEG to record the electricophysiological data, though, he resorted to PET scans, and instead of gaining results of electrical activity, he obtained images of the actual blood flow increase in the brain. In spite of using different means and investigating different reactions within the brain, both studies, of Kurz and Tommola, however, had the same aim: to report on what is occurring in the “black box”, as Kurz herself puts it, of the CIs.

What is important for the present work is that the studies of Kurz and Tommola show physically how efforts appear in, and affect, the brain. In Figure 5.8, Kurz shows the electrical activity produced and increased in certain areas of the brain while performing SI into L1 and L2 (L1 = native language, L2 = foreign language), where she had divided the spectrum of the EEG into three frequency bands for this figure. Kurz reports that the increased activity appeared to be an indication that there was a higher mental effort during SI into L2 (Kurz 1994: 205), therefore physically proving the increased degree of difficulty and demand on the brain of directionality into L2.

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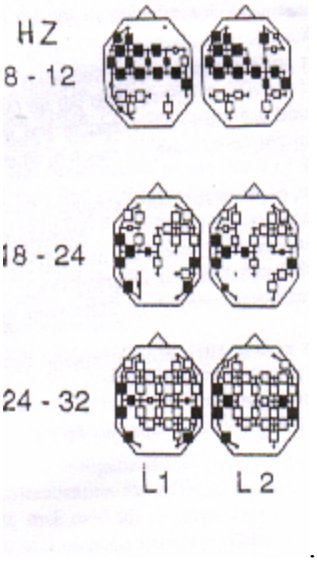
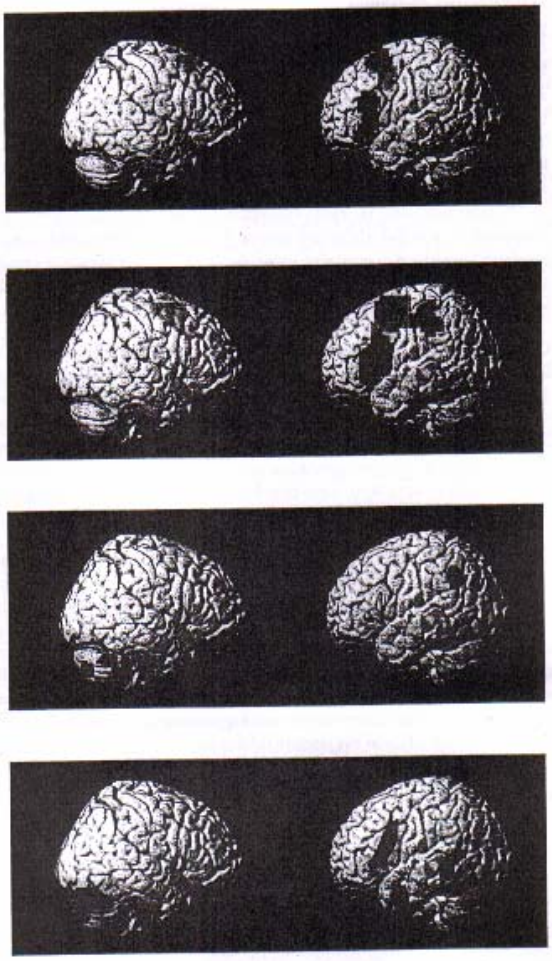
Figure 5.8. EEG maps during SI into L1 and L2 (*Source: Kurz 1994)*



In Figure 5.9, the cognitive effort in SI into L1 and L2 is shown not in electric activity but in actual blood flow through PET (positron emission tomography) scan images.

Figure 5.9. Increase in blood circulation during SI *(Source: Tommola 2006)*



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Tommola shows an interesting phenomenon: the top two images are from an experienced interpreter, where the first pair is during interpretation from English into Finnish – into L1 -, and the second from Finnish into English – into L2. The lower two images are from a novice interpreter; the first pair interpreting from English into Finnish (L1) and the second pair from Finnish into English (L2). In spite of directionality being the same for both, the increase and extent of blood circulation in the more experienced interpreter is strikingly larger than that of the novice. That is, for novices, the activation of blood circulation is distinctly less than for professionals. Although one interpretation of this phenomenon might be that professionals invest more on the task, it has not been proven that there is a link between effort and extent of blood circulation. This could, however, lead to a new question: if ICTs can relieve efforts, would the more experienced interpreters then receive even more benefits from using ICTs?

In all, then, these images reported by Kurz and Tommola constitute the physical expression of what Gile presents as a mathematics equation in his Efforts' Model.

Even though I cannot pursue research of this issue within the scope of the present study, this information makes feasible further possibilities of research inasmuch as the relationship between ICTs and the Efforts' Model of Gile.

5.5 Models for conference interpreter training

Gile (1989: 27) asked in the late 1980s if there would be a way to improve on the training of interpreters, especially by improving their level of competence in preparation for the labor market. To everyone involved in conference interpreter training, this is still, and will continue to be, a major concern. Answers to Gile's question have come in several ways through various projects and research; for example, the POSI (practical orientation of studies in translation and interpreting[15]) project (Mackenzie 2000: 220) had the same purpose.

[15] The POSI project was in line with the ISO 9000-based quality systems applied to services, which were in line with the customer assessment of the services. Originally developed in Germany to improve the quality of the T/I graduates, it grew into a pan-European project. Its aim was a higher level and more uniform quality of T/I training, and more importantly, better parallelism between the training and the needs and demands of the global market. This project involved, in 1998, setting up national committees integrated by representatives of the profession, the market, and the training institutions. The committee in Finland undertook a survey through a questionnaire, with the following results: as development of training, the participants asked for translation courses and seminar work that would include real translation projects, cooperation between training institutions and employers which should be enhanced in the curriculum design, and information research that should be encouraged. Regarding professional development, the participants requested: deepening of subject knowledge in various fields, such as economics, law, and various fields of technology; improvement of language skills; teaching in the use of

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5.5.1 Constructivism and Constructive Alignment

As a theory that supports Gile's concern by giving it a general framework, I shall refer first to constructivism, since it assumes that training of translators and interpreters should reflect real-life practice (Kiraly 2000: 123). If I take as a point of departure the initial premise of constructivism, which states that "learning [is the] process of becoming increasingly proficient at thinking, acting and communicating in ways that are shared by the particular knowledge communities of which we are striving to become members" (Kiraly 2000: 4), the use of ICTs, which is a fact in the professional practice as Stoll (2002 and 2005) and Will (2000) among others attest, would only be a natural inclusion in the training of conference interpreters.

Just as constructivism furthers the notion that education and training should mirror professional practice in order to help the student to construct knowledge (Kiraly 2000: 123), constructive alignment advocates aligned learning, a concept that seeks to explain how learning and evaluation tasks can be coherent with the practical results expected (Biggs and Tang 2007: 52). Conference interpreter trainers are faced with the challenge of introducing technological developments in their training programs in a meaningful way. Before commenting on or implementing any technological innovation, they have to consider what kinds of information-seeking skills their students could profit from, and how technology can be of use in their teaching. ICTs offer trainers a variety of possibilities to reach out to the students through interactive and collaborative activities: sharing information, experiences, opinions, and knowledge.

With respect to just one of these facets, there are three types of information searches (Sanako 2009: 1):

1) Search for facts (such as a year in which a historical event took place or the works of an artist). This type of information search is limited by nature and therefore one or two search words will suffice;
2) Expanding the existing knowledge on an issue (e.g. information on a hobby, where the seeker knows the basics but needs to expand his knowledge on it). In this case, the search may be wide, but the seeker is familiar with the terms;

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modern information search methods (the Internet and data banks). A surprising result, but which is understandable because of the timing of the article, is that training in software and the basics of glossary terminology were very low in the rating. (Mackenzie 2000: 213-219)

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3) Seeking new information (e.g. investigating a new field previous unknown to the seeker, or applying knowledge to a new area). This would entail searching through parallel concepts.

This would signify that the trainer has to be attentive to which aspects should be taken into account, as proposed by the principles of constructivism and constructive alignment. The trainer should also aim to clarify the difference in meaning of the concepts of information, facts, knowledge, data, intelligence, and brain capacity, so the students have a clear picture of what they need to develop and how.

When selecting and using ICTs, making the students aware of the information available in the Internet and how to instruct them in information mining should be an important objective of the conference interpreter trainer.

5.5.2 Coping strategies

The concept of strategy denotes a carefully meditated plan to reach an objective, through various coordinated actions. Tactics can be adapted to the situation and modified according to the needs, but without losing view of the general strategy (Gambier 2008: 64). That is, strategies can be reached through tactics, and tactics need the strategies to have a direction or sense. Coping strategies are a "very fundamental practical skill in interpreting" (Gile 1995a: 191). Scott-Tennent et al. (2000: 108) define a translation [or, for us, interpreting] strategy as "the means to produce translation [interpreting] solutions for a range of translation [interpreting] problems which may be anticipated either at the micro-or macro-levels".

These strategies or general plans at a macrolevel are thought out by making a reflective examination to find certain patterns in the source texts and how they have been solved in the target language, patterns – or solutions – which can then be learned. One of the main problems lies in the fact that most of these features are language-specific (Gile 1997: 196-214). ICTs can eventually help in providing such solutions, since the problems can be anticipated and the necessary strategies and tactics adopted. Therefore, ICTs should be included in the curriculum of interpreter training courses, in the same way that it is common practice in translator training (Neunzig 2001: 49). To further support this premise, let me quote Gouadec (2002: 343), who found in his analysis of requirements for translation trainees that "in 87% of the cases surveyed in

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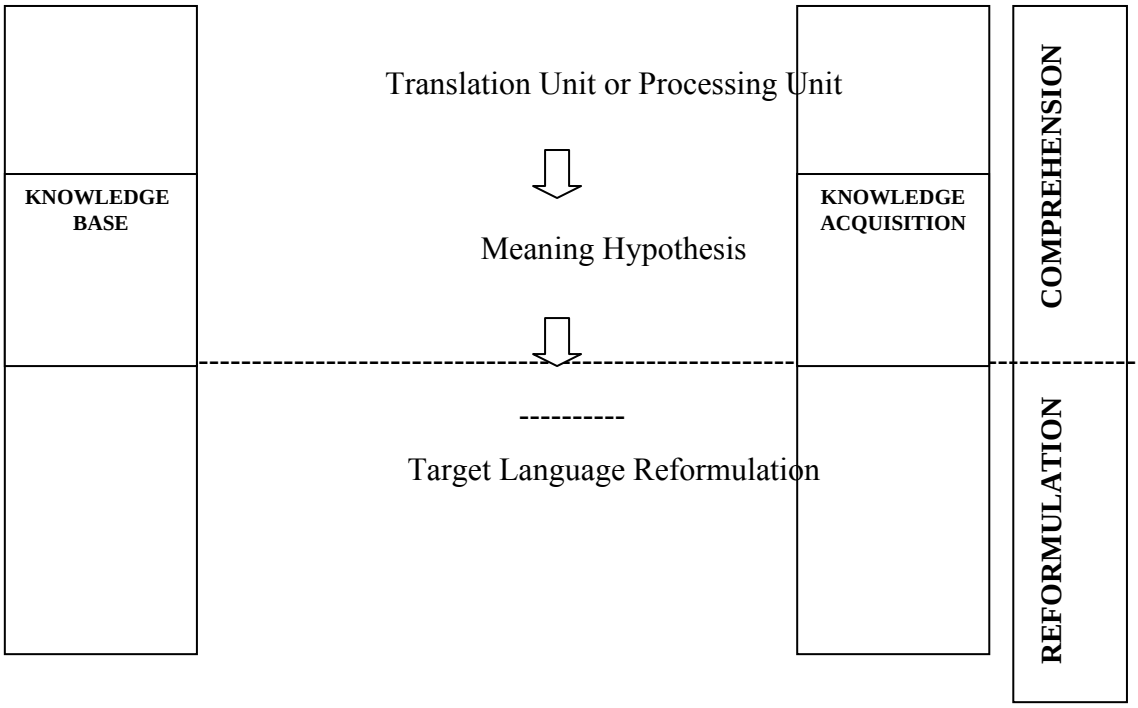
the French market the customers or employers required from translators mastering of tools and programs". Interpreters should not fall far behind in this trend.

5.5.3 The Sequential Model of translation

The Sequential Model of translation (Gile 1995a[16]: 101-130) can help the conference interpreter trainer explain to the trainee the path followed by the professional conference interpreter from the translation unit or processing unit in the source-language text to the target-language text, going first through the comprehension phase and then on to the reformulation. Gile's sequential model of translation is represented in a simplified form in Figure 5.10.

Figure 5.10. The sequential model of translation



Gile (1995a: 102) in his original figure reflects the processing methods that the interpreter encounters at each of the above stages, testing the plausibility of the meaning hypothesis assigned to the unit based on knowledge both of the source language and of knowledge of the world. If the interpreter's knowledge of language and the world is insufficient, additional information will be required, and that is knowledge acquisition. The interpreter then returns to the beginning and sees whether the meaning hypothesis is plausible, and reformulates it if necessary. As Gile (1995a: 111-113) explains, although

[16] Gile's classical work has been re-edited in 2009 with a revision of his Efforts' Model.

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this model applies to both translation and interpreting, in the case of interpreting the knowledge acquisition process needs to be completed before interpreting begins, that is, with preparation before the task. In the reformulation phase, the interpreter must ensure that the target language reformulation is faithful and acceptable, but this process must be contained within their mind before the final output.

ICTs could help link the theory of the Sequential Model to actual practice by teaching the trainee how to solve the problems that are inherent to the job: access to the necessary information and time to access it, learning about decision-making and risk-taking (Gile 1995a: 108-109). Also, ICTs can help with acquiring broader general knowledge, and with making decisions with more confidence (Gile 1995a: 112). These are aspects that need to be highlighted when training conference interpreters, so as to create awareness of the possibilities that exist.

5.5.4 A last word on why ICTs for conference interpreter training

The above discussions have shown how ICTs can conform to the needs that have been identified through the models for conference interpreter training. A few more considerations are appropriate regarding computer-based instruction.

Coley (1997: 1-3) reports on a study analyzing the effectiveness of computers used in instruction. Among the conclusions reached, the following are relevant to conference interpreter training:

- It is possible to give instant feedback to students, explaining and commenting on the answers whether correct or incorrect. This is particularly useful when conference interpreter students are starting their training and they need constant feedback about their performance.
- Computers are nonjudgmental, so students do not feel the pressure of a constant evaluation on the part of the instructor when they are working on their own.
- Students tend to learn more in less time and are better able to pace themselves. For example, when students use CAIT, they will not have the pressure of an imposed schedule and will learn at their own pace.
- Students are more challenged, more engaged, and more independent, which is something to pursue whenever training any professional, but even more so in the case of conference interpreters, where self-

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motivation is of paramount importance. However, it should be remembered that giving too much independence to students can also mean that they abandon their studies.

In spite of all the above, CAIT or any other technologies cannot be effective without the counsel and commitment of the conference interpreter trainer.

Ko (2006: 67) compares distance-mode training to face-to-face teaching, and presents three telecommunication technologies: teleconferencing by telephone, videoconferencing through local area networks (LANs) and videoconferencing through the Internet. Although Ko refers only to liaison interpreting, what interests me for the present study are his findings about the increased demand for telephone interpreting, and how the telephone is also used for training interpreters, although in some cases the telephone is only used as a medium (Ko 2006: 79-80). Ko's conclusions are clear: the availability, reliability and affordability of any of the three telecommunication technologies he discusses are still limited. He is adamant, however, that these limitations do not render distance mode interpreter training impossible or ineffective; the potential of present-day technologies should be analyzed, and what is more important, pedagogies should be adapted to best fit the ICTs and the teaching and learning (Ko 2006: 91-92).

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6 The method

My research method is basically data analysis. I analyze the quantitative data derived from the responses to the questionnaires distributed among conference professional interpreters worldwide, which will serve as an indicator of what is happening in today's professional conference interpreting world regarding ICTs. The study, however, is both qualitative – aiming at understanding human behavior – and quantitative (in numerical terms). Both the quanta and the qualia are vital parts of the ethnographic research endeavor (Schensul et al. 1999: 4), which is then linked to the individual and their perceptions of the phenomenon (Bourdieu 1990).

I apply the ethnographic principles and methods outlined by Schensul et al. (1999: 1-8) as a scientific approach which "discovers and investigates social and cultural patterns and meaning in [...] social settings", based on certain guiding principles. Those general principles, which can be directly applied to TS and IS as well as to any other discipline that can rely on descriptive studies, are:

1. Research is guided by and generates theory;
2. It is both qualitative and quantitative; and
3. It is applied.

The theory by which research is guided is the model used by the researcher to organize observations around an initial question. For the present work, I am not using a single model, but rather a general model complemented by other models, principles and theories to organize my observations.

Ethnography entails inquiry, exploration and description of relationships among variables (Schensul 2005: 4), which is what is done in the course of this study. Ethnographic methods are useful when carrying out interviews or surveys in which participants do not share the same cultural background with one another, as they are aimed at eliciting the participants' feelings, ideas, and suggestions, and patterns from the data collected (Folinsbee and Jurmo 1994: 31).

The essential ethnographic methods are questionnaires, interviews, and observations. These ethnographic methods, according to Schensul et al. (1999: 7-8), can be effective means for the following, among other aspects, and that is the reason for using them for conducting this study:

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a) to describe a problem or phenomenon in a population – in our study, it is the phenomenon of the use of ICTs by the population of conference interpreters and conference interpreter trainers;

b) to assist members of the group under study to clarify and document their needs – by collecting the information on the use of ICTs in the field of conference interpreting worldwide, my intention is to help conference interpreters and conference interpreter trainers understand their colleagues in other regions of the world;

c) to assist in understanding the causes of a problem or phenomenon – presenting what other professionals or trainers of professionals are doing in other corners of the planet can eventually be of aid in understanding the possibilities or on the contrary limitations that individuals or groups may have.

To obtain the data, two separate surveys have been conducted: the first among professional conference interpreters and the second among conference interpreter trainers. The surveys consisted of questionnaires distributed mainly by e-mail but also personally, during the first half of 2008. Most of the responses to these questionnaires were received during the first half of 2008, but a few arrived later in that same year. These questionnaires gave us information about what the CIs think about ICTs in their profession, in a written form. To complement the data obtained in writing through the questionnaires, interviews were conducted in a semi-structured way based on those questionnaires, where subjects responded orally, although their responses were biased by the presence of the conductor of the survey. Observations in the field complemented the triangulation, where the bias was in the conductor of the observations herself, as I had in mind the questionnaires and interviews and my own expectations of what I wanted to study.

The questionnaires (206 responses received from CIs plus 33 from CITs) were elaborated taking into account the research as well as the respondent. That is, when preparing the questionnaires I included the points I wanted to confirm or reject in my hypotheses and research questions, but the respondent was taken into account, first of all, by making it a simple, easy-to-answer electronic questionnaire, where they could mark the replies, and then by providing a short explanation of the concepts presented. There were a few open-ended questions, and there was also room for their own comments on the issues, where several of the respondents included very interesting remarks on several topics. The questionnaires were electronic, and collected the data

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automatically, although a couple of respondents asked to have a Word version because of technological problems. Their replies were later on added to the total.

The data, as explained above, was triangulated with interviews and observations, which were organized and conducted as follows:

The interviews (18 in all) were conducted in an informal way based on the questionnaires, but not strictly adhering to them in order to obtain further information and opinions which could shed light on the subject. They were recorded if the respondent allowed it, which happened in most cases, and with the few that preferred not to be recorded, notes were taken.

The observations (a total of 10) took place in authentic environments, that is, in conferences and public performances in Northern Europe, Central Europe, and the Far East, in 2008 and 2009. My observations were conducted taking into account the replies obtained from the questionnaires and interviews. Given the situations where I conducted the observations, they were mainly focused on the use of ICTs in the booth, as I could not assess from them how the interpreters had prepared beforehand. During the performance of the interpreters, I observed whether they actually used any technologies to search for terms.

Through the input from this triangulated data – the results obtained from questionnaires, interviews, and observations – I obtained the empirical evidence with which to confirm, reform or reject my hypotheses and research questions.

6.1 Major research problems

Three major problems I faced while conducting this study were as follows:

There does not seem to be great interest among professional conference interpreters in sharing their "secret weapons". In practice, this meant that in spite of having distributed almost 3000 questionnaires by e-mail in the Spring (March to May) of 2008, I received only 7.7% in reply. In real numbers, however, there were 220 replies (see section 7.1 for further details). Some interpreters commented on the reluctance that seems to prevail within the profession. Because of my experience with the pilot study, I took special care in wording the questionnaires and the accompanying cover letter, to make them as concise and explicit as possible in order to make them easy to reply to, as it is known that interpreters normally have very tight schedules. Still, I wanted to obtain some significant information, therefore I included a few open questions in the form of

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inviting additional comments, as recommended for that case in some guides to prepare questionnaires (Burgess 2005: 3, McNamara 2005a and 2005b, SySurvey 2002). Of the four possible forms of open-ended questions (unstructured, word association, sentence completion, and story completion), I chose the unstructured form, where respondents can answer in an unlimited number of ways, as it would have the advantage of giving them greater freedom of expression. I realize and have seen in practice the disadvantages of having this form of questions (SySurvey 2002), namely that they are time-consuming to code and the researcher may misinterpret the information provided; and I agree that the best kinds of questions are the closed ones where the surveyor already presents an answer to be marked or ranked (Arsham 1994-2005), as they are easier to analyze. On the other hand, I see the clear advantage, also mentioned by McNamara (2005b), of the meaningful information that can be provided by the respondents when given *carte blanche*. To keep the disadvantages to a minimum, I included in my questionnaire only two unstructured questions (numbers 14 and 15 in the questionnaire) plus space for additional comments (no. 17).

Although ICTs seem to be a "hot" topic in TS, there appears to be a relatively small amount of literature on ICTs related to conference interpreting and to interpreter training (cf. the literature review in section 2.2, where only 1.63% of the titles in the most important list of publications relate to this topic). This does not mean that there is a lack of interest on the part of the professional associations and scholars in research on ICTs, but on the contrary, that it is a field that is now opening for research and there is much to be done.

A third problem, though by no means of less importance, is that the continuous innovations in this field mean that information and research are quickly out-dated. Therefore, the problem has been in keeping up with the latest research.

6.2 Methodological approach

As stated, I work on data analysis. The findings of my surveys are discussed according to the different phases of the simultaneous interpreting process where the ICTs prevail, as well as to the efforts incurred by the conference interpreter during the act of interpreting that ICTs can support, and to the attitudes of conference interpreters and conference interpreter trainers regarding the use of ICTs.

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This results obtained from the analysis of the data will serve as indicators of what is happening in today's professional conference interpreting world regarding ICTs. I am basing the study on the experiential component only, that is, on the interpreter's individual experience, in the hope that this observational study can prepare the way for experimental work in the future (Gile et al. 1997: 111, 118).

The purpose of this study is to look at the use of ICTs without taking any particular language pair into account.

6.3 Materials

To do my research, I carried out – as mentioned – two surveys, one of them among conference interpreters, using as statistical instruments questionnaires, and triangulating the data with face-to-face interviews and observations. The questionnaire forms are included in the Appendix.

I would like to point out that the questionnaires, combined with the interviews and observations, provided ample data to confirm or reject my hypotheses and to my research questions, as well as to clarify some other considerations regarding clichés about the profession. The data might thus be considered to reflect something of the practice, thoughts and concerns of the interpreters, that is, their habitus.

6.4 Procedure

The procedure I follow in this study is data analysis, presenting the results in tables in numbers and percentages whenever necessary, analyzing and comparing each table in light of my hypotheses and research questions, and in correlation with each other.

To analyze the survey data, it is taken into account that I am referring to the universe or target population or inferential population of the professional conference interpreters worldwide, as the ideal population to be studied. From that ideal, I had to compile a list, or frame, of all those conference interpreters whom I could reach. The frame population, in my study, was limited by the availability of e-mail data on those conference interpreters, as because of budgetary restrictions I could not consider printing and sending the questionnaires by regular mail. Another important limitation was the ecological factor, since if I were to employ printed forms to send by mail, it would represent a significant use of natural resources. In any case, the frame population was as close to the target population as these limitations would allow it to be. The

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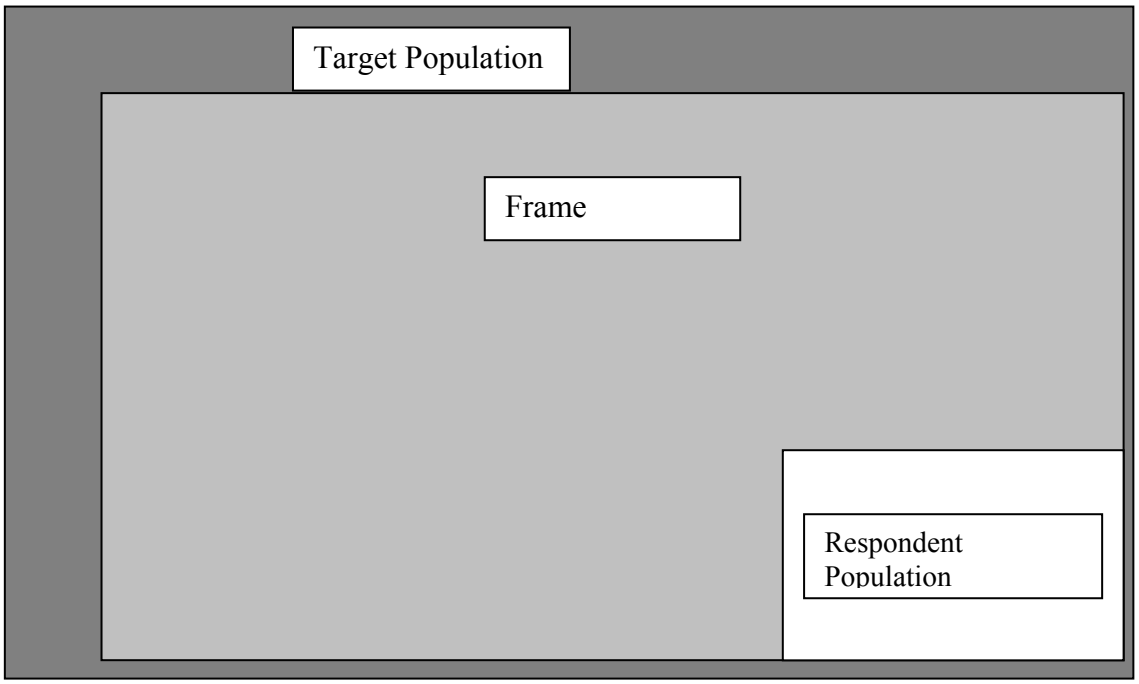
respondent population, in this particular case, was the number of conference interpreters who actually replied the questionnaire or the interview – 220 responses in all, including those that were submitted twice or questionnaires submitted blank, but without considering here the nonrespondent stratum (Biemer and Christ 2008: 318-319).

Figure 6.1. Target, frame and respondent populations



6.5 Variables

The dependent variables I expected to be significant were the different working languages of the conference interpreters, including language direction, and to a lesser extent the geographical location of their workplaces. I had said in the beginning that I would not take a particular language pair into account since my purpose was to investigate only the use conference interpreters make of the ICTs. However, I do expect to find differences because of the availability of ICTs in the various languages and also in the different geographical settings.

As in my pilot study (Berber 2005), there were great differences in the sizes of regional groups of respondents, predominated by the European point of view.

Interestingly enough, another variable that arose during the analysis of the material was that respondents did not always reply to all the basic questions, such as

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gender, age, country, or in-house vs. freelance. This meant that the total number of valid responses varied for each point analyzed.

6.6 About the analysis

Given the number of replies received and mainly due to the presence of representatives from five continents, I feel this study constitutes a meaningful sample that provides insight into the profession as such, and in this analysis I shall try to extract as much significant information as possible.

The analysis itself is conducted in chapters 7 to 9.

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7 Results: The use of ICTs in professional conference interpreting

In its almost half century of existence, Conference Interpreting Research (CIR), also known as SI (Simultaneous Interpreting) research, has always taken other disciplines as resources and inspiration for research in its field. One such model, the model of information processing for speech comprehension, known in short as IP, has been very popular in CIR. This is because IP approaches highlight the difficulty and complexity of SI, showing the multiple tasks it entails as effort-consuming and capacity-constrained (Setton 1999: 34-35).

In his work related to the efforts made in simultaneous interpreting, Gile (1983, 1990a, 1995a, 1997, 1997/2002) emphasizes the difficulties of SI and presupposes that the processes included in SI compete for resources. This is where I envision ICTs as playing a major role in relieving efforts, especially in view of what Gile presents as the two possible causes of processing failure in SI:

(1) overload due to high capacity-consuming features (among them unfamiliar accents, dense listings, written texts read out, unusual linguistic structures, syntactic differences requiring ordering);

(2) features liable to be overlooked (such as numbers or short proper names) (Setton 1999: 37).

7.1 The participants in the survey

For the survey on the use of ICTs by professional CIs, I contacted professional conference interpreters, both in-house and freelance, relying on public lists of conference interpreters (for example, AIIC and national or regional associations) as well as on word-of-mouth (WOM[17]).

As my subjects, I tried to contact not only conference interpreters randomly, but as many as possible of the in-house conference interpreters affiliated with the two largest employers of conference interpreters in the world, namely the European Union in its different institutions and units around the continent, and the United Nations in its

[17] Word-of-mouth, that is, by asking interpreters I knew personally or national associations of interpreters to put me in touch with their colleagues.

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general headquarters in New York City and in the headquarters of others of its units around the world such as Geneva, Vienna, and Nairobi. Besides these main employers of conference interpreters, I also contacted in-house conference interpreters working with other international organizations and national governments. The reason for trying to contact this group more specifically was that I was staring from the assumption that they would be the trendsetters in the profession regarding the use of ICTs because they would have access to the newest technologies available in the market, and that they would also have interest in participating in the survey. This presupposition, however, did not have a solid basis, since for example in some of the international organizations because of financial, cultural, and logistical considerations the introduction of technologies has been rather late, so it was based on a mistaken stereotype.

Of the 2832 questionnaires distributed, 206 replies (204 in electronic and 2 in Word format) were received and 16 interviews were conducted, yielding a total of 222 responses (that is, 7.8% of the total distribution), and in addition ten field observations. The questionnaires were distributed in the second half of 2007 and the first half of 2008 and the responses were received mainly in that same period, although a few arrived later in 2008. The interviews were conducted in 2008 and 2009, as were the field observations.

The number of replies to the questionnaires fell below my expectations, since in the pilot study conducted previously (Berber 2005, see footnote 3 in section 1.2 for further details) I distributed 400 questionnaires and the percentage of replies was then on the order of 14.75% (59 replies). In spite of the low response in percentage terms, I consider this to be a fairly valid representation of the profession. The AIIC, the world association of conference interpreters, has 2879 members, and the number of my contacts was in the same order as its total membership. Also, the number of responses falls well above the limits of an optimal group size for computer mediated communication for obtaining information and exchanging experience, where the lower size limit would be from 20 to 50 participants (Palme 1995:2), a limit which, although it cannot be considered in absolute terms, gives us a point of reference. These responses represent 45 different countries of the 192 member states registered at the United Nations (2009), that is, 23% of the total member states, and the responses are from five continents. The 45 different countries represent, on the other hand, 46% of the countries where AIIC has members (98 countries).

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The 2832 conference interpreters I contacted represent the total number of publicly registered conference interpreters whose e-mail addresses were listed, plus many others who are not on lists publicly available but who were reached through WOM.

I analyze the differences in the use of ICTs around the world by dividing it into eleven regions: 1) Northern Africa, 2) Sub-Saharan Africa; 3) North America, 4) Latin America and the Caribbean; 5) Middle East and Western Asia, 6) Central Asia, 7) Far East; 8) Northern Europe, 9) Central Europe, 10) Southern Europe, and 11) Oceania. My division of regions and subregions is loosely based on the UN definition of regions (UN 2009) and it aims at facilitating geographical distributions without pinpointing countries so as to avoid prejudice and stereotyping, directly or indirectly, of the conference interpreters themselves. Some of the respondents specified that they did not wish to be identified in any way, therefore, to protect their identity, I am listing the responses by regions and subregions only, as in a few instances there was only one reply per country. The distribution of respondents by regions is listed in Table 7.1.

Table 7.1. Distribution of conference interpreter respondents by region

Region	Replies received	Percentage of total replies
AFRICA	**13**	**6.22**
Northern Africa	5	2.39
Sub-Saharan Africa	8	3.83
AMERICAS	**30**	**14.35**
North America	15	7.18
Latin America and Caribbean	15	7.18
ASIA	**18**	**8.61**
Middle East and Western Asia	14	6.70
Central Asia	1	0.48
Far East	3	1.44
EUROPE	**144**	**68.89**
Northern Europe	18	8.61
Central Europe	110	52.63
Southern Europe	16	7.67
OCEANIA	**4**	**1.92**
Total	209	100.00

There were more replies than those reported here, a total of 220, but some had to be eliminated because they were submitted twice, or the questionnaire was blank. In other cases some of the respondents did not state in which region they worked, while others quoted two countries, often in different regions. One of the most important outcomes is that Table 7.1 shows that the largest group of respondents, by far and without taking into consideration the 1.4% of respondents who did not reply in which country or region

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they worked, comes from Western countries (Europe and North America) with 76.07% of the replies. This broadly corresponds to the AIIC (2010a) classification of its members by region.

In our total replies to questionnaires and interviews, women are clearly predominant, as illustrated in Figure 7.1, a situation which is similar to the representation of gender in the membership of AIIC (AIIC 2010b). In our respondents, we had 150 women, representing 68% of the 220 respondents, plus 62 men representing 28%, plus 8 nonsex respondents representing 4%. In AIIC there are 2,153 female members, that is, 75% of the total members, and 724 male members, 25% of the total membership.

Figure 7.1. Sex ratio of respondents

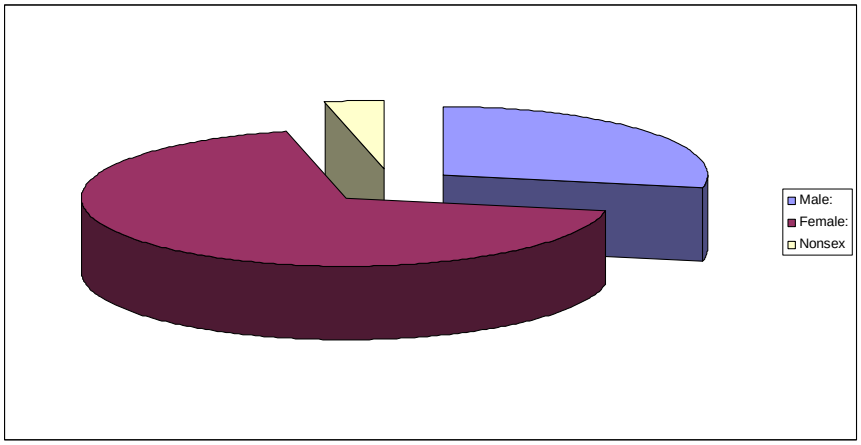

Table 7.2 gives the details of the sex ratio according to the format of response. It is worth noting that only in the electronic format were there eight "nonsex" respondents. The reason could have been simply overlooking the question, or to have assumed the gender could be easily elicited from the first name. Those responses, due to uncertainty, have been placed under the category of "nonsex".

Table 7.2. Sex ratio of respondents by format of response

Format of response	Women respondents	Men respondents	Nonsex respondents
Electronic	139	57	8
Word format	1	1	
Interviews	10	4	
TOTAL	150	62	8

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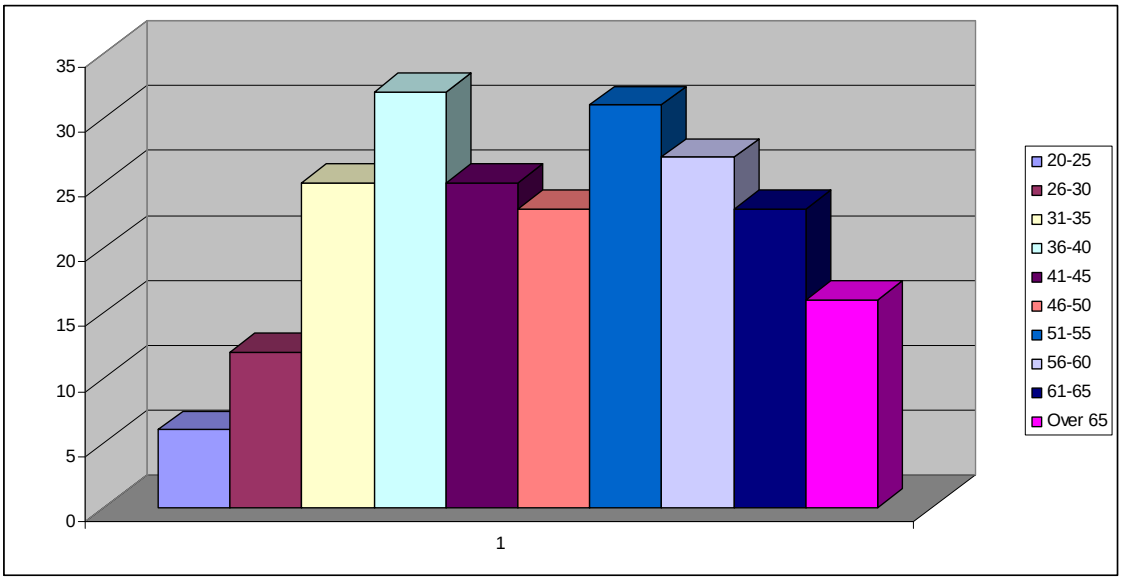
The age of the conference interpreters is also a component of my questionnaire. In Figure 7.2 the general age composition of the participants in the survey can be seen.

Figure 7.2. Age composition of the respondents



It was a very positive surprise to receive responses from so many representatives over 65 (16 respondents), who are active and interested in the developments in the profession, especially in the technological aspect. The largest numbers of respondents were in the age groups of 36-40 (32) and 51-55 (31), that is, well-consolidated interpreters. Interpreters in the age ranges of 31-35 (25), 41-45 (25), 46-50 (23), 56-50 (27), and 61-65 (23), represent the average. At the lower end of the scale are the youngest conference interpreters, 20-25 (only 6 respondents) and 26-30 (12). An explanation for this may lie in conference interpreting often being very a graduate course, so not many within that age group have completed their studies. Unfortunately this cannot be compared with AIIC figures as they do not list the age groups of their members.

Of the two categories – in-house and freelance – of professional conference interpreters, the distribution according to the format of their responses is detailed in Table 7.3.

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Table 7.3. Distribution of in-house and freelance categories by format of response

Format of response	EU, UN, other international organizations, national governments		Private sector	
	In-house	Freelance	In-house	Freelance
Electronic	30	80	2	92
Word format		2		
Interviews	5	4		5

In all, there were 35 in-house and 86 freelance interpreters from the EU, UN, other international organizations, and national governments, plus two in-house and 97 freelance from the private sector. This gives us in all 37 in-house and 183 freelance respondents.

It is interesting to note how many of the interpreters are in-house in the EU, UN, other international organizations, and national governments, and how many are ascribed to these institutions on a freelance basis, as well as how many are in-house in the private sector and totally freelance. This may provide some insight regarding the profile of the CIs, especially if the hi-tech CIs tend to be ascribed to major international organizations or national governments or not, which is one of my research questions. In the chart in Figure 7.3 the importance of the freelance market, whether in the private sector or in the major international and national institutions, is evident. The in-house interpreters constitute less than 50% in the case of the international and national institutions, while in the private sector their existence is very limited. This, again, cannot be compared to the AIIC figures since they do not provide this information about their members.

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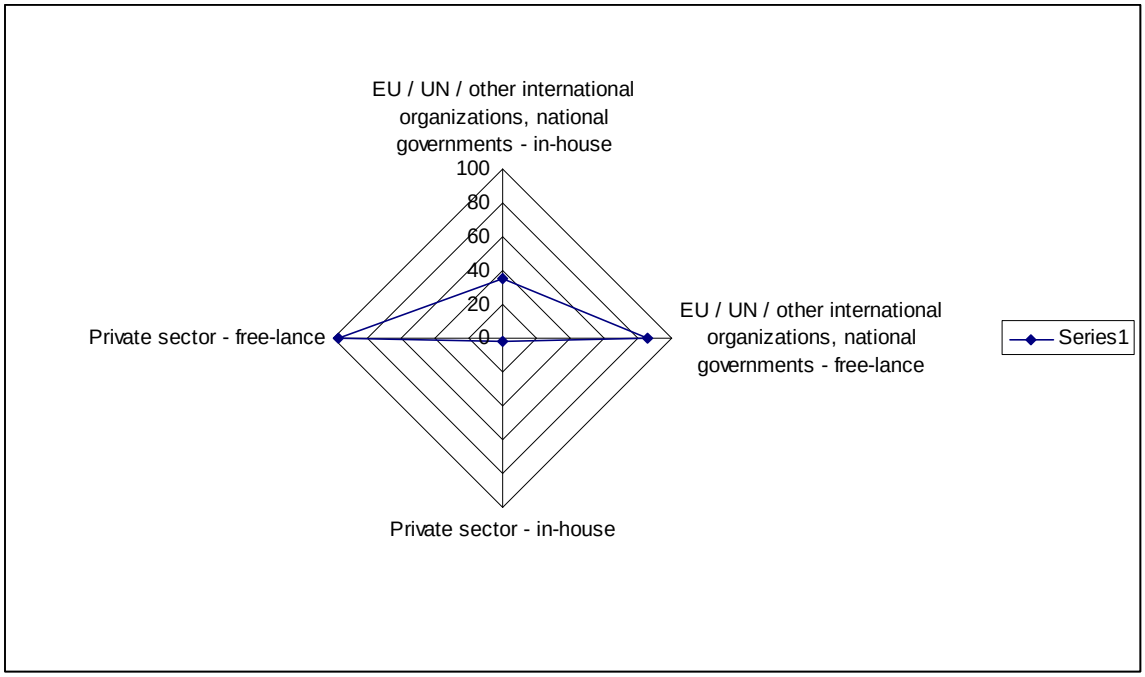
Figure 7.3. In-house and freelance ratio in public institutions and in the private sector



Other important factors for this study are the languages and language combinations of the conference interpreters, as they affect the availability of ICTs and therefore access to ICTs on the part of the conference interpreters.

Table 7.4 shows the distribution of respondents according to the languages they work with. The codes employed to represent the names of the languages are taken from the ISO 639.2 list (ISO 639.2 2009), and I have used the alpha-2 code which consists of only 2 letters, since many of the respondents employed precisely those codes, rather than the alpha-3 code consisting of 3 letters.

Table 7.4. *Distribution of respondents according to languages they work with*

Language they work with		**No. of respondents**
Arabic	AR	8
Catalan	CA	3
Chinese	ZH	2
Czech	CS	2
Danish	DA	9
Dutch	NL	12
English	EN	206
Finnish	FI	23
French	FR	151
German	DE	86
Greek	EL	4
Hebrew	HE	1
Hungarian	HU	2

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Italian	IT	50
Korean	KO	1
Lithuanian	LT	1
Norwegian	NO	4
Polish	PL	1
Portuguese	PT	33
Romanian	RO	3
Russian	RU	12
Slovak	SK	2
Spanish	ES	100
Swedish	SV	16
Turkish	TR	23

One assumes in general that English is one of the working languages for most interpreters, and this assumption is confirmed by the figures presented here and which coincide totally with the AIIC (2010c) charts, where English, French, Spanish, and German also dominate, followed by Italian. What should be highlighted in this list is that there are languages that are overrepresented, for example Finnish, where 37 Finns are members of AIIC of a total of 2879 members, that is, 1.3%, while in this list the 23 Finnish language respondents represent 10.5%. On the other hand, there are notable absences, concretely of Japanese.

There are 25 languages represented in this study, representing five language families. Of these, four are major language families: Indo-European, Sino-Tibetan, Afro-Asiatic, and Altaic, and one minor family: Uralic. The languages and language families are distributed as follows:

- Afro-Asiatic family (Semitic branch: Arabic and Hebrew)
- Altaic family (Korean and Turkish)
- Sino-Tibetan family (Chinese)
- Indo-European family (Germanic branch: Dutch, English, German; Scandinavian branch: Danish, Norwegian, Swedish; Hellenic branch: Greek; Romance: French, Italian, Portuguese, Romanian, Spanish, Catalan; Slavic branch: Czech, Slovak, Polish, Russian; Balto-Slavic: Lithuanian)
- Uralic family (Finno-Ugric branch: Finnish; Ugric branch: Hungarian).

This classification allows us to see the variety of language families, both major and minor, represented in this study.

For further clarity, I am presenting the languages by proportion of total replies in Figure 7.4, where the domination of English, French, German, and Spanish is

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illustrated, and where one can see how Finnish and Hungarian have a comparatively higher representation than other less extended languages.

Figure 7.4. Working languages of the respondents

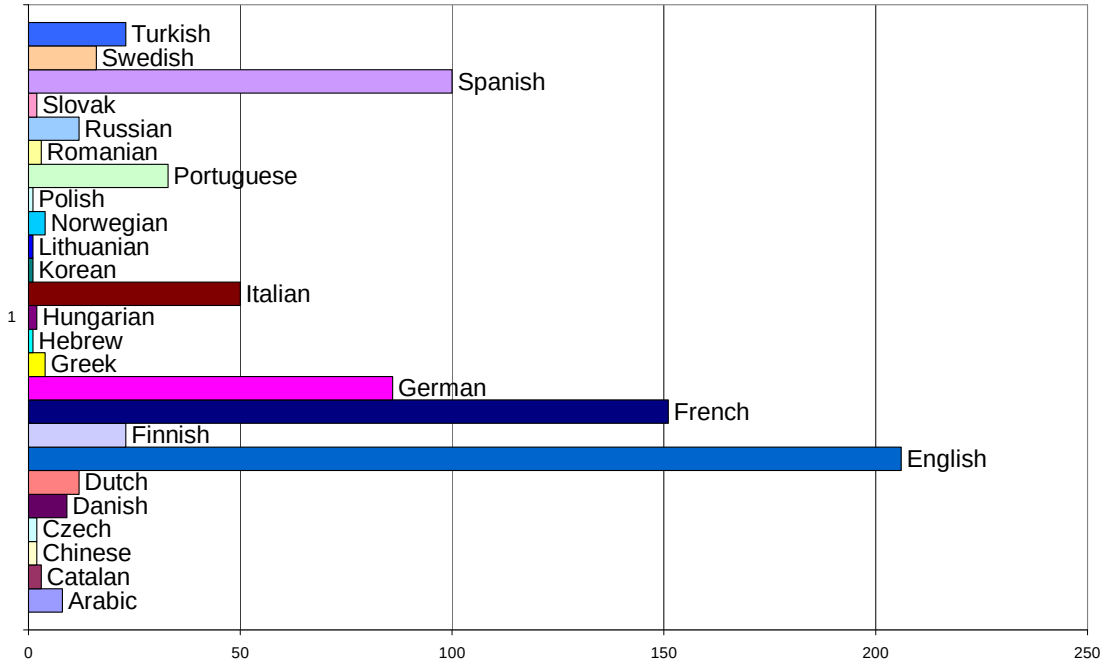

Table 7.4 and Table 7.5 complement each other and add information about language combinations and directionality that will eventually help in testing my question in relation to the availability of ICTs, which may be restricted according to the languages involved.

Table 7.5 also sheds light on the languages that are pivotal in conference interpreting today. When compared to my pilot study (see footnote 3 in section 1.2), it shows that new languages are appearing on the scene with great force. Of particular importance is Chinese, where conference interpreting has undergone burgeoning growth, increasing from 794 test takers in 1995 to 81,000 test takers in 2005 (Zhang 2006), an increase which has its origins mainly in the globalization process, but also in more concrete events such as the Olympic games of 2008 in Beijing and the World Expo in Shanghai in 2010. These figures also highlight the change that is taking place in the distribution of users of the Internet presented in Figure 6.2 in chapter 6.

With the 25 languages presented in Table 7.4, the respondents worked in a total of 127 combinations, many of them with only one interpreter in our sample (55, that is, 43%). Although this was a worldwide survey, the language combinations that are mostly used include as source and target languages the major European languages.

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Table 7.5. Distribution of respondents according to language combinations

No. of respondents per combination	Language combination and direction in order of source language
58	EN-FR
57	FR-EN
43	EN-DE
42	EN-ES
33	ES-EN
31	FR-DE
30	DE-EN
26	ES-FR
25	FR-ES
24	ES-DE
21	DE-FR
16	PT-EN
15	EN-IT
14	EN-FI / FR-IT / IT-EN
13	EN-TR
12	TR-EN
11	DE-ES / IT-FR, IT-DE
10	ES-IT
9	EN-PT / FR-FI / PT-FR
8	EN-RU / IT-ES / PT-ES / ES-PT
7	DE-IT / RU-EN
6	EN-AR / FI-EN / ES-FI
5	AR-EN / DA-EN / FR-PT /DE-FI / PT-DE / SV-FI
4	NL-EN / EN-DA, EN-NL / FI-SV / FR-AR / DE-PT, DE-SV / IT-PT /SV-DE
3	AR-FR / DA-DE / EN-SV / FI-FR / FR-NL, FR-RU, FR-SV / PT-IT / RU-FR / SV-EN /
2	ZH-EN / DA-SV / NL-FR, NL-DE / FI-ES / FR-TR / DE-DA, DE-NL / EL-DE / IT-FI / NO-EN / RO-FI / ES-RU
1	CA-EN, CA-FR, CA-DE, CA-IT, CA-ES / ZH-FR / CS-DE, CS-PL / NL-IT, NL-RU / EN-CA, EN-ZH, EN-CS, EN-EL, EN-HU, EN-KO, EN-LT, EN-NO, EN-PL / FI-PT / FR-CA, FR-EL, FR-HU / DE-AR, DE-CS, DE-PL, DE-TR / EL-EN, EL-ES / HE-ES / HU-EN, HU-FR, HU-DE / IT-NL, IT-SV, IT-TR / KO-EN / LT-EN / NO-DE, NO-SV / PL-CS, PL-EN / PT-FI / RO-SP / RU-NL, RU-IT, RU-LT, RU-SP, RU-SV / SK-CS, SK-DE, SK-PL / SV-DA / TR-FR, TR-IT

In the distribution of language combinations according to how many interpreters work with them, shown in Table 7.5, a microcosmos appears of what is occurring in the conference interpreting world: the same European languages continue to dominate, with English leading both as a source and a target language. French, German, and Spanish follow although not very closely, but also dominating in the market. It should be noted, however, that English as a source and target language is also found at the other end of the spectrum, among the combinations worked in by only one or two respondents. Once again, surprising absences appear: we have no French into Chinese, although there is Chinese into French. To complement this information, in Table 7.6 I show the number of conference interpreters with each of the three major source or target languages.

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Table 7.6. The three major source (SL) and target (TL) languages

ENGLISH SL	ENGLISH TL	FRENCH SL	FRENCH TL	GERMAN SL	GERMAN TL
Number of CIs with corresponding major source or target language					
225	206	159	137	88	130

7.2 On the working environments of the CIs

As mentioned in the definitions in section 4.1, there are said to be only three "domains" in which interpreters work. Thus in my questionnaires I have preferred the terms "settings" or "nature of meetings", as expressions which would give me more flexibility when presenting the possible environments where interpreters work. Interestingly, several interpreters mentioned particular fields such as chemistry, politics, technology and medicine, or even subdivisions of those fields, such as AIDS.

Table 7.7 presents the settings and then the fields and the subdivisions of fields mentioned by the respondents. In the questionnaire I had specified the sub-fields that could be comprised in the field, for example: Academic (arts and humanities, science, technology, etc.), Business (trade and commerce, economics, science, technology, etc., the latter two taking into consideration the relationship with trade that there could be in these), Diplomatic (negotiations, international political issues, etc.), Politics (human rights, women's rights, children's rights, religion, terrorism, etc.). I added Politics as a setting since in spite of having powerplay similar to that of the Diplomatic domain, it is not usually between countries but between factions, and the aim is not usually to solve a conflict peacefully but to gain power.

Table 7.7. The settings (work environments) of conference interpreters

SETTING				**FIELD**	
Academic	**Business**	**Diplomatic**	**Politics**		
Number of Cis who reported working in each setting or field (Percentage of all respondents)					
130 (61)	184 (86)	157 (73)	169 (79)	**Arts**	1 (0.5)
				Culture and cultural heritage	2 (0.9)
				Education	2 (0.9)
				Energy	1 (0.5)
				Renewable energies	1 (0.5)
				Environment	3 (1)
				Forestry	1 (0.5)
				Fisheries	1 (0.5)
				Aquaculture	1 (0.5)
				Livestock	1 (0.5)
				Agriculture	3 (1)
				Law	20 (9)
				Court hearings	1 (0.5)
				International tribunals	1 (0.5)
				Media, TV broadcasts	6 (3)
				Publishing houses	1 (0.5)

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Medicine	21 (10)
Pathologies	1 (0.5)
AIDS	2 (0.9)
Pharmaceutical	2 (0.9)
Sexology	1 (0.5)
Military	1 (0.5)
Science	2 (0.9)
Weather forecasting	1 (0.5)
Social	1 (0.5)
Development Aid	2 (0.9)
Tourism	3 (1)
Sports	5 (2)
Football (soccer)	2 (0.9)
Technology	8 (4)
Engineering	1 (0.5)
Materials' testing	1 (0.5)
Regularization of chemicals	1 (0.5)
Automotive sector	2 (0.9)
Petrochemicals	1 (0.5)
Pipelines	1 (0.5)
Mining	1 (0.5)
Trade and commerce	2 (0.9)
Finance and banking	6 (3)
Insurance	1 (0.5)
Market research	2 (0.9)
Bureaucratic	1 (0.5)
Administrative	2 (0.9)
General assemblies	1 (0.5)
Trade unions	5 (2)
Trade marks and patents	2 (0.9)

Some of the respondents mentioned specific institutions such as international organizations. However, these have not been included in this table as they do not reflect the setting or field, but rather only the place or physical framework of the meeting.

In the settings, Business (86%) ranks the highest, with Politics (79%) in second place and Diplomatic (73%) in a close third place. The fields that had the highest percentage, without taking into account the subdivisions mentioned, were Medicine (10%), Law (9%), and Technology (8%), and following them with a much lower percentage were Finance and banking, and the Media, both with 3%. I have tried to group the fields mentioned by the respondents, without adding any specific title when I have considered them as subdivisions of the fields.

Besides allowing us to know the respondents better, this table could be of use for prospective conference interpreters to see what areas they might want to channel their studies and knowledge into, as well as for trainers who may want to see which settings and fields are most in demand, in order to prepare syllabi accordingly.

7.2.1 The usage of ICTs by conference interpreters

The first aspect I will explore here is the usage of the different categories of ICTs according to the different variables: region, gender, age, in-house/freelance, as well as an overview of which ICTs listed in the questionnaire are most widely used and which

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seem to be used to a lesser extent. The initial result is that all ICTs presented were in use; none appeared not to be used at all.

I shall start by presenting the general usage of the ICTs. Table 7.8 shows an overview of the level of usage of each individual type of ICTs, regardless of the phase when interpreters use them or the frequency with which the ICTs are used.

Table 7.8. Level of usage of individual types of ICTs

ICTs	Amount	Percentage of total 213 users
search engines	203	95%
online dictionaries	176	83%
online encyclopedias	149	70%
terminology data bases	188	88%
electronic norms manuals	152	71%
parallel texts	68	32%
DIY (do-it-yourself) corpora	108	51%
pocket electronic dictionaries	65	31%
CD-ROM dictionaries	116	54%
CD-ROM encyclopedias	77	36%
CD-ROM terminology databases	73	34%
remote interpreting	91	43%
videoconferencing	110	52%
telephone interpreting	78	37%

Considering that the Internet is the key to many of the resources, it is interesting that some of the interpreters did not indicate that they used the Internet. This could be caused by their reasoning that if they marked the online resources, it would be obvious that they had used the Internet to reach them.

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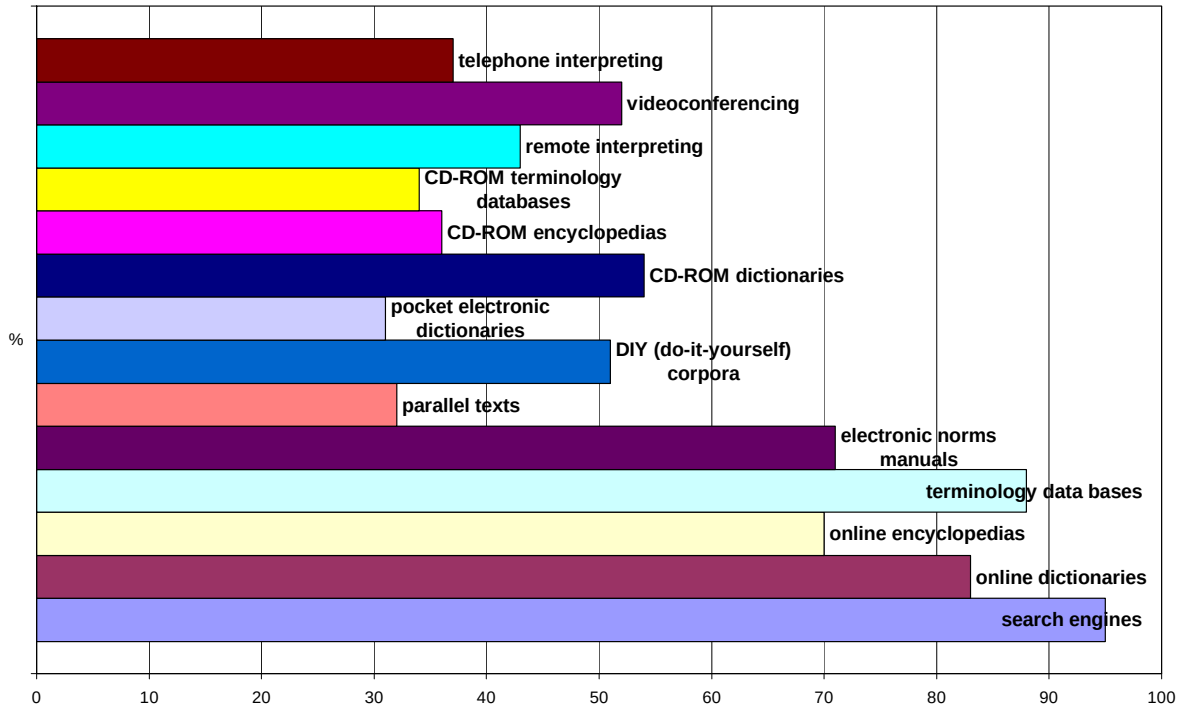
Figure 7.5. Graphic view of the level of usage of individual types of ICTs



In Figure 7.5 the ICTs are presented first those that are available online (a to f), then those offline (g to k), and finally the distance modes of interpreting (l to n). This order of the ICTs is repeated throughout the tables and figures as it was the way they were presented in the questionnaires and interviews.

Figure 7.5 already shows a pattern of what is occurring in the usage of ICTs: those that are clearly most used are the online resources (a to f), although evidently electronic norms manuals (f) constitute an exception in the usage of online resources. On the right hand side of the chart are found the three distance modes of interpreting, and it can be seen that they are gaining momentum, slowly but steadily. When comparing these results to those obtained in my pilot study (Berber 2005, see footnote 3 in section 1.2 for details), remote interpreting rose from 20% in 2005 to 43% today, videoconferencing from 27% to 52%, both modes doubling or almost doubling the use; while telephone interpreting had a much more modest increase: from 36% to 37%.

7.2.2 Usage of ICTs by region

The difference in use according to region is one of the variables in our hypotheses presented in chapter 3. The figures obtained for this point are presented in Table 7.9.

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Table 7.9. Use of ICTs by region and subregion

REGION AND SUBREGION (number of respondents in region or subregion)	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
AFRICA	13	10	9	12	9	6	4	4	6	3	7	3	6	3
(% of 13)	(100)	(77)	(69)	(92)	(69)	(46)	(31)	(31)	(46)	(23)	(54)	(23)	(46)	(23)
Northern	5	3	3	5	3	1			2		1		3	
Africa (5)	(100)	(60)	(60)	(100)	(60)	(20)			(40)		(20)		(60)	
	(2)	(1)	(1)	(2)	(1)	(0.5)			(0.9)		(0.5)		(1)	
Sub-Sarahan	8	7	6	7	6	5	4	4	4	3	6	3	3	3
Africa (8)	(100)	(88)	(75)	(88)	(75)	(63)	(50)	(50)	(50)	(38)	(75)	(38)	(38)	(38)
	(4)	(3)	(3)	(3)	(3)	(2)	(2)	(2)	(2)	(1)	(3)	(1)	(1)	(1)
AMERICAS	26	25	21	27	21	11	12	13	18	11	11	17	19	18
(% of 30)	(87)	(83)	(70)	(90)	(70)	(37)	(40)	(43)	(60)	(37)	(37)	(57)	(63)	(60)
North	14	12	11	13	11	7	5	7	9	7	7	9	8	9
America (15)	(93)	(80)	(73)	(87)	(73)	(47)	(33)	(47)	(60)	(47)	(47)	(60)	(53)	(60)
	(7)	(6)	(5)	(6)	(5)	(3)	(2)	(3)	(4)	(3)	(3)	(4)	(4)	(4)
Latin America	12	13	10	14	10	4	7	6	9	4	4	8	11	9
and the	(80)	(87)	(67)	(93)	(67)	(27)	(47)	(40)	(60)	(27)	(27)	(53)	(73)	(60)
Caribbean (15)	(6)	(6)	(5)	(7)	(5)	(2)	(3)	(3)	(4)	(2)	(2)	(4)	(5)	(4)
ASIA	18	17	13	17	14	6	10	6	6	6	7	7	9	6
(% of 18)	(100)	(94)	(72)	(94)	(78)	(33)	(56)	(33)	(33)	(33)	(39)	(39)	(50)	(33)
Middle East	14	14	12	13	11	4	8	3	3	4	4	4	6	5
and Western	(100)	(100)	(86)	(93)	(79)	(29)	(57)	(21)	(21)	(29)	(29)	(29)	(43)	(36)
Asia (14)	(7)	(7)	(6)	(6)	(5)	(2)	(4)	(1)	(1)	(2)	(2)	(2)	(3)	(2)
Central Asia	1	1	1	1	1	1	1	1	1	1	1	1	1	1
(1)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)
	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
Far East (3)	3	2		3	2	1	1	2	2	1	2	2	2	
	(100)	(67)	(0)	(100)	(67)	(33)	(33)	(67)	(67)	(33)	(67)	(67)	(67)	(0)
	(1)	(0.9)	(0)	(1)	(0.9)	(0.5)	(0.5)	(0.9)	(0.9)	(0.5)	(0.9)	(0.9)	(0.9)	(0)
EUROPE	139	122	98	127	98	50	82	43	79	53	46	60	72	48
(% of 209)	(67)	(58)	(47)	(61)	(47)	(24)	(39)	(21)	(38)	(25)	(22)	(29)	(34)	(23)
Northern	17	13	9	15	14	5	15	6	9	6	7	5	7	5
Europe (18)	(94)	(72)	(50)	(83)	(78)	(28)	(83)	(33)	(50)	(33)	(39)	(28)	(39)	(28)
	(8)	(6)	(4)	(7)	(7)	(2)	(7)	(3)	(4)	(3)	(3)	(2)	(3)	(2)
Central	106	95	77	100	72	40	57	34	60	39	33	47	55	34
Europe (110)	(96)	(86)	(70)	(91)	(66)	(36)	(52)	(31)	(55)	(36)	(30)	(43)	(50)	(31)
	(51)	(46)	(37)	(48)	(34)	(19)	(27)	(16)	(29)	(19)	(16)	(23)	(26)	(16)
Southern	16	14	12	12	12	5	10	3	10	8	6	8	10	9
Europe (16)	(100)	(88)	(75)	(75)	(75)	(31)	(63)	(19)	(63)	(50)	(38)	(50)	(63)	(56)
	(8)	(7)	(6)	(6)	(6)	(2)	(5)	(1)	(5)	(4)	(3)	(4)	(5)	(4)
OCEANIA	4	4	3	4	4	1	3	2	3	1	2	1	3	2
(% of 4)	(100)	(100)	(75)	(100)	(100)	(25)	(75)	(50)	(75)	(25)	(50)	(25)	(75)	(50)
	(2)	(2)	(1)	(2)	(2)	(0.5)	(1)	(0.9)	(1)	(0.5)	(0.9)	(0.5)	(1)	(0.9)

After each subregion the total number of respondents of that subregion is listed in parentheses. To facilitate the reading of the table, the percentages have been rounded up to the nearest whole number, except when <1. The totals per subregion upon which the percentages of users of particular ICTs are calculated include persons who responded saying they do not use ICTs at all. It is worth mentioning that the two non-users of ICTs – the ones who did not mark any at all of the ICTs presented in the questionnaires or

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during the interviews – come from Europe. The only blank spaces in the table are in Northern Africa, as DIY corpora, pocket electronic dictionaries, CD-ROM encyclopedias, as well as two modes of distance interpreting, remote and telephone interpreting, which were not reported as being in use. This is a surprising state of affairs, because one might consider that the modes of distance interpreting could be sold in somewhere like northern Africa as an economic solution in view of the enormous distances in that continent. The explanation could be that most of the CI there work for international organizations and there is no need to travel to other venues. On the other hand, the Internet is used by 100% of the CIs in the entire African region, a phenomenon which is only repeated in Asia, Oceania, and the subregion of Southern Europe. In the Far East, telephone interpreting is again reported as not being used, and none of the users report using online encyclopedias. In Northern Europe a very low use of electronic norms manuals is reported, which is consistent with the general trend in use of ICTs, but also of remote and telephone interpreting. In fact, the use of electronic norms manuals, remote and telephone interpreting, proves to be very low in all regions.

Figure 7.6. Graphic view of the usage of ICTs by region

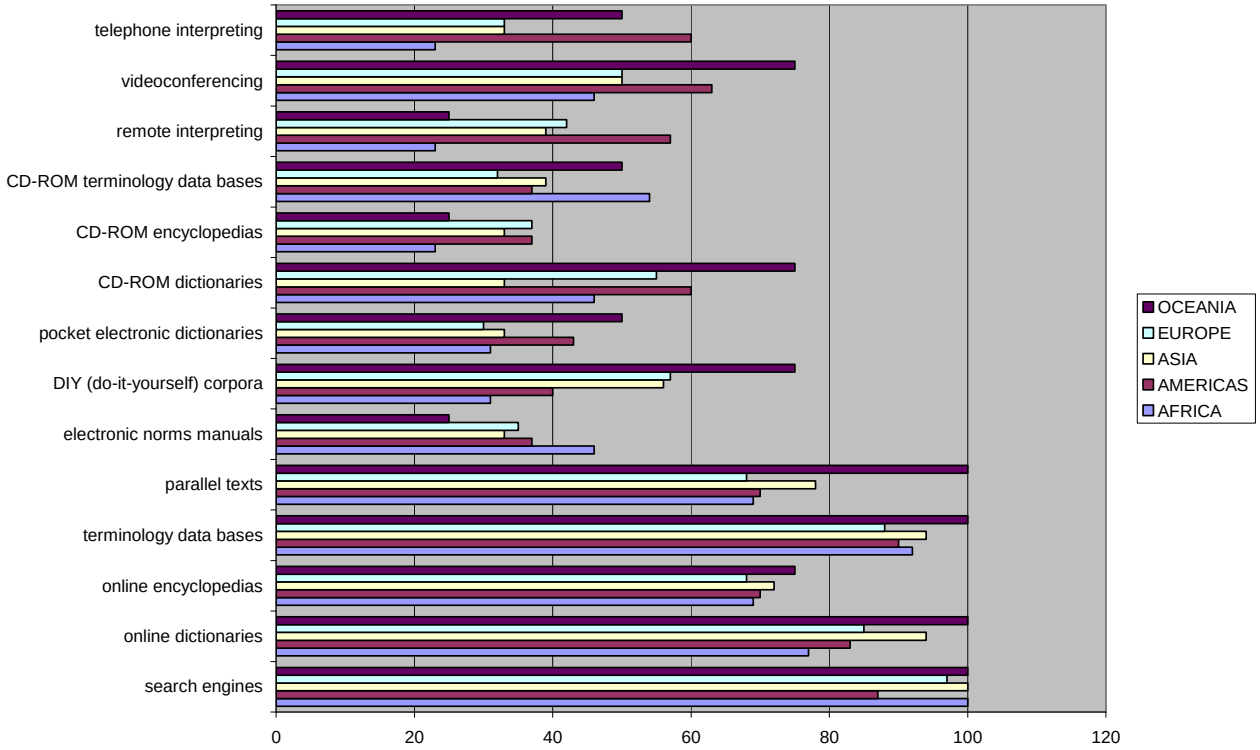

Figure 7.6 shows at a glance the pattern that is emerging: a fairly even one, with ICTs being used quite evenly in all continents. This is in strong contrast to the results

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obtained during the pilot study, where there was only one country where all the tools presented as options were used, and those where fewer tools were used were countries located in Latin America and Africa. Today, only in Northern Africa was it reported that they did not use three of the ICTs presented as options. In the rest of the world, all were used.

7.2.3 Usage of ICTs by gender and age group

The difference in use of ICTs according to gender figures in our research question number one in chapter 3. Table 7.10 shows the actual number of users of each ICT according to gender. From the total number of responses, which include the interviews, 204 were analyzed for the table. The total number of men was 61, of which two reported not using ICTs at all. The total amount of women was 143, of which one reported not using ICTs at all. This means that although the number of male respondents constituted around one third of the number of female respondents, the non-users of ICTs were double, two male non-users (3% of all male respondents) vs. one female non-user (0.7% of all female respondents). The percentage of users within the gender does not take into account the non-users of ICTs. The results obtained here confirm what is known empirically in the field: that female CIs are more technologically inclined than their male counterparts, and they tend to use a wider variety of ICTs. This is a phenomenon that had already appeared in our pilot study in 2005.

Table 7.10. Use of ICTs by sex

Real number
(percentage of users within the sex)

Sex	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
MEN	56	48	41	48	40	15	26	20	36	22	22	26	29	19
	(95)	(81)	(70)	(81)	(68)	(25)	(44)	(34)	(61)	(37)	(37)	(44)	(49)	(32)
WOMEN	138	122	109	135	110	56	82	41	80	50	50	62	75	59
	(97)	(86)	(77)	(95)	(78)	(39)	(58)	(29)	(56)	(35)	(35)	(44)	(53)	(42)

Exploring further the usage by sex, in the chart presented in Figure 7.7, where the percentage of usage of ICTs is calculated within the sex, the use is fairly evenly distributed between the sexes except in the case of pocket electronic dictionaries, where

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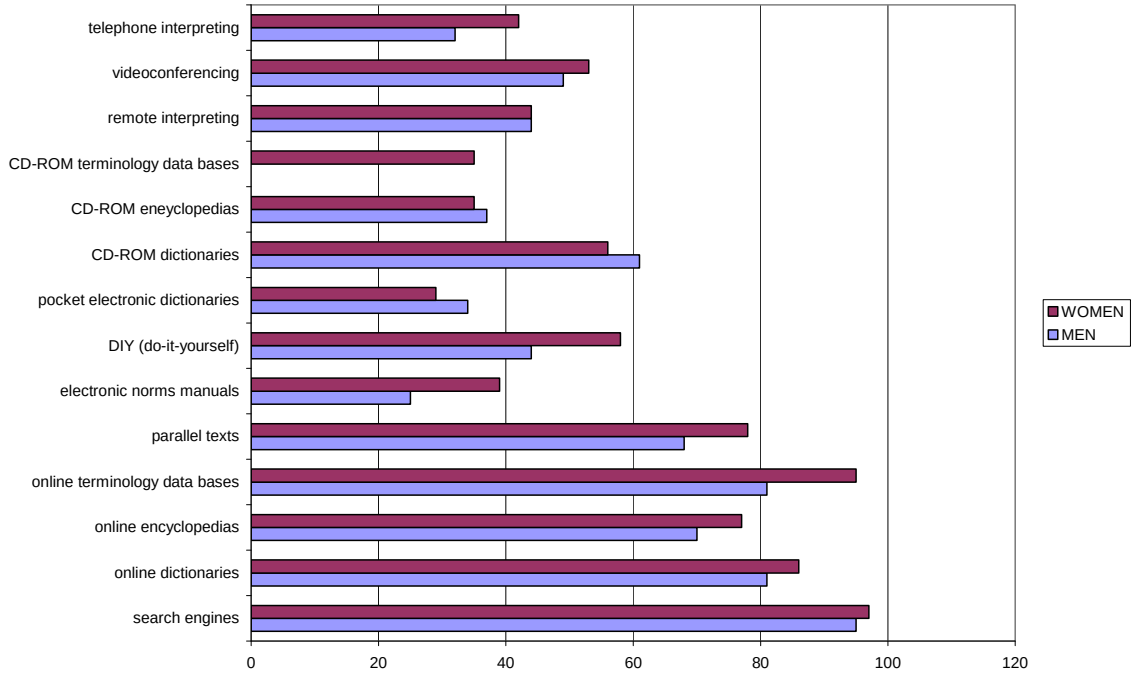
men tend to use more this type of offline ICTs. Women tend to use more electronic norms manuals, and to a slightly lesser extent DIY corpora, than men. It is interesting to note that both men and women use remote interpreting evenly, but on average women tend to use more online resources and DIY corpora than the rest of offline resources.

Figure 7.7. Graphic view of the usage of ICTs by sex



The difference in use of ICTs according to age is in the focus of our research question number two in chapter 3. Table 7.11 presents such differences.

Table 7.11. The usage of ICTs according to age

ICTs
Number
(percentage of users within the age group)

Age	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
20-25	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)	1 (100)
26-30	12 (100)	12 (100)	11 (92)	11 (92)	10 (83)	7 (58)	9 (75)	5 (42)	9 (75)	8 (67)	7 (58)	7 (58)	6 (50)	5 (42)
31-35	22 (92)	18 (75)	13 (54)	19 (79)	18 (75)	8 (33)	11 (46)	7 (29)	12 (50)	11 (46)	7 (29)	9 (38)	8 (33)	6 (25)
36-40	28 (93)	26 (87)	25 (83)	28 (93)	23 (77)	10 (33)	24 (80)	8 (27)	18 (60)	11 (37)	11 (37)	10 (33)	13 (43)	9 (30)
41-45	27 (100)	21 (78)	19 (70)	22 (82)	16 (59)	10 (37)	15 (56)	10 (37)	16 (59)	10 (37)	11 (41)	11 (41)	15 (56)	12 (44)
46-50	22	22	17	22	18	7	10	8	10	5	4	7	11	8

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	(96)	(96)	(74)	(96)	(78)	(30)	(44)	(35)	(44)	(22)	(17)	(30)	(48)	(35)
51-55	29	24	20	27	26	10	15	9	18	13	14	11	17	14
	(97)	(80)	(67)	(90)	(87)	(33)	(50)	(30)	(60)	(43)	(47)	(37)	(57)	(47)
56-60	24	23	12	24	14	5	10	9	13	7	10	14	19	9
	(96)	(92)	(48)	(96)	(56)	(20)	(40)	(36)	(52)	(28)	(40)	(56)	(76)	(36)
61-65	24	20	16	23	16	10	12	6	13	7	10	12	13	9
	(100)	(83)	(67)	(96)	(67)	(42)	(50)	(25)	(54)	(29)	(42)	(50)	(54)	(38)
>65	13	11	9	12	9	3	3	1	5	2	2	6	7	4
	(100)	(85)	(69)	(92)	(69)	(23)	(23)	(8)	(39)	(15)	(15)	(46)	(54)	(31)

While in other parts of the questionnaire the respondents did not always answer the question, in this particular age question all respondents clicked on an age group, so the only questionnaires eliminated were those which were submitted twice or were completely blank. Again, the percentage of users within the age group does not take into account the non-users of ICTs. Among the 213 respondents, there were four non-users of ICTs, representing 2% of the total. These non-users are located in the extremes, as they belong to either the youngest or oldest groups: one in 20-25, one in 31-35, one in 56-60, and one in over 65. Interesting insight into this phenomenon was offered by one of the youngest interviewees, who responded that not using ICTs was due to lack of experience, as at that stage conference interpreters have to concentrate totally on the process of interpreting before they can think of using any additional appliances which can be very distracting, until they master the process to the extent of doing it automatically. However, in the youngest group there was one non-user, while the other conference interpreter in that age group reported using all the ICTs mentioned in the questionnaire. Although in the table it would seem that 100% of the users in that group use all the ICTs presented, it actually stands for only 50% of the users in that particular group, as the other user, the other 50%, said that he did not use any at all.

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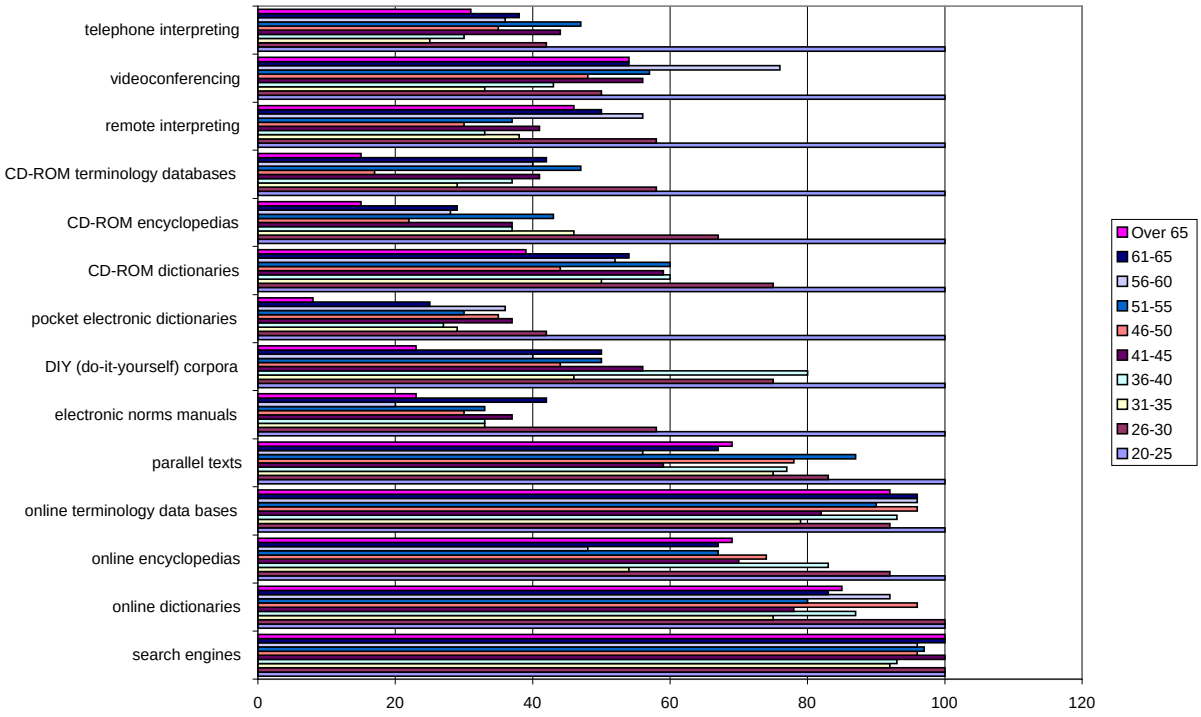
Figure 7.8. Graphic view of the usage of ICTs by age group



In principle, this graphic view is misleading because the youngest group appears to dominate, even though, as stated above, of the two respondents in this group there was one complete non-user of ICTs, while the other one used all of the ICTs presented as options. The reason for this is that they are represented by percentages. In this case, the group age of 26-30 is the one that appears to be the second with a high percentage of users. The age group with the smallest percentage in several of the ICTs was that of Over 65, but it should be stressed that a large percentage of them uses the most general ICTs, whereas only in the case of pocket dictionaries, one CI answered that he uses them.

7.2.4 Usage of ICTs by type of interpreters (in-house or freelance)

The difference in use according to the type of work situation of the interpreter, that is, whether the interpreter is in-house or freelance, is in the focus of our research question number three in chapter 3.

The total number of respondents to this particular question was 211. Of these, three were non-users of ICTs, two in the freelance category and one in the in-house

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category. It should be noted, however, that the two in the freelance category represent only 1.1% of the freelancers, while that in the in-house category represents 3.3%, therefore a much higher percentage. Of all our respondents, there were four who did not state what type of work situation they had where they had the option of in-house or freelance; they were thus eliminated. Table 7.12 shows the real number and percentages of the usage of ICTs by in-house and freelance interpreters.

Table 7.12. The usage of ICTs according to type of interpreter – in-house or freelance

ICTs

Number

(percentage of users within the in-house or freelance category

TYPE OF CI	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
IN-HOUSE	25 (86)	25 (86)	21 (72)	23 (79)	20 (69)	10 (35)	11 (38)	10 (35)	17 (59)	12 (41)	8 (28)	13 (45)	14 (48)	10 (35)
FREE-LANCE	169 (94)	147 (82)	130 (73)	162 (91)	134 (75)	62 (35)	96 (54)	53 (30)	99 (55)	64 (36)	66 (37)	77 (43)	94 (53)	69 (39)

Table 7.12 clearly shows that freelance interpreters are using proportionally more ICTs than their in-house counterparts, contrary to what the stereotype would lead one to believe. The stereotype is that in-house interpreters would have access to more ICTs and would therefore use them more often. In fact, during an informal conversation, it was mentioned that in some institutions there is no Internet connection available for freelance interpreters; only the in-house interpreters have access. This comment would support the view that there should be more active use of ICTs by in-house interpreters, but which is, however, rejected by these figures.

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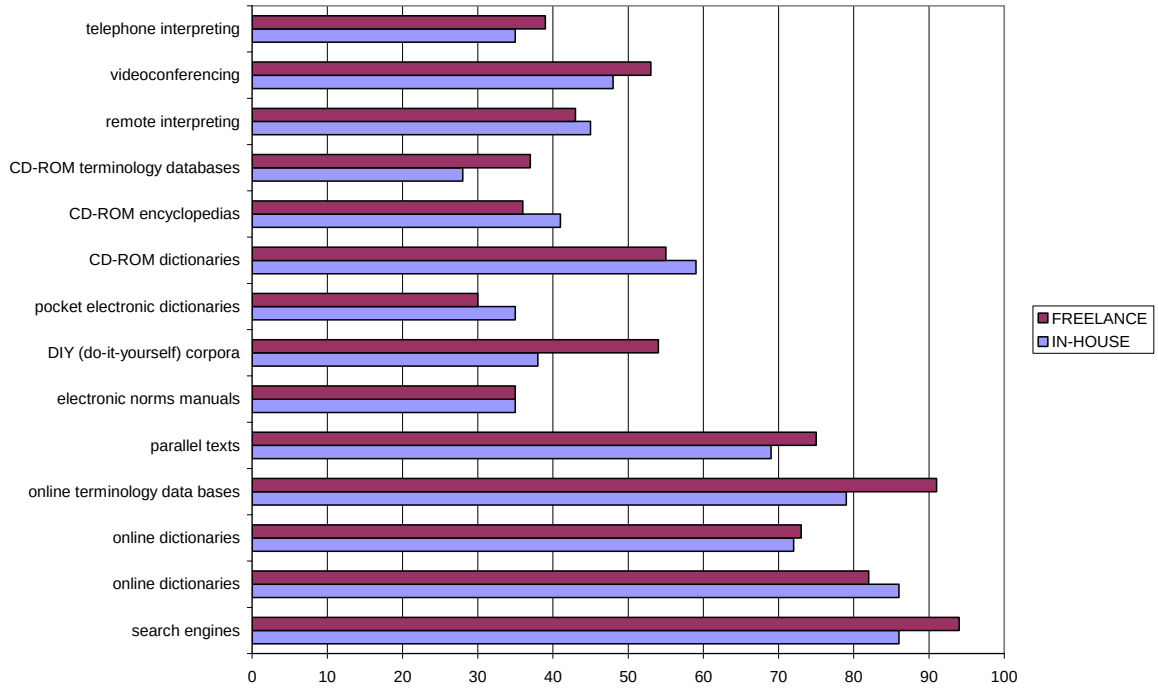
Figure 7.9. Graphic view of the usage of ICTs by type of interpreter – in-house or freelance



On the other hand, it is understandable that being freelance means that there is more competition and the work is more demanding, as freelancers have to obtain the information for preparation on their own, in more fields than is the case for in-house interpreters.

7.2.5 Usage of ICTs by phase of the interpreting process

The use of ICTs during the three main phases of the interpreting process, that is, for the preparation, during the delivery in the booth, and after the interpretation for post-interpreting tasks, is the focus of one of our hypotheses, hypothesis ‘a’, and our research questions 4, 5, 6, 7, and 8 in chapter 3.

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Table 7.13. The usage of ICTs by phase of the interpreting process

ICTs
Real numbers
(percentage of users of all respondents)

PHASE	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases
BEFORE	201	152	131	172	129	39	82	21	88	39	38
	(95)	(72)	(62)	(81)	(61)	(18)	(39)	(10)	(42)	(18)	(18)
DURING	63	67	25	79	28	7	51	21	50	16	16
	(30)	(32)	(12)	(37)	(13)	(3)	(24)	(10)	(24)	(8)	(8)
AFTER	77	54	36	55	23	9	39	9	32	14	12
	(36)	(26)	(17)	(26)	(11)	(4)	(18)	(4)	(15)	(7)	(6)

Here it is not relevant to present the teleinterpreting modes since they constitute precisely a mode of delivery, which means that they are used during the actual interpretation, not at other times. Although the average percentages are below 50% in the three phases – 39% average for the preparation, 18% average during the delivery, and 15% for post-interpreting tasks –, they are still rather high for technologies that have been available to the public for only a decade or so. Many of the professional CIs have learned the use of the ICTs in practice, not as a subject in their training. It is interesting to note, however, that the average percentage of usage during delivery is slightly higher than for post-interpreting tasks. This means the process of adapting to the use of ICTs in the booth is taking root at a fairly rapid pace. It should nevertheless be noted that some of the interviewees mentioned that their boothmates ask them not to use the laptop in the booth as it bothers them, for example the sound of the ventilator of the laptop. In some booths in international institutions there is a notice informing the CIs that there is Wifi connection and giving them a password, while underneath they also recommend them to “mind your colleagues”.

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Figure 7.10. Graphic view of the usage of ICTs in each phase of the interpreting process

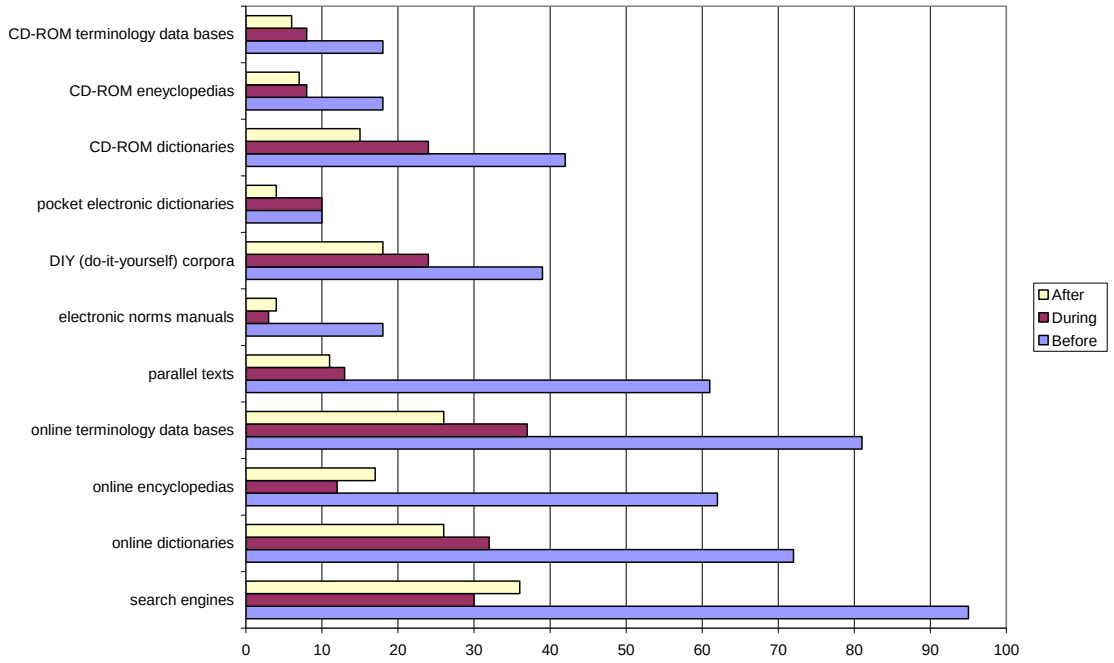

Figure 7.10 shows the difference in the usage of ICTs between the preparation, delivery and post-interpreting phases. Although preparation is definitely the phase that allows the interpreter to gain confidence in their ability to give a professional performance, I envision in the future more extensive use of ICTs during delivery, that is, in the booth, especially in cases where interpreters do not have enough time to prepare properly for the next job.

The use of the ICTs by frequency, i.e., whether the conference interpreters are using it always, very often, seldom, or very seldom (in a couple of cases respondents added the category “often”), is the focus of my research question number 4, and to a certain extent can be associated with research questions 5 and 6 in chapter 3. Table 7.14 shows what the conference interpreters reported according to the options offered in the electronic questionnaire, but also in the Word questionnaires and in the interviews.

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Table 7.14. The usage of ICTs by frequency of use

ICTs

Real numbers

(percentage of all respondents represented by the real numbers)

FREQUENCY	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
ALWAYS	80	39	21	65	27	2	47	7	33	6	10	3	2	2
	(38)	(18)	(10)	(31)	(13)	(0.9)	(22)	(3)	(16)	(3)	(5)	(1)	(0.9)	(0.9)
VERY	102	93	60	86	71	5	24	11	40	13	16	4	10	7
OFTEN	(48)	(44)	(28)	(41)	(34)	(2)	(11)	(5)	(19)	(6)	(8)	(2)	(5)	(3)
SELDOM	15	33	52	28	31	18	9	3	14	15	11	35	44	21
	(7)	(16)	(25)	(13)	(15)	(9)	(4)	(1)	(7)	(7)	(5)	(17)	(21)	(10)
VERY	6	10	12	4	16	39	24	42	24	42	35	48	50	46
SELDOM	(3)	(5)	(6)	(2)	(8)	(18)	(11)	(20)	(11)	(20)	(17)	(22)	(24)	(22)

The frequency with the highest average percentage is “Very often” (23%). The other three frequencies are very close, with “Very seldom” (17%), “Always” (15%), and “Seldom” (14%), while the extra category proposed by the respondents, “Often”, obtained only 0.9%.

In the “Always” category, which would respond to our question number 4, search engines receive the highest percentage, and are fairly closely followed by the terminology data bases. It is interesting to note that in the teleinterpreting modes there is a small percentage but still more than one user in each case who is already using the teleinterpreting modes regularly.

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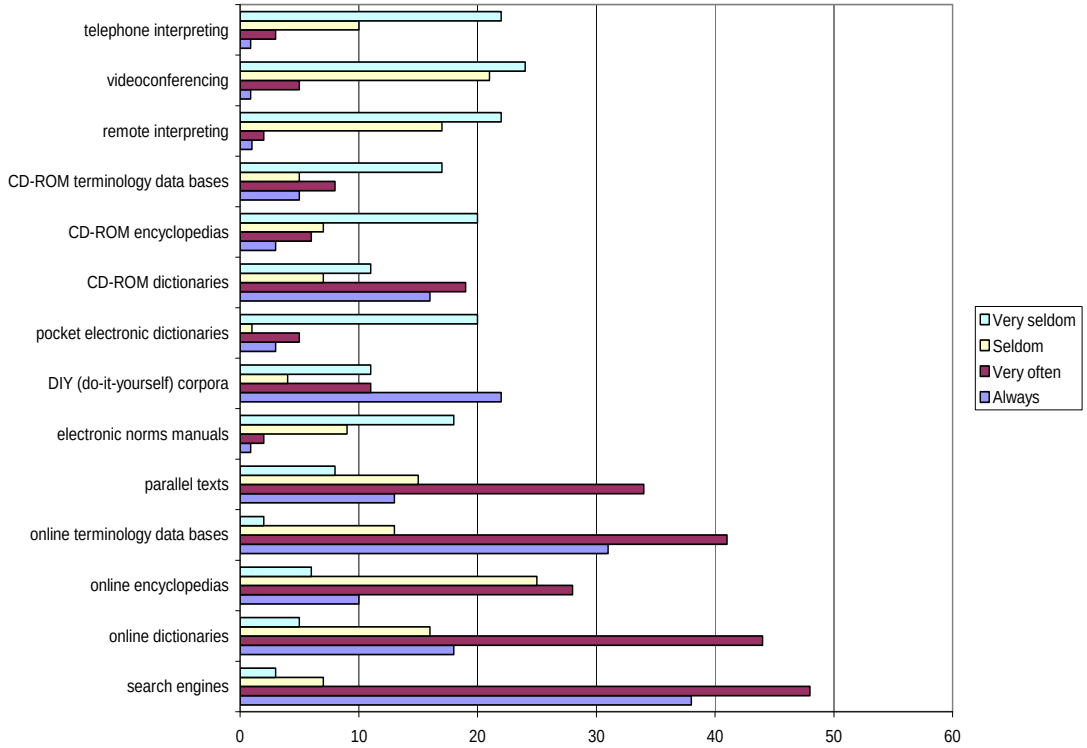
Figure 7.11. Graphic view of the usage of ICTs by frequency of use



The graphics in Figure 7.11 show the differences not only between the frequencies but also in the use of each ICT presented. As can be observed, the online resources always receive the highest percentages, with a significant plunge in the case of electronic norms manuals, which seem to be used much less than any of the other ICTs. The distance interpreting modes appear in general to be used seldom or very seldom, but there are already several CIs who report using them very often.

7.2.6 Usage of ICTs by setting and by languages

The use of the ICTs by settings, that is, the differences in the use of ICTs between specific work settings, is not a variable in my research questions, but knowledge of this can help us understand and even develop ICTs that can support CIs in the settings where today's ICTs are not so much used. Table 7.15 shows what the conference interpreters reported in relation to the use of ICTs in the various settings. As in previous tables, all percentages have been rounded to the nearest whole number.

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Table 7.15. The usage of ICTs by settings

ICTs
Real numbers
(percentage of all respondents represented by the real numbers)

SETTING	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
ACADEMIC	121	96	81	101	78	15	50	18	53	26	26	14	19	6
	(57)	(45)	(38)	(48)	(37)	(7)	(24)	(9)	(25)	(12)	(12)	(7)	(9)	(3)
BUSINESS	152	115	77	127	87	17	67	21	74	27	36	31	50	20
	(72)	(54)	(36)	(60)	(41)	(8)	(32)	(10)	(35)	(13)	(17)	(15)	(24)	(9)
DIPLOMATIC	113	68	52	91	69	5	52	15	40	21	27	18	20	10
	(53)	(32)	(25)	(43)	(33)	(2)	(25)	(7)	(19)	(10)	(13)	(9)	(9)	(5)
POLITICS	127	81	54	98	84	8	60	18	47	25	32	20	24	11
	(60)	(38)	(26)	(46)	(40)	(4)	(28)	(9)	(22)	(12)	(15)	(9)	(11)	(5)
OTHERS	75	57	42	64	45	14	34	14	36	15	23	23	29	12
	(35)	(27)	(20)	(30)	(21)	(7)	(16)	(7)	(17)	(7)	(11)	(11)	(14)	(6)

Interesting comments were made by five of the interviewees regarding the difference in usage according to the setting. They all mentioned that the more political or diplomatic a conference was, the less use of ICTs, as for diplomatic interpreting they rely more on experience. In technical meetings, ICTs are used more and indeed become a mechanical need, but in diplomatic and political meetings, it is more important to be able to grasp the concepts.

It is also interesting to note that under the heading “Others” fairly large figures were registered, slightly lower than the rest of the settings given as an option, but still comparable. In “Others” the CIs registered what they considered to be another type of setting, which in most instances referred to the field or the topic of the meeting (see Table 7.7).

The chart in Figure 7.12, as it shows the different settings, demonstrates clearly the extent to which much fewer ICTs are used in both the Diplomatic and Political settings.

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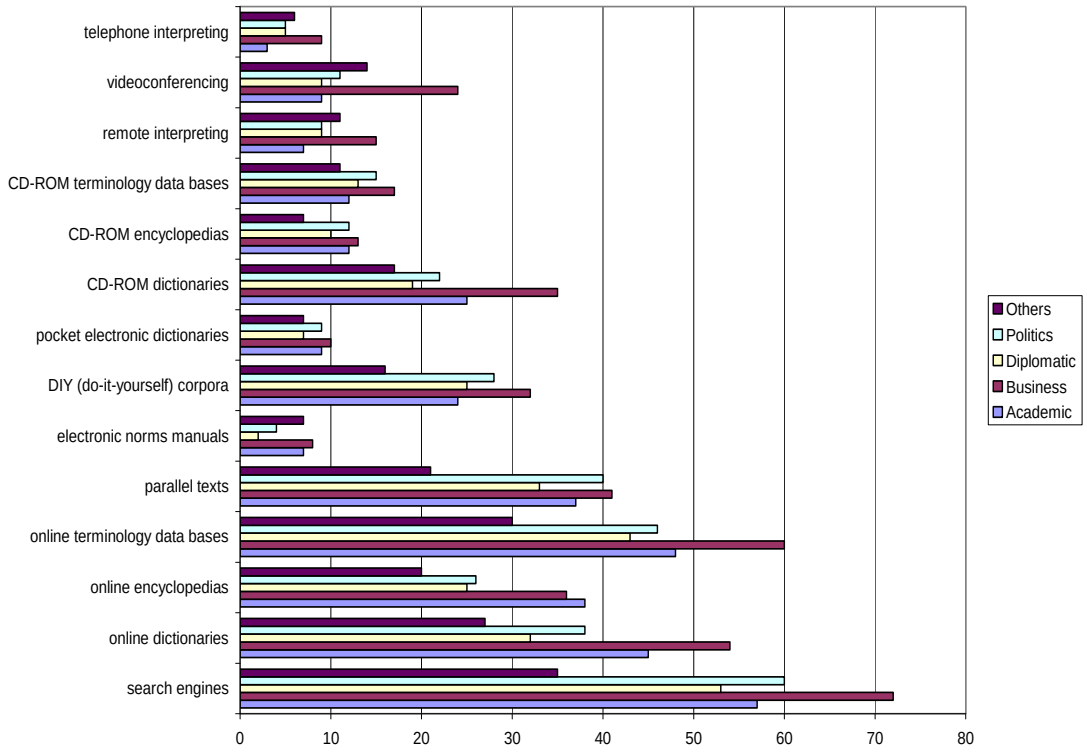
Figure 7.12. Graphic view of the usage of ICTs by setting



To investigate the availability of ICTs in the languages the CIs work with, in number 14 of the questionnaires I asked the interpreters whether they found all the ICTs they needed in the languages they work with. Sixty-one, that is 29% of all our valid replies, responded affirmatively, while only five (2% of the 210 respondents to this question) said categorically no. In between, their answers were more on the negative side, although without saying "no" explicitly, but rather tending to state matters in a general way relating to the individual ICTs but without stating languages, such as "online dictionaries tend to be very poor, though search engines and online encyclopedias can replace their function", or "there is room for some centralization and rationalization of online terminology resources tailored to the needs of interpreters". One interesting and surprising answer stated the following: "If you were an interpreter you would know that ICT is often not available in the booth for security reasons". In the observations and interviews, this was never mentioned. The reason for such a statement could be that in certain diplomatic or political settings it is actually forbidden to use ICTs, but no more explanations were offered that could help shed light on this state of affairs.

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The languages for which still more ICTs would be needed, as stated by the CIs, are recorded in Table 7.16, and in cases where CIs mentioned a particular ICT or a specific directionality, this is also included.

Table 7.16. Languages where more ICTs are needed

Language(s)	ICTs needed
Czech	Lack of ICTs in general
Finnish	
Greek	
Italian	
Portuguese	
Romanian	
Russian	
Slovak	
Spanish	
Swedish	
all languages	more ICTs needed in all languages, except in English where there is enough
Arabic	search engines online encyclopedias terminology databases
French	free ICTs
German	online resources
Hungarian	glossaries
Spanish	CD-R dictionaries
Turkish	all, but specially: terminology databases pocket electronic dictionaries
Directionality where ICTs are needed:	
French > German	
Italian > Finnish	
Romanian > Finnish	
Russian <> Dutch	
Spanish <> Finnish	
Spanish <> Italian	
Swedish > German	

This table responds to my research question 13 in chapter 3, although the respondents were not as detailed as I had hoped in their comments. The "free ICTs" mentioned for French language is free access to the ICTs. Regarding the frequent appearance of Finnish in the directionality, it could be due to the high proportion of Finns among the respondents, as well as their interest and active participation in the development of the profession. Still, this is useful information for the creators of ICTs, and shows that even within the ICTs available today there is enough room – and need – for further development and creation.

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7.2.7 The usage of ICTs by prospective CIs

My hypothesis c) in chapter 3 claims that "What is taught in conference interpreter training regarding the use of ICTs coincides with the types of ICTs that professional conference interpreters use". Therefore I asked my professional CI respondents what knowledge of ICTs they would expect from prospective candidates, that is, to state which traits regarding knowledge of ICTs they would look for in prospective candidates if they were hiring personnel, in order to at least partially test my hypothesis in this respect. The rest of the hypothesis will be answered when I analyze the replies from the conference interpreter trainers in chapter 8.

Table 7.17. Knowledge of ICTs expected from prospective CIs

ICTs

Real numbers

(percentage of all respondents represented by the real numbers)

DEGREE OF IMPORTANCE	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
1. MOST IMPORTANT	130 (61)	43 (20)	33 (16)	70 (33)	35 (17)	1 (0.5)	28 (13)	11 (5)	19 (9)	8 (4)	11 (5)	8 (4)	7 (3)	6 (3)
2. IMPORTANT	19 (9)	51 (24)	19 (9)	44 (21)	33 (16)	2 (0.9)	27 (13)	9 (4)	33 (16)	26 (12)	28 (13)	15 (7)	16 (8)	15 (7)
3. FAIRLY IMPORTANT	12 (6)	29 (14)	29 (14)	28 (13)	29 (14)	1 (0.5)	12 (6)	18 (9)	20 (9)	15 (7)	20 (9)	18 (9)	20 (9)	10 (5)
4. NOT SO IMPORTANT	21 (10)	19 (9)	31 (15)	21 (10)	20 (9)	1 (0.5)	24 (11)	27 (13)	21 (10)	16 (8)	18 (9)	24 (11)	24 (11)	28 (13)

The ICTs that prospective CIs are mostly expected to know are search engines, with 61% of the respondents ranking them as most important. Also ranking high under the "most important" heading are terminology databases (33%), online dictionaries (20%), parallel texts (17%), and online encyclopedias (16%).

The ICTs that CIs feel that prospective candidates should know, or even master, would be online dictionaries, with 24%.

Under the "fairly important" headline, three ICTs are ranked with the same percentage (14%): online dictionaries, online encyclopedias, and parallel texts.

The category "not so important" does not dismiss totally the importance of the ICTs mentioned there, as they would still rank fourth among the 14 ICTs presented. It is under this headline that we find an interesting point of view: the three modes of distance

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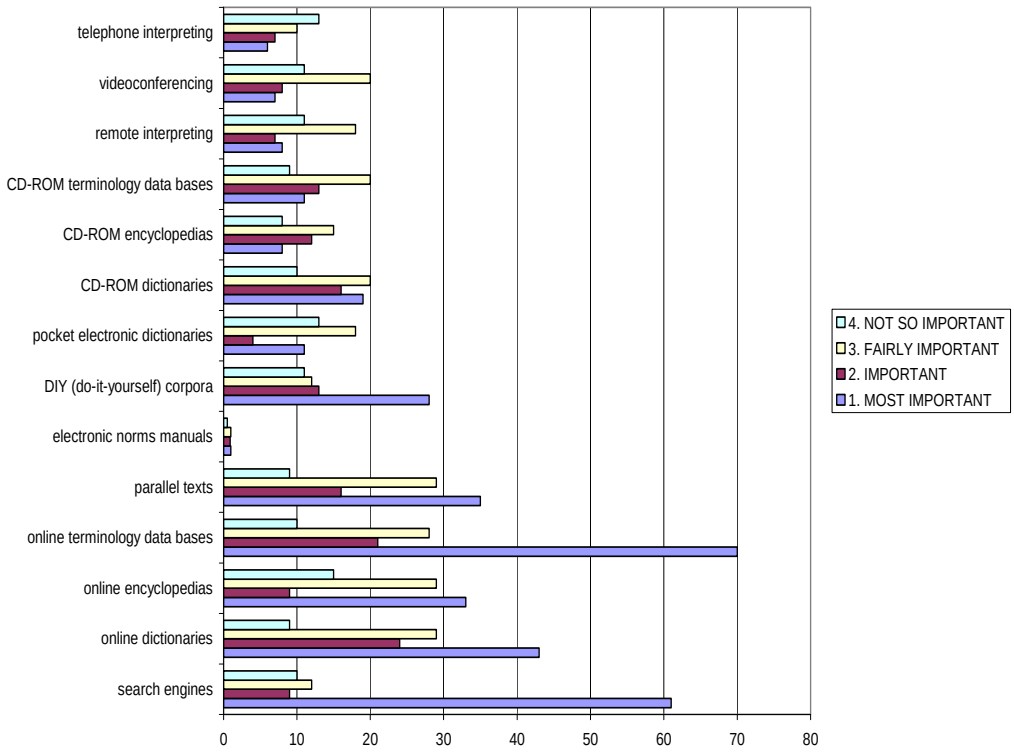
interpreting have the second and third highest rating here: telephone interpreting rated 13% and both remote interpreting and videoconferencing at 11%. The highest percentage was 15% for online encyclopedias, another unexpected figure, while also with 13% we find pocket electronic dictionaries and with 13% DIY corpora.

Figure 7.13. Graphic view of the knowledge of ICTs expected from prospective candidates to work as CIs



In Figure 7.13 we see the major plunge in electronic norms manuals, which only in 0.5% of the cases (only one respondent marked it as number 1) was regarded as "most important". I must then acknowledge that including this category was perhaps not necessary. What Figure 7.13 also shows is that the modes of distance interpreting are gaining terrain slowly and fairly evenly.

7.2.8 To summarize

The survey of professional CIs yielded interesting results in various respects. The participation in numbers was satisfactory, with 222 responses, although the percentage of the total questionnaires distributed was low: 7.8%. These replies came from 45 countries located in five continents. The highest percentage of participants came from Europe, more specifically from Central Europe, due to the fact that one of the main employers of interpreters, the European Union, is located in Brussels and Luxembourg.

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With respect to the general characteristics of the participants, the following data were the most significant. The gender ratio of respondents was in the order of 71% female to 29% male, a ratio that was expected as it is similar to the AIIC chart. Among the respondents, there were representatives of every age group from 20 to over 65, with the highest participations from the 36-40 and 51-55 age groups. The over 65 group was larger than the youngest group, 20-25. Of the two categories of CIs, in-house and freelance, there was a significant majority of freelance CIs, with 83%. Of the 25 languages represented in the survey, most of the respondents work with English, French, Spanish, German, and Italian. One significant absence in the languages represented is that of Japanese. The language combinations with these 25 languages reach 127. Again, the major source and target languages are English, French, and German. As to the working environments, 86% work in the business setting, followed closely, with 79%, by politics and 73% in the diplomatic setting. Medicine, with 10%, was the most popular field.

Regarding the usage of ICTs, the most common was search engines (95%), followed closely by terminology data bases (88%) and online dictionaries (83%). Videoconferencing, although not a tool but a mode of interpreting, reached 52%, representing an increase in use of almost 100% since the pilot study (Berber 2005) five years ago, when it only registered 27%.

In the analysis by region, the only evidence of a digital divide is found in Northern Africa, where it was reported that they did not use three of the ICTs, while in the rest of the world all ICTs were used. The ICTs not reported as being used in Northern Africa were pocket electronic dictionaries, CD-ROM encyclopedias, and DIY corpora. It is possible that the respondents in Northern Africa are simply not using the ICTs needed to elaborate DIY corpora, but there were no comments regarding that possibility.

About the difference of use of ICTs in the male-female groups, the distribution was fairly even, but by age, the non-users were in the extremes: 2 in the 20-25/31-35 age groups, and 2 in the 56-60/over 65 groups. With respect to the freelance and in-house categories, there emerged a contradiction in the results from the questionnaire and the comments from interviewees. Comments by the interviewees seem to support the idea that in-house interpreters are more active users of ICTs, while the questionnaire showed otherwise. As to the phase of the interpreting process, an average 39% use ICTs for preparation, only 18% in the delivery, and 15% for post-interpreting, that is, all are

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below 50% but still significant considering that the technologies have been available to the general public for a limited time. Of all the ICTs, search engines are those used with more frequency (38% of the cases). In the business setting, search engines have a use score of 72%, which is the highest use of ICTs in all settings.

The languages where more ICTs are reported as being needed in the future are Czech, Finnish, Greek, Italian, Portuguese, Romanian, Russian, Slovak, Spanish, and Swedish. Sixty percent of these 10 languages are lesser-used languages.

Prospective or future CIs are expected by their professional colleagues to know how to use search engines (61%), terminology databases (33%), online dictionaries (20%), parallel texts (17%), and online encyclopedias (16%). This coincides with the actual general usage of ICTs, and could be a guideline fot CITs to consider which ICTs to teach to their trainees.

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8 Results: ICTs in conference interpreter training

We are witnessing how globalization and conflicts as well as conflict resolution – that is, economics, politics, and diplomacy – emphasize the need to train new conference interpreters and constantly update professional interpreters, in a more efficient and faster way. We are also witnessing how globalization, although widely assumed to bring about uniformity, seems to highlight further the existing differences in the practice of different professions, requiring effective intercultural communication. Thus, it is in the interest of improving intercultural communication among both professionals and the institutions involved in conference-interpreter training that we seek to provide information about the ICTs currently used or being introduced both professionally and pedagogically.

8.1 Participants

In all, I distributed my questionnaire to 177 institutions on all five continents. Only two of the 177 institutions replied saying they did not have CI at all, while 22 (i.e. 12%) of our questionnaires were rejected automatically because of incorrect addresses (it should be noted that the addresses had been obtained and verified from the Internet sites of the universities and institutions) or mailboxes being over quota. The regional distribution and percentages of institutions and of replies are shown in Table 8.1.

Table 8.1. Institutions contacted and replies received

Region	Number of Institutions contacted	Percentage of all Institutions contacted	Number of answers received	Percentage of answers received from that region	Percentage in relation to all the answers received
AFRICA	8	4%	1		4%
Northern Africa	3	1%	1	100%	4%
Sub-Saharan Africa	5	3%	0	-	-
AMERICAS	23	13%	2		6%
North America	14	8%	1	50%	3%
Latin America and the Caribbean	9	5%	1	50%	3%
ASIA	32	18%	7		20%
Middle East	9	5%	3	43%	9%
Central Asia	4	2%	1	14%	3%
Far East	19	11%	3	43%	9%
EUROPE	104	59%	25		71%
Northern Europe	6	3%	6	24%	17%
Central Europe	51	29%	12	48%	34%
Southern Europe	47	27%	7	28%	20%
OCEANIA	10	6%	0	-	-
TOTAL	177	100%	35	n/a	100%

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Of the total of 177 institutions contacted, the 35 replies received represent 20% of the total number of questionnaires sent out. In correlation with the responses received from the professional side, the educational setting fared much better, as the replies received from the professionals were only 7.8%. In all, this nevertheless remains a low percentage, although it represents four of the five regions of the world (Oceania was not represented) where the questionnaires were sent.

It should be noted here that the column showing the percentage of answers received from the region is related to the number of answers received from the region (Africa, the Americas, Asia, Europe, and Oceania). If there was only one reply received, then 1 answer represents 100% of the answers from the region, which is the case in Africa.

For this study, I have contacted institutions representing not only the traditionally famous, such as Geneva (the first international school of Translation and Interpreting, founded in 1941) (Baigorri-Jalón in Codina 2004: 2), Montreal (founded in 1942), Germersheim (founded in 1946), Paris (founded in 1949) (Sunnari 2006: 147), Heidelberg, Saarbrücken, London, and Moscow (Varantola 1980: 6), but extending my survey to as many institutions on all continents and in all regions of the world as I could find e-mail contact information on.

8.2 Which tools and where?

One important way in which CI training is changing is due to the use and variety of pedagogical tools. In Table 8.2 the types and brands, whenever provided, of ICTs used and the comments of the respondents are presented. Within the categories of face-to-face and distance instruction, I have subdivided the ICTs according to their particular use.

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Table 8.2. Use of ICTs as pedagogical tools

PURPOSE OF PEDAGOGICAL TOOL	GENERAL TYPES OF ICTs	SPECIFIC TYPES AND/OR BRANDS OF ICTs
Training and self-training tools (to practice and develop skills)	EQUIPMENT FOR SIMULTANEOUS INTERPRETING	Booths Brähler
	DISTANCE INTERPRETING MODES	Videoconferencing Tandberg Divace
	SOFTWARE DEVELOPED SPECIFICALLY FOR INTERPRETER TRAINING	Black Box (Melissi) DVD special tools for interpreting training Sanako STS
	LANGUAGE LABS	Dialang
	ICTs DEVELOPED FOR LANGUAGE LEARNING AND TEACHING	Use of laboratory equipped with the Internet, TV channels, video, DVD, audio
	ICTs FOR TRANSLATORS	language lab, computer room X-Class software DEYA laboratory Language lab with digital recordings of speeches BNC online (for corpus-based searches) CALL system
	DIY RESOURCES	staff-developed digital speech bank
	GENERAL ICTs	the Internet Website Intranet CD-ROMs video-audio bank MP3 Audacity
	VIRTUAL ENVIRONMENTS	Claroline Virtual Campus
Distance teaching / learning	PLATFORMS AND VIRTUAL ENVIRONMENTS	Moodle platform E-learning platform University VLE (Virtual learning environment) EVAI
	EXTERNAL RESOURCES	SCIC's Speech Repository
	DIY RESOURCES	Own speech archives
	DISTANCE INTERPRETING MODES	Tandberg
	GENERAL ICTs	the Internet DVDs DVD special tools for interpreting training Website Intranet
	GENERAL SOURCES	Media

The comments made by the CITs are of general interest, so I here present them divided into "Uses" and "Results":

Comments by the CITs on the results obtained with the ICTs

U s e s

- Speeches in the Internet practiced in booths
- Digital-form speeches for self-study and for courses later on
- Developing distance learning courses in interpreting

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- Moodle platform, useful for trainers who can keep up with the courses while away
- Moodle platform for confidential personal feedback from various trainers
- The Internet provides excellent tools for background information search (preparation for training and later work assignments) and independent language study.
- We encourage personnel to attend courses on the use of technology in translator/interpreter training and we encourage the exchange of ideas and research in this field.
- We not only follow and try to teach such fields but also encourage our students to research in this field.
- The use of PC and the Internet support practically all aspects of teaching, including capturing, storing, managing and presenting practice material, managing course records, presenting and distributing course material and communicating with/among students between classes for interpreting projects and course exercise preparation.
- Melissi and Sanako are ideal for student self-learning, whereas the digital speech bank is for teaching and assigning practice materials for students' access remotely via the internet.
- Positive, but there could be more videos, and students could improve their performance by seeing themselves on video.
- Chats and portfolios are very interesting for distance learning.

Results

- Good, but [sic] there is a wealth of possibilities for collaborative learning
- In all cases, enhanced autonomy, attainment, and practice opportunities.
- Performance has improved due to more practice
- Autonomy of trainees who do a lot of self-training and are conversant with the technology.
- The feedback received from our graduates is that this is an important collateral and knowhow on the market and a matter of preference for employment.
- Very user-friendly, but not entirely tailor-made for interpreting training [X-Class software].
- Students give very positive feedbacks [sic] on the experience of using Melissi, Sanako, and the digital speech bank.
- Claroline is excellent as a speech repository / data bank and to provide clear instructions on future courses as well as documents to be prepared or background information.
- Some websites are also great sources of audiovisual material but connections are sometimes a problem, sound can be poor, difficulty of speeches needs to be assessed.

The uses and results presented are, of course, the opinion of the trainers, speaking on behalf of the trainees. As can be seen from the comments, the results obtained are quite positive and encouraging, both from the students' and from the trainers' points of view. Most importantly for our hypotheses c) in chapter 3, the comments do project a parallelism between the professional and pedagogical fields by mentioning how the

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students themselves have seen the importance of this knowhow in the employment market.

For training and self-training, the breakdown of the ICTs used in the different regions of the world is as follows:

- Equipment for simultaneous interpreting and distance-interpreting modes was reported as being used in Southern and Central Europe.

- Software developed specifically for interpreter training (CAIT) was reported as being used in Southern and Central Europe mostly, but also in one instance in the Middle East and Western Asia. This is interesting because it coincides partly with what was reported by Sandrelli and Hawkins (2006), that Black Box Melissi was in use in 2006 in the UK, Belgium, Italy, and Hong Kong.

- Language labs, ICTs developed for language learning and teaching, and ICTs for translators is reported as being used in Central and Southern Europe, and also in the Far East, Northern Europe, and in the Middle East and Western Asia.

- DIY resources and virtual environments were reported only in Central Europe, whereas General ICTs were reported as being used in Southern and Central Europe, Northern Europe, Central Asia, and Middle East and Western Asia.

This brings us to the conclusion that the most universally used ICTs for training and self-training are the language labs and ICTs developed either for language learning and teaching or for translators.

For distance teaching and learning, the breakdown of the ICTs used in the different regions of the world is as follows:

- Platforms and virtual environments were reported as being used in Southern and Central Europe, the Far East, and Northern Europe.

- The External and the DIY resources as well as the Distance interpreting modes were reported as being used only in Northern Europe.

- The General ICTs are evenly reported as being used in Southern Europe and in Northern Europe.

From these breakdowns, it can be deduced that CAIT are not yet fully taken advantage of given the possibilities they offer. One of the reasons may be, again, economic.

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8.3 Graduate or undergraduate? – that is the question

In chapter 3, our last research question, number 14, reads: "Are CIs trained more at the undergraduate or graduate level, or is this related to the region of the world where the institutions are located?"

The total results – which are shown in Table 8.3 – are 17 undergraduate programs and 21 at the graduate level, which gives a total of 38 responses. The explanation for this discrepancy is that in a few instances the institutions reported having programs at both levels, concretely in the Middle East and Western Asia, in the Far East, and in Central Europe.

Table 8.3. Undergraduate and Graduate CI Training

Region and subregion	**Level**	
	Undergraduate	**Graduate**
AFRICA		
Northern Africa		1
AMERICAS		
North America		
Latin America and the Caribbean		1
ASIA		
Middle East and Western Asia	2	2
Central Asia	1	
Far East	3	1
EUROPE		
Northern Europe	2	4
Central Europe	3	10
Southern Europe	6	2

My expectations regarding this question were in line with what other interpreter trainers in the past (e.g. Gáler and Stephen Pearl) believed, i.e. that interpreter training should be a postgraduate course (Baigorri-Jalón 2004: 128), as well as what was recommended by AIIC in 1992 as "criteria to be applied to rating CI training courses: […] 1. CI training should be postgraduate [...]" (Mackintosh 1999: 72).

When asked at which university level CI training took place, contrary to my expectations, the respondents reported that conference interpreter training is only slightly more often taught at the graduate level (after the first four or five years of university, that is, after the first degree), that is, in 55% of the cases. This means that more and more institutions are interested in starting the training of conference interpreters at the undergraduate level. In fact, undergraduate-level programs seem to outweigh graduate programs in two regions: the Far East and Southern Europe. It should also be noted that in these two areas many new conference-interpreter training institutions have been opened in recent years. As an example of how training

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institutions have increased, it is reported that the number of interpreting trainees in China increased from 5,000 in 2003 to 20,000 in 2005 (Zhang 2006).

8.4 Languages and directionality

Although directionality does not constitute a central issue in the present research, the information about the languages taught and the directionality may be of interest for trainers as well as for the producers of ICTs.

Table 8.4 shows the languages and directionality organized in alphabetical order by source language. In parentheses after each entry the number of respondents is included – there was one respondent per institution – who mentioned the combination. These figures do not represent institutions in a country, however, but rather the languages taught. That is, Finnish, though it appears very frequently in Table 8.4, does not stand for Finnish institutions only, but it is the language, which may be taught in other schools in other countries.

Table 8.4. Languages and directionality

Source language	Target language(s) and number of respondents
Catalan	English (1)
Chinese	English (1)
Danish	Finnish (1)
Dutch	French (1)
English	Catalan (1), Chinese (1), Finnish (3), French (4), German (4), Italian (1), Portuguese (1), Russian (2), Spanish (8), Swedish (1)
Finnish	Danish (1), English (3), French (3), German (3), Italian (2), Norwegian (1), Russian (1), Spanish (1), Swedish (3)
French	English (3), Finnish (3), German (2), Russian (1), Spanish (2), Swedish (1)
German	French (2), Finnish (3), Spanish (3)
Italian	Finnish (1), French (1), Swedish (1)
Norwegian	Finnish (1)
Portuguese	English (1)
Russian	Finnish (1), French (1)
Spanish	English (3), Finnish (1), French (1), German (1), Portuguese (1)
Swedish	Finnish (3)
Turkish	French (1)

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It should be clarified that with respect to the languages and direction in which interpreting is taught at the training institution, some institutions mentioned the languages they have taught and would be prepared to teach again on demand, while other institutions specified they are prepared to teach whatever combination to comply with demand, even if they have not taught those languages before.

8.5 ICTs in the curricula – reaching out to the future?

It is perfectly understandable that ICTs can be out of reach for some institutions because of economic or even political factors (of the country or of the institution itself), but these are not the only obstacles. There are other important aspects to be taken into account, such as the human factor, e.g. the attitude of trainers, students, and institutions, as well as the availability of the ICTs in certain languages and regions of the world. For this reason, in my surveys I have tried to elicit this information not only by asking direct questions, but also by asking open questions where the subjects could give their opinions about the results obtained by using ICTs in interpreter training.

The first of our questions in this sense was to find out whether the curricula included specific subjects, that is, courses or classes, on the usage of ICTs. Table 8.5 illustrates the answers.

Table 8.5. Specific course on usage of ICTs included in the curricula

REGION AND SUBREGION	**YES** 21 respondents	**NO** 14 respondents
AFRICA		
Northern Africa		1
AMERICAS		
North America		1
Latin America and the Caribbean	1	1
ASIA		
Middle East and Western Asia	1	2
Central Asia	1	
Far East	2	1
EUROPE		
Northern Europe	2	3
Central Europe	8	4
Southern Europe	6	1

This amounts to 21 affirmative answers to 14 negative, which is equivalent to 60% institutions who include a specific course on how to use ICTs for conference interpreting in their curricula, and 40% who do not.

If there was no specific course on the usage of ICTs in their curricula, my questionnaire asked if the ICTs were taught as part of other courses and if the

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respondents could explain of which other course or what type of course. Table 8.6 presents their answers.

Table 8.6. ICTs taught as part of other subjects

REGION AND SUBREGION	NAME OF OTHER SUBJECT
AFRICA	
Northern Africa	Don't know
AMERICAS	
North America	*Spanish-English Translation Strategies*
Latin America and the Caribbean	
ASIA	
Middle East and Western Asia	*Computer applications for translators*
Central Asia	
Far East	Part of most interpreting classes
EUROPE	*Translation Studies*
Northern Europe	Don't know
	Extensively used in translator training
Central Europe	*Translating*
Southern Europe	

In Table 8.6 there are two instances where the respondent did not know what would be the name of the course where the use of ICTs would be taught to the students. In one instance where the name of the other courses was not mentioned, it was stated that the reason for not having a specific course on the usage of ICTs was that students are already "ICT literate". This I understand as meaning that the students are expected to know how to use ICTs in general and therefore no special use for interpreting is needed to be taught to them.

The names and objectives of the courses specifically related to ICTs vary greatly, ranging from the more general to many that are more translator-centered, through those that are meant for both translators and interpreters equally, and finally to those meant specifically for interpreters. In Table 8.7 I have categorized the names of the subjects accordingly.

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Table 8.7. Specific subjects on ICTs

Type of subject	Name of subject
General	*New Information technologies* *Technologisch-pragmatische Kompetenzen [Technological pragmatic competences]** *Strategien medialer Kommunikation [Strategies for mediated communication]** *Sprachdatenverarbeitung [Language processing]** *Information retrieval* *Informatique (Computer science]** *TIC's [ICTs]** *Informática básica [Basic computing]** *Terminología [Terminology]** *Documentación [Documentation]** *Recherche und Terminologie [Research and Terminology]**
Translator-centered	*Computer-aided Translation* *Machine Translation* *Translating* *Documentación aplicada a la traducción [Documentation applied to translation]** *Información aplicada a la traducción [Information applied to translation]** *Traducción e Internet [Translation and the Internet]** *Informática aplicada a la traducción [Computer science applied to translation]** *Computers and Translators* *Traduction assistée par ordinateur [Computer-assisted translation]** *Computer applications for translators*
For both translators & interpreters	*Information Technology for Translators and Interpreters* *Computing and Translation/Interpreting*
For CIs only	*Audiovisual interpreting* *Technology and ICT Research Techniques for Conference Interpreters* *Research on interpreting* *Knowledge management in LSP interpreting* *Conference preparation*

*The translations of the names of the courses from German, from French, and from Spanish are mine.

The respondents gave the name of the subjects in their own language, which I have left here in the original with the corresponding translation. As can be seen in Table 8.7, the specific subjects on ICTs are more centered either on presenting the ICTs in general or concentrating on the use of ICTs by translators. There are only five courses for CI only, as opposed to 22 that are either general, translator-centered, or for both translators and interpreters. That is, only 19% of the specific subjects are meant for CIs only. Figure 8.1 shows at a glance the range and outreach of the courses on ICTs.

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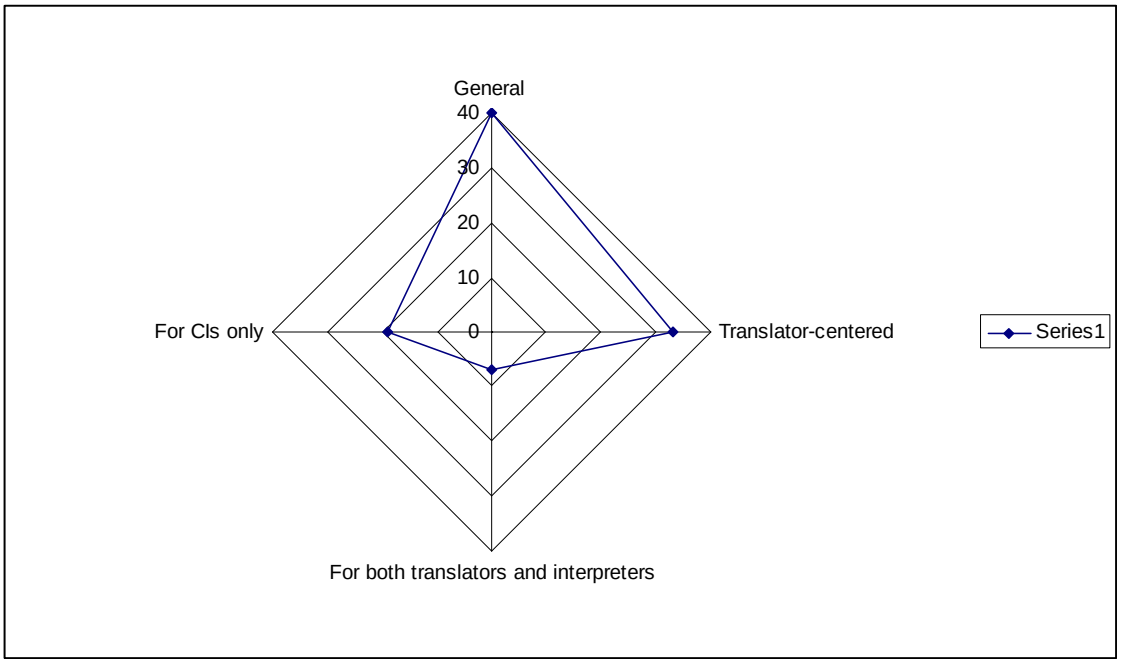
Figure 8.1. Orientation of the specific subjects of ICTs



My initial supposition was that the economic crises worldwide, culminating in 2008, may have led institutions to save as much as possible and therefore they would be prone to share more courses with the translator trainees, to minimize costs and maximize audience. Finding only two courses, 7% of the total, designed for both translators and interpreters, however, destroys my assumption. The courses that have a general orientation, not even mentioning either CIs or translators, remain the most frequent, with 40% of the total. For CIs only, however, is not the lowest, as it rates 19%, much higher than the courses designed for both translators and interpreters. Finally, the translator-centered courses rank second, closely after the general subjects, with 33%.

Further explanations of this are hidden between the lines of the explanations offered by the CITs regarding the lack of interest and reasons, summarized in Table 8.8.

Table 8.8. Reasons for not having a specific subject on ICTs in the curricula

Reason provided in the questionnaire or interview	**Number of respondents to reason provided**	**Further details specified regarding the reason stated in the questionnaire or interview**
Lack of interest on the part of the teachers	3	Full command of ICTs not regarded as a requisite in interpreting. Fear of technology (though everyone uses it to some extent).
Lack of interest on the part of the students	1	Fear of technology (though everyone uses it to some extent).
Lack of funds	3	

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Do not teach them nor use them but inform students of their existence	4	
Others	6	Lack of ICTs in the language concerned. Lack of availability of CAIT. Inform students about their existence BUT ALSO ask them to use ICTs. Part of other subjects: most interpreting classes, translating. Students are already ICT literate.

If I try to draw a worldwide pattern from these replies to respond to my hypothesis b) in chapter 3 regarding the uneven use of ICTs in the different regions of the world, it will be a chaotic one, as each of the respondents to these questions came from very different regions of the world and gave answers involving many different factors. Because of the interest of the questions themselves, I shall make a brief analysis.

A lack of interest on the part of teachers was noticed in Central Europe, Middle East, and Northern Europe, while the lack of interest on the part of the students was only reported in the Middle East.

Lack of funds, which one might assume with the recent economic crises, including the deep crisis in 2008, to be a worldwide problem, was only reported in three areas: Northern Europe, Central Asia, and Southern Europe.

In Latin America and the Caribbean, the Middle East, and Northern Europe, ICTs are not taught as a specific course to interpreters but students are informed of their existence. One could assume that the reason for not teaching a specific course to interpreters on ICTs would be lack of funds, but compared with the previous answers, I find it only coincides in Northern Europe, thus financial difficulty should probably be discounted as a reason.

One of the other reasons adduced was the lack of ICTs in a language that was pivotal to the courses in the Middle East, which is an important reason related to our research question 13 in chapter 3, as it points out clearly that there is room for developing ICTs in other languages. CAIT are not used in Latin America and the Caribbean because it was reported there is lack of availability. Being part of other courses, either interpreting courses or translation courses, was presented as a reason in the Far East and in Central Europe.

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8.6 ICTs as pedagogical tools

Moving on to the results obtained from the question "Which of the following ICTs do you teach or inform your students to use?", Table 8.9 provides the responses.

Table 8.9. ICTs taught or about which students are informed

ICTs

Real numbers

(percentage of all respondents represented by the real numbers)

STUDENTS TAUGHT OR INFORMED ABOUT THE ICTs	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
Students are taught how to use this particular tool	7 (20)	19 (54)	15 (43)	20 (57)	14 (40)	7 (20)	0	12 (34)	9 (26)	9 (26)	9 (26)	12 (34)	3 (9)
Students are informed about this tool, but not specifically trained on how to use it	7 (20)	7 (20)	8 (23)	6 (17)	9 (9)	4 (11)	5 (14)	6 (17)	4 (11)	5 (14)	7 (20)	8 (23)	9 (26)

Other ICTs mentioned that the students are taught how to use were the following: CAIT (training tools) (8 instances, i.e. 23% of all respondents), Distance learning (2 instances, 6% of respondents), Translator tools (Trados) (1 instance, 3% of respondents), Videostreaming (1 instance, 3% of respondents, and Videos/DVD (1 instance, 3% of respondents).

Table 8.9 responds to our hypothesis c) "What is taught in conference-interpreter training regarding the use of ICTs coincides with the types of ICTs that professional conference interpreters use". In principle, all ICTs are either taught or mentioned to the students to at least some extent, the lowest being telephone interpreting which is only taught in 9% of the cases, and pocket electronic dictionaries, which students are not taught to use but are rather informed about in 14% of the cases. Table 8.9 also shows that the distance-interpreting modes are being taught or informed about at higher percentages than, for example, DIY corpora. This may be due to the need for more economical and readily available interpreting.

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I supposed that CITs, based on their experience, could give valuable advice as to what ICTs the trainees *should* master, and also that this should coincide with what CIs expect prospective candidates to a CI position to know. Thus they were asked to what extent they believed each of the ICTs mentioned were important in that sense. Their answers are given in Table 8.10.

Table 8.10. ICTs that CI trainees should master

ICTs
Real numbers

DEGREE OF IMPORTANCE	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
Very important	12	11	9	13	12	5	3	4	1	4	7	7	6
Important	3	5	6	3	3	5	3	5	8	6	5	5	4
Not important	1	0	0	1	1	4	9	6	5	5	3	3	4

Again, the pattern repeats itself (cf. Figure 7.11), as online resources are regarded today as being more important than CD-ROM resources.

The training of CI students in the distance modes is also gaining importance, in comparison to what was reported in my pilot study (Berber 2005). In the previous survey, training in remote interpreting was never considered as the most important, nor as important, and videoconferencing was ranked as the most important at that time by only 10% of the respondents, while telephone interpreting was only considered by four (of 29) of the respondents in that survey as having some importance.

8.7 Frequency of use by phase of the interpreting process

Table 8.11 shows the frequency CI trainees use the ICTs, according to what CITs have observed, during the phases of the interpreting process. This is related to our research questions 4 to 7 in chapter 3.

Table 8.11. ICTs and frequency CI trainees use them during phases of interpreting process

ICTs	**Phase of interpreting process**	**F r e q u e n c y**				
		Always	**Very Often**	**Often**	**Seldom**	**Not at all**
Search engines	Before	9	2	2	0	0
	During	1	1	1	2	4
	After	3	3	3	1	0

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Parallel texts online	Before	7	3	2	1	0
	During	1	0	0	3	5
	After	2	1	2	1	3
Online dictionaries	Before	9	1	3	0	0
	During	3	2	0	1	4
	After	4	3	3	1	0
Online encyclopedias	Before	6	4	2	0	0
	During	1	0	1	2	5
	After	3	2	2	0	2
Online terminology databases	Before	6	4	1	1	0
	During	2	3	0	0	4
	After	2	1	2	2	1
DIY corpora	Before	2	3	1	0	2
	During	2	2	0	1	3
	After	2	1	1	1	2
CD-ROM dictionaries	Before	4	1	1	4	3
	During	1	1	0	3	4
	After	2	1	0	3	4
CD-ROM encyclopedias	Before	3	1	1	4	3
	During	1	0	1	2	5
	After	2	0	1	3	4
CD-ROM terminology databases	Before	5	0	0	4	4
	During	3	0	0	2	5
	After	4	0	0	3	4
Pocket electronic dictionaries	Before	4	0	0	1	7
	During	2	1	0	0	8
	After	3	1	0	1	7

In general, there is a distinct difference in the usage of the ICTs by the trainees during the different phases of the interpreting process. All ICTs are used markedly more for preparation before the actual interpreting, less for the post-interpreting revision tasks, and the least of all in the booth. There is, however, one exception: DIY corpora, which appear to be used more evenly during the three phases. Comparing this pattern with that of the usage by the professional CIs, we find that the two tend to be fairly similar, except that CIs tend to use a slightly higher percentage (18% average) of ICTs during the delivery in the booth, and 15% for post-interpreting tasks, while CITs use it the least of all for delivery.

There were a few cases where the CI trainees were observed as not using ICTs. The reasons adduced are presented in Table 8.12.

Table 8.12. Reasons for CI trainees not using ICTs

Reasons adduced	**Number of respondents**
Negative attitude towards technology	1
Lack of information	7
Others: Lack of time Topics not informed beforehand to prepare them Students prefer to use the more readily available ICTs Lack of motivation Laziness	(one per instance)

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Except for the negative attitude towards technology and the laziness – surprising in that the students are a generation that has been brought up with the Internet as part of their daily lives –, the reasons stated may have grounds that are beyond the control of the CIT, while the other reasons mentioned by the respondents can be resolved, at least in theory, by the CITs.

The lack of motivation may be closely linked to lack of information, which in itself seems to be a fairly important motive. That is, if students received more information on the part of the teachers, then their lack of motivation may disappear.

The reason "topics not informed beforehand to prepare them" does not go with professionalism, as one of the customary rules of this profession states that CIs should not accept a job if they do not receive information in order to prepare themselves for the task. It is known, however, that both in training and in real life CIs are often given impromptu tasks, without any previous information provided to them not even on the general topic of the meeting. If trainees are taught how to take advantage of ICTs for these impromptu tasks, it would be to their advantage.

The next reason given, "students prefer to use the more readily available ICTs", is clearly related to lack of information, since if they knew more about the different possibilities available to them through different ICTs, they would probably be more likely to use them.

The final table on ICTs in the educational setting shows the additional comments included in the questionnaires, some of which represent positions of the CITs and/or their institutions.

Table 8.13. Additional comments

Categories	Comments
Personal	Requesting to receive results.
Praising ICTs	- ICTs could be a more important part of CI training because it is advancing quickly, playing a more important role in the profession. - The ICTs are constantly evolving and the instructor constantly explores the effective use and appropriate positioning of ICTs in the interpreting training. Without the use of ICTs, it would be difficult to carry out the current courses. The use of PC and the Internet support practically all aspects of teaching, including capturing, storing, managing and presenting practice material.
Asking for clarification of any of the questions	- I had the impression that several items were quite similar - like "correct target language" and "terminology". - Do you mean the word "subject" to be a course? - Is the question about the ICT usage itself in our curriculum or about the studying/training on the usage of ICT? - The definition of ICT is also not clear. Does that include the usage of the technology in general by the instructors and students? - What the trainees are told to do and what they do are quite a different thing!

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Mentioning other uses of ICTs	- ICTs is extensively used at our institute in translator training, not in conference interpreter training courses except for self-conducted training in the language lab. - I work for a manufacturer of digital interpreter training systems and have based my answers on installations in our region. - Since ICTs is a method for information retrieval, more important than the method is the contents: what you look for and where to find answers to your questions.

The three personal comments received were interested in the results of the research. This means that there is interest in studies that give a broad picture of what is occurring in the profession around the world, to keep abreast of the advances and also aware of the differences in other regions.

For some of the respondents, praising ICTs came quite naturally. Some even felt that they could no longer hold their courses without ICTs, which shows to what extent ICTs have changed the training of CIs.

Regarding the clarification of the questions, it is interesting to see how terms we take for granted as part of the profession are misunderstood or mixed. I tried to make reference to terms used in works that are well known in Interpreting Studies, but then again this shows that intercultural communication within the profession is needed, so I should have further clarified exactly what the terms meant. Also, terms that we tend to use in general in Europe, such as “subject” meaning a course, are not necessarily understood in other parts of the world.

8.8 To summarize

With globalization and conflicts, there is an increasing need to train more and better CIs. Therefore CI training has to keep close to the reality of the profession.

Of the 177 questionnaires distributed, 35 replies were received (20%). There were no replies received from the region of Oceania. The uses and results obtained were the opinion of the trainers, speaking on behalf of the institutions. CITs are generally positive and enthusiastic about the use of ICTs. CAIT were reported as being used in Southern and Central Europe mostly, but also in the Middle East and Western Asia. Southern and Central Europe also lead in the use of ICTs developed initially for other purposes, that is, language labs developed for language learning and ICTs for translators, although these ICTs are the most extensively used also in the other regions. Platforms and virtual environments, which represent useful ICTs for distance learning and for practicing, are only reported as being used in Southern and Central Europe, the

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Far East, and Northern Europe. Distance-interpreting modes were reported as being used only in Northern Europe. It can be deduced that CAIT are not yet fully taken advantage of, perhaps because of economic reasons.

The number of CI training programs is slightly higher (55% of the total responses received) at a graduate level. Undergraduate level programs seem to outweigh the graduate ones in two regions: the Far East and Southern Europe.

A total of 15 languages were included in the language combinations taught at the participant institutions: Catalan, Chinese, Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Russian, Spanish, Swedish, and Turkish. It should be clarified that some institutions specified they are prepared to teach whatever language combination to comply with demand, even if they have not taught those languages before.

Only 60 % of the institutions include a specific subject or course on how to use ICTs for conference interpreting in their curricula. In one of the instances where the answer was negative, it was mentioned that the students are already "ICT literate", perhaps meaning that students are already expected to know how to use ICTs in general and therefore no special course would be needed. Of the courses reported as being specific on how to use ICTs, only 5 out of 22 were specifically for CIs. Lack of interest on the part of the teachers was noticed in Central Europe, Middle East, and Northern Europe, while the lack of interest on the part of the students was only reported in the Middle East. Lack of funds, another major possibility for not having the specific subjects for CIs taught, was only reported in three areas: Northern Europe, Central Asia, and Southern Europe. In other areas, although lack of funds was not directly mentioned, teachers inform the students about the existence of the ICTs and encourage them to explore them and learn how to use them on their own. These other areas were Latin America and the Caribbean, the Middle East, and Northern Europe. Lack of availability of CAIT specifically was reported in Latin America and the Caribbean, while lack of ICTs in a particular language was reported in the Middle East.

All ICTs are either taught or mentioned to the students at least to some extent. The lowest rate was with the mode of telephone interpreting, with 9%. Distance modes in general, however, are being taught or informed about at higher percentages than, for example, DIY corpora.

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Comparing which ICTs CITs consider that trainees should master with what CIs expect for prospective candidates to a CI position to know, the pattern repeats itself, with online resources regarded as being more important than the CD-ROM ones.

As CITs report on what they have observed of the trainees, there appears to be a distinct difference in the usage of the ICTs by the trainees during the different phases of the interpreting process, where all ICTs are used markedly more for preparation.

Lack of motivation to use or learn about the ICTs on the part of the trainees seems to be closely linked to lack of information, which is a circle that may be broken if teachers provide more information about new ICTs.

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9 CIs' and CITs' perceptions of the impact of ICTs on the work

As I look at the present impact of technology on the profession, I cannot help but wonder if ICTs are changing the interpreting profession as dramatically as we all tend to believe (cf. de Manuel Jerez 2003b). Let us see comparatively how they have changed and developed both translation and interpreting, through the views of the CIs and CITs themselves.

An aspect that deserves special attention in a descriptive study such as this is an account of the attitudes and perceptions both of professional conference interpreters and of conference interpreter trainers regarding the use of ICTs, as ethnographic description involves reflection of participants' perspectives and behaviors (Schensul 2005: 6).

Conference interpreter trainers in general had a very positive attitude towards ICTs, and not only towards CAIT. In fact, all of the respondents except one believed that ICTs can help their trainees become true professionals. Two thirds of the respondents teach or discuss the aspects of professionalism and quality in relation to ICTs, whether or not they have specific subjects on ICTs in their institutions. An important point made by one of the respondents is that since ICTs are only a method for obtaining information, it should be emphasized to the trainees that the content is more important. Another respondent explains that when quality and professionalism are discussed, the focus is more on performance and manners, and that learning how to use ICTs for interpreting is a prerequisite for discussing such aspects.

On the other hand, not all conference interpreters have a positive attitude. In fact, they are more skeptical about the effectiveness of ICTs for their work: some even referring to it as interfering to listening and concentration, or they are altogether against considering ICTs an integral or important part of interpreting. In several instances, conference interpreters who work only with pen and paper were mentioned, explaining that just as they make an extraordinary use of pen and paper for support, so ICTs should be used as no more than support, without expecting them to do one's job. On the other hand, other conference interpreters state that the use of ICTs ensures competitiveness in this age of rapid information, and the conference interpreter who cannot use ICTs is at a disadvantage. Thus there does not seem to be a consensus.

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9.1 Relief of efforts by ICTs

Regarding the CIs' and CITs' views on relief of efforts by ICTs, my research question 11 asks: "Do any CIs foresee that ICTs can eventually help ease any of the efforts in Gile's Efforts Models?". Table 9.1 shows their answers about which efforts ICTs have a possibility to ease.

Table 9.1. ICTs and Efforts as regarded by CIs

	ICTs Amount (percentage of all respondents represented by the amount)													
EFFORT	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases	remote interpreting	videoconferencing	telephone interpreting
LISTENING AND ANALYSIS	94 (44)	71 (34)	73 (34)	72 (34)	79 (37)	20 (9)	56 (26)	30 (14)	54 (26)	46 (22)	40 (19)	20 (9)	26 (12)	19 (9)
PRODUCTION	115 (54)	105 (50)	76 (36)	113 (53)	83 (39)	28 (13)	74 (35)	40 (19)	73 (34)	41 (19)	47 (22)	28 (13)	38 (18)	25 (12)
MEMORY	87 (41)	72 (34)	57 (27)	77 (36)	51 (24)	22 (10)	56 (26)	29 (14)	50 (24)	32 (15)	42 (20)	17 (8)	24 (11)	18 (9)

It should be noted that there were numerous responses regarding the distance interpreting modes and efforts, surprisingly showing rather significant amounts in the Production effort. Also, it can be recognized that electronic norms manuals, remote interpreting, and telephone interpreting are not much appreciated as being of use to relieve any of the efforts, while online dictionaries and terminology data bases are considered to be useful.

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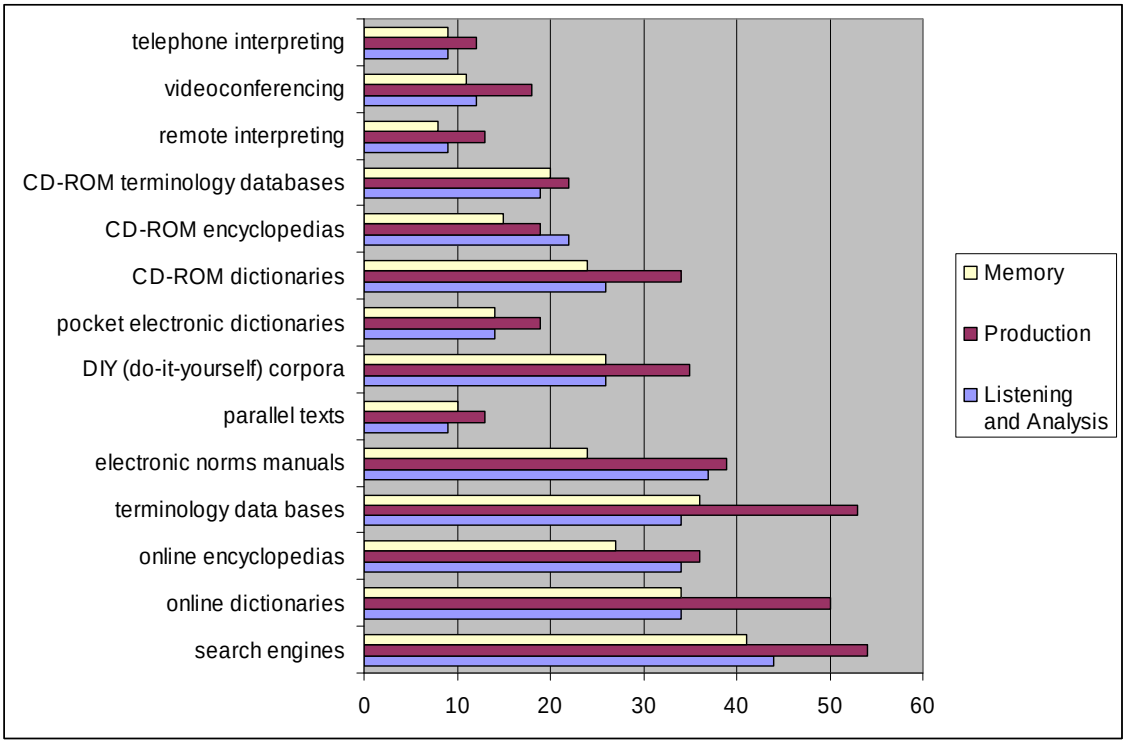
Figure 9.1. Graphic view of the relationship between ICTs and the three efforts in Gile's efforts model as seen by the CIs themselves



The graph in Figure 9.1 illustrates the predominance of the Production effort as perceived by the CIs as being the most benefited one of the three efforts in Gile's model.

In relation to the efforts ICTs can support, Table 9.2 illustrates in figures what CITs responded regarding each one of the efforts considered in Gile's models (1997/2002).

Table 9.2. Efforts ICTs can support

EFFORT	search engines	online dictionaries	online encyclopedias	terminology data bases	parallel texts	electronic norms manuals	DIY (do-it-yourself) corpora	pocket electronic dictionaries	CD-ROM dictionaries	CD-ROM encyclopedias	CD-ROM terminology databases
LISTENING AND ANALYSIS	10	11	9	10	15		4	6	7	8	7
PRODUCTION	9	3	7	8	6		9	5	5	6	7
MEMORY	6	8	5	5	5		5	0	6	4	2

According to these results, the effort that benefits most from the use of ICTs is Listening and Analysis, except in the case of DIY corpora, which are clearly considered

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to be more useful for Production. The Memory effort appears to receive a much lower level of support from ICTs.

It should be noted that some extra comments were given here by one of the interviewees, who mentioned that for Memory he only uses paper and pencil, and apparently he is not the only one as what he says concords with my observations. For Production, he reads the terminology aloud in order to become used to the pronunciation and the difficulty of certain terms. For Listening and Analysis and also for Production, he listens to speeches on the same subject (parallel texts) or by the same speaker if possible, to become used to the pronunciation and style of the speaker. These are all uses that can be at least informed about to the CI trainees for their consideration.

9.2 In relation to professionalism

As to their reaction to the first question related to professionalism, which reads: "Would you consider that the use of ICTs can enhance professionalism of the conference interpreter?", 87%, a clear majority, agreed that they would help, while only 8% said "no". The remaining 5% did not reply to the question.

When asked if ICTs should be listed as essential traits if one is to be considered a "real" professional, it appears there are strong opinions on both sides. In fact, 58%, a slight majority, said "yes" they would add the use of ICTs to the list of traits to be considered a professional. Still, 37% said that they did not agree with including the use of ICTs in that list. The remaining 5% did not reply to the question.

The list of such traits suggested by AIIC (2005) is found in our definitions in section 4.1. It basically states that CIs should accept work only according to their qualifications and experience, constantly updating and developing their skills, as well as use materials (i.e. calling cards and invoices), equipment (fax, answering machine, and I would list here not only e-mail, but ICTs in general) and attitudes (courtesy, discretion, good manners) (AIIC 2005: s.v. Professionalism [2]).

9.2.1 According to age group and gender

Table 9.3 shows the affirmative and negative answers given by age groups in relation to professionalism and ICTs.

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Table 9.3. ICTs, Professionalism, and Age

Number of responses

(Percentage they represent of responses in corresponding age group)

Age group	**Can ICTs enhance professionalism?**		**Should ICTs be on list of traits to be considered a "real" professional?**	
	Yes	**No**	**Yes**	**No**
20-25	0	1 (50)	0	1 (50)
26-30	10 (83)	1 (8)	8 (67)	4 (33)
31-35	21 (91)	1 (4)	16 (70)	7 (30)
36-40	24 (96)	0	15 (60)	8 (32)
41-45	21 (88)	3 (13)	14 (58)	10 (42)
46-50	21 (96)	0	16 (73)	5 (23)
51-55	27 (96)	0	18 (64)	9 (32)
56-60	23 (85)	3 (11)	13 (48)	13 (48)
61-65	21 (88)	3 (13)	11 (46)	14 (58)
Over 65	12 (86)	2 (14)	8 (57)	6 (43)

To the first question, "Can ICTs enhance professionalism?", there appears to be a near-unanimous consensus reaction with an average of 81% on the affirmative side. On the negative position, the average percentage is only 16%. There is a notable exception in the age group of 20 to 25, where there was only one respondent to this question, thus his answer is 100% in his group. It should be noted that in the next age group, 26-30 year olds, the positive response is also lower than in any of the other age groups. This means that the stereotype that the young are prone to believe blindly in the possibilities of ICTs is not true.

The second question, "Should ICTs be on the list of traits to be considered a 'real' professional?", appears to be more debatable, although the total outcome with a small margin is that yes, with an average of 54% of the responses, they should be listed there. The responses, though, do differ from age group to age group. The age group of 61 to 65 is the only one where the "no" responses outweigh the "yes". In the 56-60 age group, the answers are divided fifty-fifty. In all other age groups, there is a clear difference of at least 10%, and in some cases of up to 50%, in favor of "yes".

Beyond the global agreement or disagreement on the two basic questions, it is the comments that are very illuminating as to the advantages and disadvantages CIs see in ICTs. That is the reason for presenting a few comments per age group.

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The first age group, from 20 to 25, is in this case represented by only one person whose comment was "a professional interpreter still has the resources from the pre-ICT era", which is a surprising remark being that it comes from a representative of the youngest group.

In the 26 to 30 age group, the spirit that prevails is summarized in one of the comments: "I think we should embrace technology and not resist it. We have to evolve and make use of the tools that can improve our work." They even compare the use of ICTs by CIs as being as essential as it is for translators, especially because of the demands of the clients, but at the same time they agree that many CIs who do not necessarily use ICTs are excellent professionals.

In the 31 to 35 age group, the respondents as a group see more that ICTs provide the most updated data they can obtain, available very quickly. They view ICTs as essential tools for CIs to achieve their goal of possessing solid information-mining skills. Some even mention concretely that having a computer in the booth, that is, during interpreting, is an invaluable support. Then again, some of them also see the other side of the coin, i.e., the negative aspects: that ICTs can even sometimes "prevent interpreters from seeing the forest for the trees [sic], (i.e. grasping the specifics of a topic but not the main issues or general picture, indispensable to a good interpretation)."

Moving on to the 36 to 40 age group, I find that as a group they feel it is no longer possible to perform a good job without at least some ICTs. One respondent states something that caught my attention: rather than an "essential" trait, knowledge of ICTs should be listed as a "preferable" trait. Again, in this group they often repeat that ICTs are invaluable both for preparation and during interpreting - no mention about post-interpreting tasks from any of the respondents, which in itself is noteworthy. They also mention something to be considered: "use of ICTs certainly makes the preparation and delivery more effective, but lack of ICTs does not necessarily mean lack of professionalism". Further, "all the ICTs in the world do not make an interpreter", a totally true statement but the point of the present study is not to impose ICTs as a must for the profession, but rather to inform the CIs and CITs of what their colleagues around the world are doing with the ICTs and what their attitudes are. It is in this group that a respondent stated that "today you can teach yourself without the need for any tutors or universities". In spite of this not being a direct answer to the question, it does present the point of view of some today, one which should be taken into consideration by CI trainers and training institutions.

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The 41 to 45 age group have slightly different views: although they agree that usage and knowledge of ICTs is necessary on a regular basis, they still think it should not be a prerequisite for doing a professional job. One respondent stated "I remember when the dark ages [sic] when we had to grasp in the dark for a drop of information about an unfamiliar subject. Now, we have everything offered to us on a silver tray". Another one states: "[...] if the computer breaks down, so do your nerves". It is in this group we find the first comment about the use of ICTs in the booth in a negative way, considering it produces extra noise, heat, disruption and interferences. What predominates in this particular group is that they do not see ICTs as making anyone a better interpreter – that is, they seem to believe that it does not enhance professionalism to give CIs access to far more up-dated information than any other sources. Yes, that is true: ICTs constitute only a support, and by themselves ICTs cannot make the interpreter, as our respondent in the 36-40 age group said.

The CIs belonging to the 46–50 age group were slightly more reluctant about using ICTs in the booth, with one stating that "when working in simultaneous, it is difficult and usually counter-productive to try to use any physical material in order to do a better job. It interferes with listening and concentration." Again, there is a mention that ICTs in the booth, if not properly used, can be distracting. They do see that ICTs can enhance the professionalism of a CI, especially in very technical fields by helping the human memory with the resources they offer, but on the other hand they believe that some CIs are brilliant without ICTs.

In the age group of 51 to 55, ICTs are seen as indispensable for preparation and background knowledge. Something mentioned in this age group that had not been mentioned before is that ICTs make the information available irrespective of where one is, "which is very important for nomadic people like interpreters". They do recognize, on the other hand, that many CIs have been "real" professionals for generations before ICTs existed and even today some work without ICTs, and are still brilliant professionals. I should add here that some younger interviewees (30-35 age group, and also in the 40-45 age group) did mention that they do not use ICTs, so when some users of ICTs presume that nobody works without them, they are not entirely correct. This is one of the aims of this study, to inform CIs about how their colleagues work. Another comment in this group is that for freelancers ICTs are indispensable, while they feel staff interpreters have in-house resources to rely upon. Finally, the most negative comment on ICTs was: "ICTs can't replace a good brain, a huge general knowledge and

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a good memory. It just might look better, that's all. Someone wired to the fingertips can still be a bad interpreter."

In the 56 – 60 age group, the answers were more on the positive side, but with a twist: "use of ICTs is not so much a 'trait' as a teachable and learnable skill". They regard ICTs as very useful for a thorough preparation, although no mention is made regarding the use of ICTs in the booth except for the following: although seeing ICTs as helpful, one respondent mentioned "You could have a 'cheat sheet' open in a computer [in the booth]". In this group, there is a succinct description of professionalism: "The basis of professionalism is the ability to match performance to client expectations." One important comment refers to regions: "In Africa, ICTs are not always available, so it does not determine level of professionalism." From this group I received a definition of the profession itself: "Interpretation is a performance art, where flow, knowledge of the subject, a broad education, and years of experience can put you in good stead". It should be added that they do mention that lack of knowledge or adaptation to ICTs can compensate for expert knowledge in many fields and access to a good library.

ICTs are seen also as of great use for preparation in the age group of 61 to 65. One of the respondents stated something that CITs should bear in mind: "When I studied, this technology was not available. Today it should be part of the curriculum at interpreter schools." However, on the other hand the feeling that prevails is that ICTs are new gadgets, and that the older, computer illiterate CIs managed better than the younger CIs who rely solely on ICTs and not on their knowledge and memory. Again, there is an important comment in relation to regions: "to be on top, we need ICTs, which wasn't true only a decade or so, for example, the use of ICTs in the booth, which I'd say maybe 30% of interpreters in Mexico use now." A respondent makes a reflection the use of ICTs by "his" generation: "they are a useful adjunct but not essential". Some compared how it was working with and without ICTs, and felt that it is easier now, but before they could work almost as quickly. One goes on to say that there are other possibilities instead of ICTs, but it takes longer to access the information, probably meaning libraries or obtaining information from your client.

Finally, in the age group of over 65, they all seem to agree that ICTs are definitely needed for the preparatory stage and also for the post meeting phase, as well as in the booth, with only one of the respondents stating that he does not use ICTs. They do state, however, that ICTs constitute only a tool, and professionalism can only be

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obtained by training and years of experience, not by means of the tools with which they access the background information they have to develop during their work.

After seeing the differences of opinions among the different age groups and the different stands they take regarding professionalism and the use of ICTs, I will now check how significant the differences between genders are. Table 9.4 shows the affirmative and negative answers given by the male and female groups in relation to professionalism and ICTs.

Table 9.4. ICTs, Professionalism, and Gender

Number of responses
(Percentage they represent of responses in corresponding gender)

Gender	**Can ICTs enhance professionalism?**		**Should ICTs be on list of traits to be considered a "real" professional?**	
	Yes	**No**	**Yes**	**No**
Men	55	3	29	29
	(92)	(5)	(48)	(48)
Women	121	11	87	46
	(88)	(8)	(63)	(33)

An overwhelming 92% of the male respondents agreed to the first question, "Can ICTs enhance professionalism?", while only 5% dissented. Regarding the second question, "Should ICTs be in the list of traits to be considered a 'real' professional?", they were evenly divided for and against. Among the female respondents, although a large majority agreed that ICTs can enhance professionalism, it was not as overwhelming as in the male respondents. As to whether ICTs should appear on the list of traits to be considered a "real" professional, almost two thirds of them agreed they should, giving it a clear majority.

Analyzing their comments, it can be observed that the male respondents were cautious about totally embracing ICTs, although as seen with their yes/no answers they tend to be in favor of using the new technologies to enhance professionalism. The female respondents, however, were more radical in their responses, either totally for or completely against the use of ICTs, some taking it to the completely subjective form of "each interpreter develops his own method of work".

9.2.2 According to type of interpreter

The different attitudes between in-house and freelance interpreters are in the focus of my research question number 3 in chapter 3. Starting with Table 9.5 showing their

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answers to the two basic questions regarding ICTs and professionalism, I will proceed to analyze their comments to enlighten us further on their attitudes.

Table 9.5. ICTs, Professionalism, and Type of Interpreter – In-house / Freelance
Number of responses
(Percentage they represent of responses in corresponding type of interpreter)

Type of interpreter	**Can ICTs enhance professionalism?**		**Should ICTs be on list of traits to be considered a "real" professional?**	
	Yes	**No**	**Yes**	**No**
In-house	29	4	14	14
	(97)	(13)	(47)	(47)
Freelance	154	12	107	60
	(90)	(7)	(63)	(35)

What strikes me first is the similarity of the figures with those in Table 9.4 regarding the difference between genders. The ratio between the two categories, in-house and freelance, is also very similar to the categories of male and female. This led me to analyze the male/female ratio as well, where I found that among the in-house respondents, there were eight male respondents, that is, 27% of the in-house replies, while in the freelance group only 16% were male, so perhaps the higher incidence of males in the in-house category may have influenced the tendencies.

The next step is to examine their comments, to see if they present the same characteristics as the comments in the gender relationship. The in-house respondents tend to see ICTs as vital for reliable interpreting because they are quick and offer more background information, as well as including new developments in some topics and newly invented words, expressions, and terms related to the topic they are to work with. On the other hand, they emphasize that CIs should not rely on ICTs to do the jobs for them, constituting only a support which can enhance their professionalism.

The freelance respondents mostly see that everybody today uses ICTs and that it is no longer possible to find all the information necessary, especially for technical conferences, without using ICTs. Some even mention that it is indispensable in order to ensure competitiveness, as clients are demanding it as well, and one specifically states that "for a freelance the use of ICTs is indispensable". There is one important exception where a respondent mentions that he "has met a lot of highly professional interpreters who still only use paper-based resources", which is in line with my observations and some of the interviews. Although their comments show that they tend to favor more the use of ICTs, in their answers to the basic questions they still exhibit a certain reluctance

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to having knowledge and command of ICT considered as enhancing their performance and of having them in the list of traits to be considered a "real" professional.

Comparing the above tendencies with what the male/female analysis showed, the in-house respondents tend to be cautious just as the male respondents were.

9.2.3 According to region

I will now review my hypothesis b) in chapter 3, which reads: "The use of ICTs by CIs is uneven in the different regions of the world." This inequality may be due to availability of the ICTs because of economic reasons or because of the languages involved. Table 9.6 presents the affirmative and negative answers to the basic questions, while the analysis of the comments should help us understand the unevenness in the use of ICTs in the different regions of the world.

Table 9.6. ICTs, Professionalism, and Region as seen by CIs
Number of responses
(Percentage they represent of responses in corresponding subregion)

Region and Subregion	**Can ICTs enhance professionalism?**		**Should ICTs be on list of traits to be considered a "real" professional?**	
	Yes	**No**	**Yes**	**No**
AFRICA				
Northern Africa	4 (80)	1 (20)	3 (60)	2 (40)
Sub-Saharan Africa	8 (100)	0	6 (75)	2 (25)
AMERICAS	9	2	7	5
North America	(69)	(15)	(54)	(39)
Latin America and	13	2	9	6
the Caribbean	(81)	(13)	(56)	(38)
ASIA				
Middle East and	14	0	9	5
Western Asia	(100)		(64)	(36)
Central Asia	1 (100)	0	1 (100)	0
Far East	3 (100)	0	0	3 (100)
EUROPE				
Northern Europe	13 (100)	0	13 (100)	0
Central Europe	97 (89)	7 (6)	60 (55)	45 (41)
Southern Europe	13 (87)	2 (13)	7 (47)	8 (53)
OCEANIA	4 (100)	0	3 (75)	1 (25)

In Africa there were 13 respondents, of which five were located in Northern Africa and eight in Sub-Saharan Africa. They all responded to the two questions, but one did not give any comments.

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From the Americas I received 29 responses, but not all responded to both questions or gave comments.

Asia provided 18 respondents, all of whom responded to the two questions, and two who did not provide any further comments.

Europe supplied the largest number of respondents, 137 in all. The 13 respondents from Northern Europe answered the two questions, while two did not give comments. Of the 109 respondents from Central Europe, five did not answer either one or both questions, and 35 did not provide further comments. The 15 respondents from Southern Europe all answered the questions while only three did not give comments.

Oceania with its four respondents was the only unanimous region in responding to the two questions and giving comments.

What the above details mean is that there is a voice from every region in the world.

In Africa there prevails a positive attitude, stating that ICTs are useful for preparing for the meetings not only with terminology databases and dictionaries, but with the subject matters themselves, especially in technical fields. There CIs see ICTs as useful tools to enhance their competence and improve their performance by making available a wealth of resources in a short period of time. They also mention the clients demanding the use of ICTs for a faster and more up-to-date job, and therefore ICTs would ensure the competitiveness of the interpreter. On the other hand, they reported that ICTs are not always available in Africa, thus knowledge of it cannot be required in order to determine the level of professionalism. One respondent mentioned that while the use of ICTs can enhance the professionalism of a CI, it is possible to have brilliant CIs who do not profess any knowledge of ICTs; thus, knowledge of ICTs should not be considered in the list of traits to be a professional CI.

In the Americas, opinion is far more divided. Some argue that the use of ICTs can help one be qualified as a good professional, and feel that today's CIs do need to use ICTs to be up-to-date, as well as ICTs being able to enhance their performance. Others feel that the lack of knowledge of ICTs to search either the terms or the background of a subject for thorough preparation is a definite disadvantage, while others feel that using or not using ICTs does not make them "better or worse interpreters". A few do comment specifically on the use of ICTs in the booth, some in a positive way and others considering it extremely distracting and not good for booth manners. One specific percentage is provided on the use of ICTs in the booth, which is around 30% of the CIs

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in Mexico. The conclusion of one of the respondents is very interesting for both CIs and CI trainers: he regards the use of ICTs as "not so much a 'trait' as a teachable and learnable skill".

In Asia, it was stated that the use of ICTs is "essential for the CI as much as it is for the translator" or even more given the diversity of settings and fields and how quickly they have to prepare for their tasks, giving them access to texts they would not be able to consult otherwise. Beyond this, "an interpreter who does not use ICTs either does not care or –worse- feels he/she knows about everything under the sun". Strong words, but they show one of the extremes, the other being that they consider the use of ICTs as non-compulsory to be a good interpreter. The middle line would be also presented by one of our Asian respondents: "rather than essential, knowledge of ICTs should be a 'preferable trait'".

In Europe the attitudes vary from subregion to subregion. In Northern Europe ICTs are unanimously considered to be essential and unavoidable, at least for the preparation phase. Usage of ICTs in the booth, however, was considered by one of the respondents to be definitely unacceptable: "bringing your laptop to work is fine, but one should only use it outside the booth".

In Central Europe ICTs are regarded as just one of several possible supports or components of the professional environment – others being book dictionaries and encyclopedias or memory, for example –, while most respondents agree that they use ICTs to update and manage their terminology in the preparation and post-meeting phases. Regarding the use of ICTs in the booth, one CI definitely stated that one does not need ICTs; another mentioned that "once in the booth and in action, there is no need for any ICTs"; while others said that in the booth it is "difficult and usually counter-productive to try to use any physical material in order to do a better job, as it interferes with listening and concentration", and "interpretation is already hard enough; to use ICTs in the booth while interpreting, seems a superhuman act". Two of the respondents, however, stated that having a laptop in the booth is essential, precious, and invaluable. Several respondents made reference to "older, old-school, or pre-ICT era interpreters" who are absolute professionals but not necessarily familiar with the use of ICTs. They felt that ICTs are practical but should not be considered imperative for good interpreting, as "all the ICTs in the world do not make an interpreter". One interesting comment: "of course I use ICTs as tools, I know of no one that does not use them." This is contrary to my observations and even some of the interviews, since many, and not

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only the older interpreters but quite young ones too, were proud to say that they do not use ICTs, but rather only paper and pencil. An important note: "when a glossary is handwritten, it is memorized at the same time. When you rely solely on the computer, you might not be able to find the term quickly enough." To some, ICTs can even be a detriment, as they can prevent the interpreter from gaining the general picture of the message because the interpreter will be trying to grasp very specific features of the speech. A further important use of ICTs in relation to professionalism and its AIIC definition (see section 4.1) was noted as follows: "ICTs facilitate not only research [on the topics and terminology], but also the search for jobs, contracts and contacts with clients." A noteworthy answer was related to distance-interpreting modes: "For [the distance interpreting modes, i.e. remote, videoconferencing and telephone interpreting] the CI depends on the technicians: no additional ICT skills are needed." According to this informant, there would be no need to include these in the CI training programs. Finally, there is a word of hope: "a few years into the future the answer to the [question '"Should ICTs on the list of traits to be considered a 'real' professional?"] will be 'yes', but not now".

Southern Europe presented a different picture. The first impression is that there are no sides, given that each of the respondents presents an ambivalent position. On the one hand, they agree that ICTs are a great help as they allow the CI to follow closely any innovations in the fields they work with, but at the same time ICTs should not be considered an absolute prerequisite for the profession. While some of the respondents make reference to updated information, others feel that it is "the result that counts and each CI has his own method". An interesting comment was that "a search engine is a friend helping you to do your homework for a job, while doing videoconferencing or remote interpreting is an extra obstacle you have to overcome". Yet both search engines and distance interpreting constitute ICTs; they are both technologies a CI should master in order to perform his job satisfactorily. One respondent, while agreeing that ICTs were not available when he studied, recommended that ICTs should be part of the curriculum at interpreter schools.

Finally, Oceania presents a unified front as to the advantages of ICTs in order to have fast and up-to-date terminology and in general preparation. One of the respondents feels that "an interpreter who does not access the latest ICT glossaries and search engines is not a real professional in my view". Regarding having access to ICTs in the booth, one respondent thinks it "is of course useful, but not all interpreters have the

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ability to consult while interpreting, although they can nevertheless provide top quality work".

CITs in general had a favorable opinion as to the question "Can ICTs help trainees enhance their professionalism?". However, in the explanations they gave right after responding "yes" in 16 cases (there were no "no's", but several did not respond to the question in one sense or the other), it can be seen that their position is not as clear as their "yes/no" answers showed. Table 9.7 shows their answers separated by categories.

Table 9.7. Do CITs believe ICTs can help trainees enhance their professionalism?

Yes	**No**	**Explanations given**			
		In favor of ICTs	**Emphasizing how the use of ICTs affects the outcome**	**Other issues with ICTs**	**Against ICTs**
16	0	- Good source of knowledge, used wisely can enhance the professional skills. - One of the most important aspects in professional life. - In real assignments about which they have little knowledge, if they are familiar with the use of ICTs, it would be more efficient for them to locate the information they need and acquire the knowledge faster. -In an increasingly "technified" world, we ned to be open to new technologies. - ICTs should be on the list of traits essential for a CI to be considered a 'real' professional; they should be included in the material, equipment, and technology [i.e. among the collaterals]. - The simultaneous interpreting booth is a high-tech centre, even if we consider just the console without a computer in the booth. it has to be mastered and later on complemented with other ICT tools. - The use of ICTs is today an absolute necessity to become a professional interpreter. It is the basic tool to be used daily: prior, during and after the assignments. - It goes with the spirit of our times. - Present day requirements on the market make the use of ICTs a must. - Shorter deadlines require faster preparation. - In the booth the use of ICT tools is becoming more generalized (cf. use of MEDATA at the European Commission for instance) and allows the creation of the very specific DIY glossaries for further use with the same client.	- It is not just the technology that matters, important is what kind of material you look for and what you do with the material, what you use it for and how you enhance your learning with it – whether the material is found through ICTs or more conventional methods. - All kind of successfu preparation for the task enhances listening and analysis and when that is enhanced, and the material is better understood, it is easier to remember and also easier to render in another language.	- You should first be asking what kind of problems/information needs are best answered with what ICT sources of information. - For the same reasons as ICTs are standard for written translation. But the usage of ICTs has to be adapted to (simultaneous) interpreting.	- In most live interpreting situations (after university) the interpreter does not use a PC, therefore they have to learn without one at hand.

I can quote one of the respondents from Southern Europe who stated the use of ICTs "goes with the spirit of our times". Some of the explanations dealt with different

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aspects, so I have broken those down to show clearly the positions they reflect, and I have edited others for more clarity.

Though there were 16 positive replies about ICTs enhancing professionalism and none negative – there was a blank reply in the questionnaires –, in the comments there is one that specifically states that CI trainees should learn *without* using a computer. This was the only comment of this kind received from the CITs.

9.2.4 To summarize

In general, CIs and CITs perceive the impact of ICTs on their work as positive, with more emphasis on the benefits to be obtained by CITs – and not only regarding CAIT, but ICTs in general. CIs were more skeptical about the effectiveness of ICTs, with some being downright negative, while others viewed ICTs as indispensable. Thus, there does not seem to be a consensus on the part of the CIs.

CIs foresee that ICTs can eventually help ease the production effort, mainly through search engines (54%), terminology data bases (53%), and online dictionaries (50%). Fewer CIs (44%) believe ICTs can help in the listening and analysis effort, and even fewer (41%) believe ICTs can help in the memory effort.

Section 9.2 and its subsections are consecrated to examining to what extent CIs and CITs consider ICTs can enhance professionalism. A clear majority, 87%, consider ICTs can improve the level of professionalism. However, only a slight majority, 58%, consider the use of ICTs should be added to the list of traits to be considered a professional, suggested by AIIC. When considering the question according to the age group, the younger groups were more negative than their older counterparts, so the stereotype that the young are prone to believe blindly in ICTs is not true. Despite this enthusiasm, in all age groups there was a need for ICTs but also a word of caution that ICTs definitely do not give professionalism by themselves.

When analyzed by gender, male respondents appear to be more enthusiastic about the possibilities of ICTs of enhancing professionalism (92%), while female respondents are slightly more reserved (88%). Female respondents were more radical in their responses and comments, either totally for or completely against the use of ICTs. There is a similarity of figures when regarding the difference between type of interpreter (in-house and freelance). The in-house respondents tend to see ICTs as vital for reliable interpreting because they are quick and offer more background information, as well as

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including new developments in topics and newly invented words, expressions, and terms related to the topic they are working with. The exception was one respondent who mentions that he knows many highly professional interpreters who only use pencil and paper, which is backed up by my observations and some of the interviews.

When examined by region, in Africa there prevails a positive attitude, while in the Americas opinion is far more divided. In Asia they feel it is essential, while in Europe the attitudes vary from one subregion to another: in Northern Europe ICTs are unanimously considered as essential and unavoidable; in Central Europe they are regarded as just one of several possible supports; in Southern Europe there is an ambivalent position. Oceania presents a unified front as to the advantages of ICTs.

CITs, on the other hand, had a general favorable opinion regarding ICTs helping trainees enhance their professionalism.

9.3 In relation to quality

ICTs in relation to quality have been seen by the CIs from various points of view. I have grouped them into several units that allow comparison.

9.3.1 According to age group and gender

The first unit assembles age and gender. Table 9.8 shows the responses by age groups.

Table 9.8. ICTs, Quality and Age

AGE	IMPORTANCE	sense consistency	coherence	correct target language	technical terms	syntax and style	delivery	voice and articulation	booth manners
20-25	Most important	0	0	0	0	0	0	0	0
	Important								
	Fairly important								
	Not so important								
26-30	Most important	1	1	7	9	2	2	1	0
	Important	3	3	2	3	1	0	1	2
	Fairly important	4	4	1	0	1	2	2	2
	Not so important	3	3	2	0	2	2	2	2
31-35	Most important	7	5	10	16	1	0	2	1
	Important	5	3	6	1	1	4	1	1
	Fairly important	2	4	3	0	2	5	3	2
	Not so important	5	6	2	3	7	5	7	8
36-40	Most important	9	5	8	15	2	4	5	3
	Important	2	3	6	4	3	1	0	0
	Fairly important	3	4	2	1	3	3	2	0
	Not so important	4	6	5	3	5	7	4	6

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41-45	Most important	3	4	5	15	0	1	2	1
	Important	2	1	9	3	0	2	0	0
	Fairly important	7	7	2	4	4	2	1	4
	Not so important	7	5	4	2	8	7	9	7
46-50	Most important	6	3	4	14	2	2	1	2
	Important	3	5	10	3	2	1	3	1
	Fairly important	4	5	3	3	3	1	0	0
	Not so important	3	3	2	0	4	6	7	7
51-55	Most important	12	10	16	21	2	3	2	1
	Important	3	3	5	4	3	1	0	1
	Fairly important	6	1	0	1	2	5	4	4
	Not so important	0	5	2	0	3	2	4	3
56-60	Most important	8	4	7	16	2	3	3	1
	Important	6	6	9	5	3	4	2	3
	Fairly important	2	3	4	1	4	0	1	1
	Not so important	5	5	4	4	6	8	8	10
61-65	Most important	5	2	7	10	2	2	2	2
	Important	3	5	4	4	1	1	1	1
	Fairly important	5	3	2	3	1	3	0	0
	Not so important	4	6	5	3	6	6	7	6
>65	Most important	5	6	5	12	0	1	0	0
	Important	2	1	3	0	3	5	1	1
	Fairly important	1	1	1	1	2	1	4	3
	Not so important								

Interesting and important comments came up in this section of the questionnaire. Some are down-to-earth, matter of fact, on the general benefits of ICTs, such as “with ICTs you gain lots of time because you do not have to go to a big library” (Interviewee 8).

Others were more specific about elements of quality and their impact on their work: “Regarding sense and consistency, [ICTs are] good only for retour [....], but there is more trust on colleagues than on technology” (Interviewees 6 and 7). “As to voice and articulation, and syntax and style, ICTs can even be a detriment, as it can hinder concentration. [If we talk about] booth manners, [the use of ICTs is] controversial, since the older generations [sic] can ask not to use the computer in the booth because it bothers them” (Interviewee 5).

Table 9.9 shows the attitude of the CIs towards ICTs in relationship to quality according to their gender.

Table 9.9. ICTs, Quality, and Gender

GENDER	IMPORTANCE	sense consistency	coherence	correct target language	technical terms	syntax and style	delivery	voice and articulation	booth manners
Men	Most important	15	11	17	37	3	5	4	3
	Important	11	9	20	8	4	5	3	4
	Fairly important	12	12	7	7	9	6	4	3
	Not so important	8	13	7	4	18	16	20	19

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Women	Most important	36	26	51	62	10	14	14	7
	Important	18	21	32	18	12	15	6	6
	Fairly important	22	22	9	9	12	13	13	11
	Not so important	27	32	21	11	26	25	27	30

Table 9.9 indicates that both males and females seem to agree that ICTs can significantly enhance the following elements of quality: sense consistency, coherence, correct target language, and mainly technical terms, while they all believe that ICT have very little impact on the elements syntax and style, delivery, voice and articulation, and booth manners.

9.3.2 According to type of interpreter

My intention is to analyze if there is an important difference between the attitudes of in-house and freelance CIs regarding ICTs and quality according to the answers to the question on the importance awarded presented in Table 9.10.

Table 9.10. ICTs, Quality, and Type of Interpreter – In-House or Freelance

TYPE OF INTERPRETER	IMPORTANCE	sense consistency	coherence	correct target language	technical terms	syntax and style	delivery	voice and articulation	booth manners
In-House	Most important	7	5	10	14	2	4	3	0
	Important	5	3	10	7	2	2	1	1
	Fairly important	6	5	2	2	2	4	2	2
	Not so important	2	5	3	3	7	5	7	7
Freelance	Most important	47	35	62	113	12	15	13	10
	Important	26	27	42	22	13	16	7	6
	Fairly important	29	29	13	12	21	16	15	12
	Not so important	39	37	28	15	37	37	42	44

Table 9.10 shows that among the in-house CIs, the pattern is similar to that between genders in Table 9.9. Freelance CIs, however, are not so clear about which ICTs are important for what element of quality, especially regarding sense consistency and coherence, where they are divided into either believing it is most important and not so important almost equally, and in the case of coherence, “not so important” even surpassing the number of opinions that they gave to “most important”. This appears to reflect the great variety of settings where freelancers work.

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9.3.3 According to region

For our hypothesis b) in chapter 3, understanding the attitudes of the CIs towards the issue of quality according to their region is crucial.

Table 9.11. ICTs, Quality, and Region

REGION	IMPORTANCE	sense consistency	coherence	correct target language	technical terms	syntax and style	delivery	voice and articulation	booth manners
AFRICA									
Northern Africa	Most important	2	1	2	1	0	2	1	1
	Important	1	2	1	1	2	0	1	1
	Fairly important	0	1	0	2	0	0	0	0
	Not so important	1	0	1	0	0	0	0	1
Sub-Saharan Africa	Most important	3	3	4	4	2	2	1	0
	Important	2	0	0	1	0	0	0	0
	Fairly important	2	3	2	1	2	1	2	2
	Not so important	0	0	0	1	1	2	2	3
AMERICAS									
North America	Most important	4	2	4	6	1	2	1	1
	Important	1	1	3	5	2	1	1	1
	Fairly important	6	4	4	0	3	2	1	1
	Not so important	0	2	0	1	1	4	4	4
Latin America and the Caribbean	Most important	6	6	7	11	1	4	3	0
	Important	3	0	4	0	1	0	1	1
	Fairly important	2	4	0	1	2	2	0	0
	Not so important	3	5	3	1	3	2	4	5
ASIA									
Middle East and Western Asia	Most important	2	4	7	6	1	2	1	1
	Important	1	2	4	3	1	1	1	0
	Fairly important	5	1	0	1	2	1	2	1
	Not so important	3	3	1	3	2	4	1	2
Central Asia	Most important	0	0	1	1	0	0	0	0
	Important	1	1	0	0	0	1	0	1
	Fairly important	0	0	0	0	1	0	1	0
	Not so important	0	0	0	0	0	0	0	0
Far East	Most important	1	1	1	2	0	0	0	0
	Important	0	0	2	0	0	0	0	0
	Fairly important	0	0	0	0	0	0	0	0
	Not so important	1	1	0	1	1	1	1	1
EUROPE									
Northern Europe	Most important	5	3	7	6	1	1	1	0
	Important	1	2	3	5	3	2	1	2
	Fairly important	3	4	0	1	1	2	2	1
	Not so important	3	3	1	0	0	1	1	1
Central Europe	Most important	25	15	35	72	5	5	8	6
	Important	18	19	25	11	6	11	3	2
	Fairly important	13	14	11	6	8	10	6	6
	Not so important	20	29	16	9	33	24	31	30
Southern Europe	Most important	3	0	2	4	1	1	1	1
	Important	1	3	4	1	0	0	0	1
	Fairly important	2	1	0	3	0	1	0	0
	Not so important	2	3	4	2	4	3	4	3
OCEANIA	Most important	3	3	1	4	0	0	0	0
	Important	1	0	2	0	1	1	0	0
	Fairly important	0	1	0	0	2	1	2	2
	Not so important	0	0	1	0	0	1	1	1

What can be deduced from Table 9.11 is that the pattern that surfaced in Table 9.6 repeats itself. The pattern is that the regions and subregions as a whole present

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certain attitudes: Africa, Asia, Northern Europe, and Oceania seem to be very positive about ICTs, while the Americas, Central Europe, and Southern Europe present a divided opinion, sometimes in general and sometimes as to the use of ICTs in the booth.

9.3.4 According to various elements of quality

Regarding how ICTs can support and develop the various elements of quality, the answers of the CITs are presented in Table 9.12.

Table 9.12. ICTs and quality as seen by CITs

DEGREE OF IMPORTANCE	sense consistency	coherence	correct target language	technical terms	syntax and style	delivery	voice and articulation	booth manners
Most important	4	4	8	11	5	3	0	0
Important	6	8	7	4	7	8	5	2
Not so important	4	2	0	0	1	3	9	12

One of the interviewees linked the elements of quality with the efforts, stating that delivery is production. Also, the same interviewee explained that he thinks ICTs are important in the case of syntax and style because it is register.

I was interested in learning whether ICTs in relation to the issues of professionalism and quality were discussed with or even taught to the students. In eight instances the CITs responded that they do teach or discuss these issues, while five clearly stated that they do not. Their comments, which appear in Table 9.13, are of interest.

Table 9.13. Teaching and discussing professionalism and quality in relation to ICTs

Teach and/or discuss		**Comments**
Yes	**No**	
8	5	- The discussion of professionalism and quality in relation to ICTs is an important part of the course on interpreting studies. - When I talk about professionalism and quality, I focus on their performance and manners. They are expected to learn about the use of ICTs at an earlier stage before we talk about professionalism and quality. - We tend to stress more practicality than the quality, especially when trainees go on internship in an international organization.

I have reproduced their comments in their entirety as they depict the attitude of the CITs as well. In two of the three comments reported, it can be deduced that the CITs do not consider that there is a link between ICTs and the two concepts.

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The CIs shared some of their opinions under the heading of additional comments, which are significant for our hypotheses and research questions, namely hypothesis a), and research questions numbers 2, 10, 11, and 12, listed in chapter 3. These comments fall under the following general lines:

- personal (mainly well-wishers, very encouraging and very much appreciated, and then several also requesting to hear about the results obtained);
- praising ICTs and proposals of cooperation;
- disagreement with the postures in the questionnaire;
- asking for clarification of any of the questions;
- mentioning other ICTs and different uses, which was mainly my intention with the open questions.

There were some general comments, which give a very important view of how CIs see ICTs today, such as the comment "We need ICTs in our day-to-day work. It is part of our life." However, here I shall concentrate on the last four mentioned above.

Respondents in general were positive about ICTs, praising ICTs and proposing to have cooperation, attesting to how updated they are and cannot be avoided by the professional CIs anymore; how they help if the CI lives in the country of his B language and does not have other access to a wide variety of material in his A language on the subject; how ICTs allow the CI to gain time because they do no longer need to go to a large library for preparation. This is a great step compared to a couple of decades ago when one could only count on the documents the client sent and one's own dictionaries. The downside of this is that having information at one's fingertips is the reason why there is less emphasis on general knowledge.

A few respondents, only 0.5%, suggested that it would be useful if there were more cooperation between translation and interpreting ICTs.

Disagreement with the postures in the questionnaire came in various ways, from small disparities to complete diatribes. I would like to analyze these to elucidate their reasons and if possible their doubts and then shall proceed to explain why I initially adopted that posture in the questionnaire.

The strongest disagreement was with ICTs themselves as an important part of interpreting. One respondent said it is certainly not an integral part of interpreting, and preparation for interpreting is not ICT-dependent, although he attributes this position to his age-group (56-60), rather than a general line. While acknowledging that ICTs help very much during the preparation phase, another respondent from the 61-65 age group

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stated that in the booth ICTs are not of very much help. A third respondent felt that "ICTs are too broad a notion". Narrowing ICTs to a few general umbrella terms was not an easy task, but in general CIs felt they could find the applications of those terms to the ICTs they were using.

On the other hand, a member of the youngest age group (20-25) reported not understanding why I focus on ICTs given that ICTs are not equal to proficiency in interpreting or in languages, for that matter. Also from the younger age-groups (36-40), there was another comment to that effect: "some interpreters still prefer handwritten notes". Some felt that ICTs cannot contribute much to the interpretation, except perhaps terminology and additional background information. An interesting contrast came from a respondent in the over 65 age group: while he felt that his generation does not use much ICTs, this person mentioned using all the Internet resources except for electronic norms manuals, and not only using them, but using them often. Words of caution were included by one of the respondents: "a lot of information on the Internet is not very reliable", which although common sense, is something that should be clearly specified when training CIs. Another word of caution: if the CIs depend too much on the computer, the language is likely to become machine-like, forgetting the importance of producing language that really communicates with human beings.

Gile's Efforts models were criticized by three respondents. Firstly, they feel that ICTs in Gile's efforts model would probably systematically make it easier to understand the source and to "say the right thing", i.e. support the understanding and production efforts, so it would not, in the opinion of one of the respondents, be possible to make a differentiation between ICTs. This opinion was reinforced by another respondent, who stated that since ICTs are much used for preparation, and preparation will help with understanding (listening and analysis), production and memory, then ICTs definitely help with all three efforts. Secondly, one felt it was impossible to answer since the heading of the question states one particular theory about how interpreting works, but he sees interpreting quite differently. Other respondents did not understand Gile's models, or more exactly, they did not understand what the term "memory" specifically means in the "listening and analysis + production + memory" breakdown.

Integrating the modes of distance interpreting, that is, transmission media or delivery formats, in this study together with the other ICTs, i.e. content tools, was also questioned, as it was, on the one hand, believed to be too challenging for a single study, and on the other, that the modes of distance interpreting are only part of the interpreting

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situation imposed or forced on the CI, not aids nor tools chosen as a means of improving the performance of the CI.

When linking ICTs to quality, I was asking whether it would have any effect on the different elements of quality listed by Pöchhacker (1999). One respondent could not see how ICTs would matter in relation to the elements of syntax and style, voice and articulation, and booth manners, as those elements, he feels, depend mostly on how good the CI is at rendering from the syntax of one language to the other. The other respondents, however, answered without questioning the use of ICTs in regard of these elements, and in fact, some were supportive especially in the case of booth manners, as they felt it was an effective way for a booth partner to find information quickly to help their companion. Another respondent stated that consistency and coherence are a question of intelligent thinking, while delivery, voice and articulation, and booth manners have to be learned and have little to do with ICTs, and a third one felt that ICTs are only means to obtain the information, just as dictionaries, libraries, books, and articles were before. Quality, for this respondent, is given by the "interpreter's competence and knowledge which generates from the capability to appreciate, process, and assimilate information and then use it in the proper context". In my 2005 pilot study I had asked an open question with reference to quality, where the respondents were to give their own beliefs as to what elements constitute it. It did not help as they often mixed quality and professionalism (according to the definitions I had), sometimes feeling they were total synonyms, and mainly the CIs felt confused. This led me to decide to use as a guideline the elements of quality listed by Pöchhacker. One respondent felt that the question, since it provided the list, was loaded as it already implied there was a "correct" answer. In his opinion, ICTs would have no bearing on voice and articulation, delivery, and booth manners, while on sense consistency and syntax and style their usefulness would be totally dependent on the individual interpreter. His point of view was shared by others.

The item "booth manners" was often placed at the lower end of the scale, that is, as not very important, but one respondent saw two sides to it: it is very good manners to look up a term for one's boothmate, while it is supremely unnerving to hammer away e-mails while one's boothmate is working. Additionally, if they see ICTs of importance for booth manners, it is in a negative sense, as they feel it is inconsiderate use of ICTs that might annoy colleagues. An opinion was along the lines that ICTs cannot improve the personal performance aspects, such as sense consistency, syntax and style, voice and

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articulation, or booth manners, nor can ICTs compensate for lack of fluency in the work languages. One respondent did not exactly disagree with the relationship between ICTs and quality, but stated that he could not really say since he had never used ICTs (age group over 65), although he believes it would possibly greatly enhance the quality of interpretation. This answer illustrates and confirms that being part of the older age groups does not necessarily mean that they are against ICTs, so it answers my research question 2, "Is there a difference in the use of ICTs and attitude towards them according to age?". I envision ICTs as a means of supporting the above-mentioned list of elements of quality as CIs and CITs find new productive ways of applying them.

I asked for the type of institution where the CIs work, as I was looking into the differences between in-house and freelancers, and many of the freelancers also work for one single organization, although not permanently but based on short-term or specific-project contracts. One respondent felt the question should have been repeated for in-house or staff interpreters and then for freelancers. Another respondent did not answer the question because he is in-house half-time, and then also teaches and works freelance. Although the question on type of conference interpreter only gave the options of in-house and freelance, in the following question on the type of institution there was a possibility to specify other institutions or more details.

Frequency of use was another point of debate, as the CIs felt the questionnaire did not allow them to differentiate the frequency of use during the different phases, for example very often or always before interpreting and then much more rarely during interpreting or for post-interpreting tasks. On this, I must totally agree, although I tried to plan the questionnaire accordingly, it did not allow technically for too many options on a single line. I am aware, also, that this may have distorted my results. Within frequency of use, other respondents also pointed out that there was no category between "very often" and "seldom", the absence of such an intermediate category making the answers inaccurate.

The use of ICTs in the booth was yet another item subject to discussion, as one of the respondents felt that ICTs in the booth have actually little relevance.

Electronic norms manuals became an issue for a few of the respondents, as some did not understand what these were. It could also be understood from the analysis they are apparently falling into disuse.

The clarifications needed of the questions were often closely related to disagreement with the positions presented in the questionnaire. For example, the

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question about on-line terminology and online dictionaries seemed to be confusing to one respondent because, according to him, in Central Europe CIs mostly use off-line versions of in-house terminology, which cannot be considered either on-line or commercial. Although Intranet would also be an ICT of great significance for intracultural communication within an institution, for the purposes of this study Intranet is considered online, since it uses Internet technologies.

When I included open questions in the questionnaire my intention was to obtain from the respondents different uses and possibilities of the ICTs presented, as well as hearing about other ICTs they might be using.

One respondent mentioned that electronic tools (ICTs) are much analyzed with regard to translation, but not much with regard to interpreting, so the present study opens up many possibilities of research.

Although one respondent considers it essential to have a general ability to use ICTs as such competence is already taken for granted by employers and organizers of conferences, a sophisticated use of ICTs is not necessary.

Voice training or coaching was suggested as a new application of ICTs, and it was closely linked with booth manners, as the respondent presented it as a possibility of not bothering the colleagues with yelling and straining the voice. What was not stated was whether this could be done with any ICTs presently available.

Regarding issues of booth manners, the ICTs should be used always thinking about the boothmate, especially regarding the sound quality, as the noise made by the keyboard can be extremely annoying and be a detriment to concentration.

Additional skills with ICTs would be electronic document management and laptop management in general, especially to manage numerous documents in the booth.

It was suggested that interpreting organizations such as AIIC could devise their own ICTs and make them available to their interpreters, as through centralizing the information it would minimize search time, and therefore eventually provide better quality delivery. To this, one respondent explained he bought and developed a tailor-made terminology application, thus demonstrating that these possibilities are available also for individuals.

The relevance of the ICTs was also mentioned in relation to specific situations: “online dictionaries and glossaries can be very relevant if the meetings the CI works in vary to a considerable degree”. In the institutions, the ICTs can be useful for finding the

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original text being negotiated in the conference in the different languages to check the terminology.

The link between ICTs and other resources, such as general knowledge, versatility, quality of training received by the CI, and personal qualities such as voice should also be explored, so as not to present only one side of the very complex profession of interpretation.

Blogs, a category that I had not included among the possibilities, were suggested as a source of "expressions that pros in the field actually use among themselves, as opposed to 'correct' terms", since CIs would want their "listeners to feel you are one of them". This category should be suggested to trainees to start understanding the fields and the speakers from an "insider" point of view. Other similar categories not included but which are useful and common tools today are mailing lists and discussion lists, to share experiences among colleagues.

Within the age group over 65, it is interesting to note that they are using resources such as search engines, online dictionaries, and CD-ROMs, while on the other hand in that same age group they have no experience of remote interpreting, videoconferencing, or telephone interpreting. Another respondent within that age group expresses his opinion that ICTs "have become inevitable engines to gain extra speed along the route of this unique profession".

A new use of telephone interpreting proposed by a freelance respondent in the age group 36-40 would be to publish a telephone number for the interpreters' association concerned from which would be sent the client's request to all the cellular phones of the members of such an association in the region where the client is located.

While most of the respondents agree on the positive side of ICTs, there are some who stress it even further: "ICTs mean total equality and perfect competition".

Speeches available online are very useful for preparation work, since they allow the CI to become familiar with the speaker's form of delivery and with the vocabulary used.

There is, however, one disadvantage: the Internet is not available everywhere, and as one respondent claimed, "especially in big hotels", so it means ICTs cannot always be used during the actual work.

The entire idea of ICTs in this study was summarized in the following comment: "Most important: ICTs help the interpreter to acquire the necessary knowledge of the

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subject matter and the corresponding technical jargon" (age group over 65, Central Europe), and they are not just a fashion, they are here to stay.

9.3.5 To summarize

I was interested in learning whether ICTs in relation to the issues of professionalism and quality were discussed with or even taught to the students. In eight instances the CITs responded that they do teach or discuss these two issues, while five stated clearly that they do not. From their comments, it can be inferred that CITs do not consider that there is a link between ICTs and the two concepts, despite their enthusiasm shown in previous results (section 8.8).

From the point of view of quality, when linked with age groups, the youngest (20-25) did not feel there was a link between ICTs and quality. The 51-55 age group was the one that envisaged ICTs as having more importance for the following elements: technical terms, correct target language, and sense consistency. All age groups, except the 20-25 one, gave the most important level to technical terms. It should be mentioned that two interviewees mentioned that more trust is placed in colleagues than in technology. When examining their views according to gender, both males and females seem to agree that ICTs can significantly support technical terms, correct target language, and sense consistency. Regarding the type of interpreter, the in-house CIs show a pattern that is similar to that between genders, but freelancers are more divided about which ICTs are important for what element of quality. Especially regarding sense consistency and coherence, they are divided almost equally between giving it the highest rank and relegating it to the lowest rank.

CITs, like CIs, concede the highest degree of importance to technical terms and to correct target language, while they consider ICTs not so important for voice articulation and booth manners.

Both CIs and CITs, then, generally agree on the positive side of ICTs and see them as a means for achieving equality and fair competition in the professional and educational settings.

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10 Conclusions

What can this research contribute to our understanding of conference interpreting, technology, and the mind? This study, depicting a particular moment in the history of the profession, can contribute to understanding how ICTs are being used today and how CIs feel about them at the present time. To understand how ICTs can affect conference interpretation, I have dissected the practice in terms of the models of phases, efforts, and settings. To understand the technology, I have developed a typology and then presented the ICTs mentioned by the CIs and CITs, with a description of their use and possibilities, as well as a picture of the ICTs whenever possible.

This research does not constitute an isolated description, as interest in the field is increasing and more researchers are working on it.

10.1 What have we learned about the hypotheses and the research questions?

When analyzing the answers given by our respondents, I have referred to the hypotheses and research questions continuously. Let me present each of the hypotheses and research questions and a summary of what has been said.

With respect to our hypothesis a), it can be said that there is still a certain resistance to the use of ICTs in the booth, and to the availability of ICTs during delivery. Although all the ICTs presented as options in this study were all used to a certain extent, it cannot be claimed that they are universally used; there are variations.

This brings us to hypotheses b), on the unevenness of the use of ICTs in the different regions of the world. The differences in the use of ICTs according to region are not as striking and evident as they were four years ago when I conducted my pilot study. This suggests two points: the advance of ICTs appears to be amazingly rapid, regardless of the problems in the world economy, and globalization is evening out the differences between regions, that is, the geographical digital divide appears to be vanishing.

This leads us to hypothesis c), regarding the coincidence of the use of ICTs by CIs and what is taught to CI trainees: in line with constructivism, more and more CITs are concerned about giving the trainees what they will actually need in order to be

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successful in the market. Therefore, more ICTs are taught, or at least informed about, than just a few years ago.

Now the research questions, which are more specific:

The answers to questions 1 to 3, regarding the difference in the use of ICTs and the attitude towards them according to gender, age, and type of conference interpreter, i.e., in-house or freelance, supported to a certain extent the conventional stereotypes, as there were differences within all these variables. These differences, however, were not always in line with what was expected. In the age groups, for example, it was not necessarily always the older interpreters who were using fewer ICTs and the younger more; sometimes it was exactly the contrary.

Questions 4 to 7 dealt with the phases of the interpreting process, and while the general outcome was that interpreters use ICTs less for the booth, it was not much less than for the other phases, and CIs and CITs are accepting them more and more for the delivery itself.

Question 8 regarding the distance modes did not yield the answers needed to confirm that they are being considered as an option for saving resources in view of the economic crisis worldwide. However, it should be noted that their use is increasing, slowly perhaps but steadily, so their acceptance as a solution would appear to be on the way. Distance modes are also being implemented as options for distance learning by the CITs, so trainees are familiar with them.

Questions 9 and 10 were both intended to analyze the attitudes of the CIs and CITs, and to see the impact of ICTs on the profession. Although there were many professionals and educators who openly stated that ICTs cannot produce quality and professionalism, in general they admitted that they were an important means to obtain the information needed to perform the job, and were therefore unavoidable. In spite of this, they were still wary of expressing a very enthusiastic approach regarding ICT use to produce quality and professionalism.

Question 11 was clearly answered: more ICTs are needed in various languages, different types of ICTs are needed, and also there seems to be constant interest in further developments.

Question 12, regarding the university level at which CIs are trained, can be globally answered as still more graduate level than undergraduate (first four years of university studies), but the gap is becoming narrower. There are still more graduate courses in Northern Africa, Latin America, and Central Europe, but in Southern Europe

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and the Far East the number of undergraduate courses is increasing rapidly. What cannot be stated on the basis of the answers received is whether these undergraduate courses are just introductions to interpreting without the aim of training professionals, or if they are actually training future professionals. In the Middle East and Western Asia there appears to be the same number of graduate and undergraduate courses.

The main contribution of this study is updated information about conference interpreters' present-day usage of ICTs, and their attitudes towards them, mostly in relation to the important issues of supporting, improving or developing professionalism and quality.

Since this research is based on responses from 267 subjects in 47 countries and in practically all regions on five continents, 41 languages, and 173 language combinations, it is one of the most comprehensive grassroot studies made in IS regarding usage of ICTs. The data can be particularly useful for trainers, and perhaps for the developers of ICTs. Interesting individual results can be found in the various tables and charts as well as in the analysis made in section 10.1 of each of the hypotheses and research questions. I highlight here the most significant:

- Today CIs tend to integrate the use of ICTs as part of their work in a more natural way, with only a few exceptions, which are not always due to generational or regional differences. Although there might still be resistance on the part of some CIs and CITs, most conference interpreters and conference interpreter trainers are now embracing ICTs in their work.
- Regardless of the problems in the world economy, globalization is making the geographical digital divide vanish in this field.
- Conference interpreter trainers are aware of the necessity of the trainees to prepare for a demanding market and have found ways of overcoming budgetary restrictions by informing their students about the ICTs and encouraging them to learn to use them on their own.

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10.2 Future research

As Setton (1999: 281) states, "traditionally SI research has been aimed explicitly at improving training and the quality of professional performance and practice", but it "yields models which are at best incomplete", where

> […] if some observers of SI sense that the "irregularities" or "performance variations" in comprehension and production are part of a communicative dimension which accompanies the information content in discourse, they lack a model of how it is cognitively processed: modelling SI reveals the absence of an integrated framework capable of supporting the analysis of communication discourse in different languages. (Setton 1999: 124)

This study has sought to contribute to improving both training and practice by informing the CIs and CITs about the current situation at this particular moment. The information provided here can be further processed and analyzed according to various models in many disciplines.

The next step in the education setting is already in use: the Virtual Interpreting Environment (VIE), which is a conference interpreting system simulator that can be used online (live sessions) and offline (recorded teaching materials), and the booths and source may be in different rooms for remote interpreting practice, and which further offers the possibility of being used for real events (Moser et al. 2005, Sandrelli and Hawkins 2006).

There are also proposals for training visually impaired students, for which ICTs can be of utmost value.

10.3 The future of interpreting

The theme for the EMCI conference in London in 2006 was the future of interpreting, as there is general concern about what kind of profession is awaiting interpreters when all the machines are coming onto the market. As a general conclusion, it was stated that in order to continue to flourish as a profession, interpreters have to adapt to the new possibilities by learning how to use ICTs to their own advantage.

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10.4 Concluding remarks

Through my surveys, I have been able to show statistically that the use of ICTs in conference interpreting is fairly extensive, and that there is in fact a globalization of ICTs in conference interpreting, with local differences and nuances.

Thus, ICTs are here to stay. Just as when simultaneous interpreting started nobody would question the use of book dictionaries, now we are starting to regard ICTs as a natural part of the profession.

Let me conclude by quoting one of my respondents: “I think ICTs can enhance professionalism because they can better prepare the interpreter for the job and also help during the job. Are they essential? Probably more each day.”

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References

Agostini Associati. Accessed June 2008. "Glossary – Definitions of language industry terms". http://www.agostiniassociati.com/translation-glossary.php.

AIIC. 2000a. "Code for the Use of New Technologies in Conference Interpretation". www.aiic.net. Accessed May 2005.

AIIC. 2000b. "Guidelines for Remote Conferencing". www.aiic.net. Accessed May 2005.

AIIC. Accessed May 2005. "AIIC's Conference Interpretation Glossary", www.aiic.net/glossary/.

AIIC. Accessed March 2007. "Introducing AIIC". http://www.aiic.net/ ViewPage.cfm/article8.

AIIC. 2010a. "Facts and figures". http://www.aiic.net/stats/figures/default.cfm?G=1. Accessed January 2010.

AIIC. 2010b. "Facts and figures". http://www.aiic.net/stats/figures/default.cfm?G=5. Accessed January 2010.

Allain, Jean-Pierre. 2007. "Interpretation at videoconferences – what's the big deal?" *Webzine* September-October 2007. http://www.aiic.net/ViewPage.cfm ?page_id=2754. Accessed June 2009.

Alonso Bacigalupe, Luis. 2006. "Book review of Jesús de Manuel Jerez (Ed.). *Nuevas tecnologías y formación de intérpretes.* Granada: Atrio, 2003. 204 pp. ISBN-84-96101-14-2." *Interpreting* 8:1. 116-120.

Answers.com. Accessed July 2009a. http://www.answers.com/topic/intranet.

Answers.com. Accessed July 2009b. http://www.answers.com/topic/mp3.

Answers.com. Accessed July 2009c. http://www.answers.com/topic/website.

Applied Language. Accessed October 2007. *Instant telephone interpreting*. http://www.appliedlanguage.com/instant_telephone_interpreting.shtml.

Arsham, Hossein. 1994-2005. "Questionnaire Design and Surveys Sampling". http://www.mirrorservice.org/sites/home.ubalt.edu/ntsbarsh/Business-stat/stat-data/Surveys.htm#rss. Accessed April 2005.

AskOxford. Accessed May 2009. Free online dictionary resources from the Oxford University Press. http://www.askoxford.com/.

ATA. 2005. "Guide to ATA Continuing Education Points". *The ATA Chronicle*, May 2005, XXXIV (5): 53-57

ISBN:978-84-693-4073-8/DL:T.993-2010

Atril. Accessed 2008a. "Glossary". http://www.atril.com/technology/glossary.asp?InFrame=true.

Atril. Accessed June 2008b. "Overview of Déjà Vu". http://www.atril.com.

Audacity. Accessed October 2007. http://audacity.sourceforge.net.

Auditel. Accessed March 2009. 'Auditel Simultaneous Interpretation Systems'. http://www.thorvinelectronics.com/sound/auditel_interpretation.html.

AUSIT. Accessed May 2005a. "Translation and Interpreting terminology", www.ausit.org/eng/showpage.php3?id=851.

AUSIT. Accessed May 2005b. "AUSIT Code of Ethics for Interpreters and Translators", www.ausit.org/eng/showpage.php3?id=650.

AUSIT. Accessed May 2005c. "How to become a Professional Translator or Interpreter". www.ausit.org/eng/showpage.php3?id=655.

Austermühl, Frank. 2001. *Electronic Tools for Translators.* Manchester, UK and Northampton, MA, USA: St. Jerome Publishing.

Babylon. Accessed July 2009. http://dictionary.babylon.com/Digital%20Versatile%20Disc#!! GE5F8HNF7T.

Baigorri-Jalón, Jesús. 1999. "Conference Interpreting: From Modern Times to Space Technology". *Interpreting. Special Issue The History of Interpreting in the 20th Century.* 4(1): 29-40.

Baigorri-Jalón, Jesús. 2004. *Interpreters at the United Nations: A History.* Salamanca: Ediciones Universidad de Salamanca.

Baigorri-Jalón, Jesús. 2007. Personal communication by e-mail.

Bao, Chuanyun. 2009. "Adapting to a New Paradigm. The impact of technological development on translator and interpreter training". In *East Meets West. Current Interpreting Trends,* J. Matsunawa (ed). Selected Papers from the International Symposium at Kobe College, Japan. Tokyo: Entitle. 93-124.

Barik, Henri C. 1969/2002. "Simultaneous interpretation. Qualitative and linguistic data". In *The Interpreting Studies Reader*, F. Pöchhacker and M. Shlesinger (eds). London and New York: Routledge. 78-91.

Barinas. Accessed March 2009. *Translation Industry Glossary.* s.v. Simultaneous interpretation. http://www.barinas.com/s-t_main.htm.

Bendazzoli, Claudio and Annalisa Sandrelli. 2005. "An approach to corpus-based interpreting studies: developing EPIC (European Parliament Interpreting

ISBN:978-84-693-4073-8/DL:T.993-2010

Corpus)". http://www.euroconferences.info/proceedings/2005_Proceedings/2005_proceedings.html. Accessed March 2008.

Benhaddou, Adil. 2002. *Video conference and interpretation.* Mémoire de DEA. Université de Mons Hainault.

Berber, Diana. 2005. *New Technologies and electronic tools in conference interpreting: a survey of their usage in professional and educational settings.* Unpublished minor dissertation. Tarragona: Universitat Rovira i Virgili.

Biau Gil, José Ramón and Anthony Pym. 2006. "Technology and translation (a pedagogical overview)". In *Translation Technology and its Teaching,* A. Pym, A. Perekrestenko and B. Starink (eds). http://isg.urv.es/library/papers/BiauPym_Technology.pdf. Accessed March 2007.

Biemer, Paul P. and Sharon L. Christ. 2008. "Weighting survey data". In *International Handbook of Survey Methodology,* E.D. De Leeuw, J.J. Hox, and D.A. Dillman (eds). New York and London: Lawrence Earlbaum Associates.

Biggs, John and Catherine Tang. 2007. *Teaching for Quality Learning at University*. Maidenhead (UK) and New York: McGrawHill Society for Research into Higher Education & Open University Press.

BITRA. Accessed January 2010. *Bibliography of Interpretation and Translation*. Universidad de Alicante. http://cv1.cpd.ua.es/tra_int/usu/buscarresultados.asp.

Blasco Mayor, María J. 2005. "El reto de formar intérpretes en el siglo XXI". *Translation Journal* 9:1. http://accurapid.com/journal/31interprete2.htm. Accessed March 2007.

Bledstein, Burton. 1976. *The culture of professionalism: the middle class and the development of higher education in America.* New York: W.W. Norton.

BNC (British National Corpus). Accessed October 2007. http://www.natcorp.ox.ac.uk/.

Booth, Wayne, Gregory Columb, and Joseph Williams. 1995. *The Craft of Research.* Chicago: Chicago University Press.

Bourdieu, Pierre. 1990. *In other words: Essays towards a reflexive sociology.* Stanford, CA: Stanford University Press.

Bowen, Margaret, David Bowen, Francine Kaufman, and Ingrid Kurz. 1995. "Interpreters and the making of history". In *Translators through history*, J. Deslile and J. Woodsworth (eds). Amsterdam and Philadelphia: John Benjamins. 245-277.

Bowen, David, Margareta Bowen, and Irena Dobosz. 1990. "The Life of a Diplomatic Interpreter: An Interview with Irena Dobosz". In *Interpreting – Yesterday, Today,*

ISBN:978-84-693-4073-8/DL:T.993-2010

and Tomorrow, D. Bowen and M. Bowen, M. (eds). Binghamton, NY: State University of New York at Binghamton. 23-33.

Bowker, Lynne. 2002. *Computer Aided Translation Technology: A Practical Introduction.* Ottawa: University of Ottawa Press.

Brähler. Accessed October 2007. http://www.brahler.com.

Braun, Sabine. 2004. *Kommunikation unter widrigen Umständen? Fallstudien zu einsprachigen und gedolmetschten Videokonferenzen [Communication under adverse conditions? Monolingual and interpreted communication in video conferences]*. Doctoral dissertation. Tübingen: Gunter Narr Verlag.

Braun, Sabine. 2007. "Interpreting in small-group bilingual videoconferences – challenges and adaptation processes". *Interpreting* 9:1. 21-46.

Buck, Vincent. 2000. "An Interview with Panayotis Mouzourakis". *Communicate!* March-April 2000. http://www.aiic.net/ViewPage.cfm/page121.htm. Accessed May 2005.

Burger, Carolyn and Phyllis Zatlin. 1989. "Using technology in the teaching of interpretation". In *Coming of age: Proceedings of the 30th Annual Conference of the American Translators Association,* D.L. Hammond (ed). Medford, NJ: Learned Information. 91-96.

Burgess, Thomas F. Accessed April 2005. "Guide to the Design of Questionnaires". *Information Systems Services*. http://www.leeds.ac.uk/iss/documentation /top/top2/top2-5.html.

Burns, Thomas G. Accessed December 2009a. "What is a neuropsychologist?". http://www.choa.org /default.aspx?id=940.

Burns, Thomas G. Accessed December 2009b. "What is neuropsychology?". http://www.choa.org /default.aspx?id=941.

Bühler, Hildegund. 1986. "Linguistic (semantic) and extra-linguistic (pragmatic) criteria for the evaluation of conference interpretation and interpreters". *Multilingua* 5 (4): 231-235.

Carabelli, Angela. 1999. "Multimedia technologies for the use of interpreters and translators". *The interpreters' newsletter* 9: 149-155.

Carabelli, Angela. 2003. "A brief overview of IRIS – the Interpreter's Research Information System." In *Nuevas tecnologías y formación de intérpretes,* J. de Manuel Jerez (ed.). Granada: Atrio. 113-142.

Castells, Manuel. 1996. *Rise of the Network Society.* Cambridge (Mass.): Blackwell.

ISBN:978-84-693-4073-8/DL:T.993-2010

Certified Languages. Accessed October 2007. *Making phone interpreting simple*. http://www.certifiedlanguages.com/interpreting.html.

Cervato, Emanuela and Donatella de Ferra. 1995. "Interpr-it: A Computerised Self-Access Course for Beginners in Interpreting". *Perspectives: Studies in Translatology* 2: 191-204.

Chan, Andy Lung Jan. 2008. *Information economics, the translation profession and translator certification.* Doctoral dissertation: Universitat Rovira i Virgili. http://www.tesisenxarxa.net/TDX-0123109-131643/index_an.html.

Chesterman, Andrew. 1993. "Translation as theory". *Kääntäjä* 3: 1.

Chiaro, Delia and Giuseppe Nocella. 2004. "Interpreters' Perception of Linguistic and Non-Linguistic Factors Affecting Quality: A Survey through the World Wide Web". *Meta* 49 (2): 278-293.

Chung, Hyejin and Taehyung Lee. 2004. "Undergraduate level interpreter training using a multi-media language laboratory". *Conference Interpretation and Translation* 6:2. 127-150.

CIE 9000 DIS Conference Interpretation Equipment User Manual. 1996. Danish Interpretation Systems, Manual no. 4412.

Claroline.Net. Accessed June 2009. http://www.claroline.net/index.php?lang=en.

Clear Signals. Accessed March 2009. "Glossary of Language Interpretation Terms", s.v. booth and interpreters' console. http://www.clearsignals.com/glossary.html.

Clinical Neurophysiology. 1997-2003. "What is Clinical Neurophysiology". http:// www.neurophys.com/General/What_os_Clinical_Neurophysiology. Accessed December 2009.

CMIC. Accessed May 2005. "Quiénes somos: Colegio Mexicano de Intérpretes de Conferencias, A.C.". http://www.cmicac.org/quienessomos/quienessomosin.htm.

CMIC. Accessed March 2009a. "Colegio Mexicano de Intérpretes de Conferencias: ¿Qué tipos de interpretación existen?" http://www.interpretacion.org/index. php?option=com_ content&task=view&id=18&Itemid=25.

CMIC. Accessed March Accessed March 2009b. "Estatutos del Colegio Mexicano e Intérpretes de Conferencias, Asociación Civil", artículo segundo, incisos a) y c). http://www.interpretacion.org/index.php?option=com_content&task=view&id=80&Itemid=99.

Codina, Rosa. 2004. "Entrevista con Jesús Baigorri-Jalón". *La Página del Idioma Español.* http://www.elcastellano.org/jalon.html. Accessed May 2005.

ISBN:978-84-693-4073-8/DL:T.993-2010

Coley, Richard J. 1997. "Technology's Impact – A new study shows the effectiveness – and the limitations – of school technology". http:222.electronic-school.com /0997f3.html. Accessed October 2008.

Collados Aís, Ángela. 1996. *La entonación monótona como parámetro de calidad en la interpretación simultánea: la evaluación de los receptores.* Doctoral dissertation: Universidad de Granada.

Collados Aís, Ángela. 1998. *La evaluación de la calidad en interpretación simultánea: la importancia de la comunicación no verbal.* Granada: Comares.

Collados Aís, Ángela. 1998/2002. "Quality assessment in simultaneous interpreting: the importance of nonverbal communication". In *The Interpreting Studies Reader*, F. Pöchhacker and M. Shlesinger (eds). London and New York: Routledge. 327-336.

Collados Aís, Ángela, Manuela Fernández, Macarena Pradas, C. Sánchez, and E. Stevaux (eds). 2003a. *La evaluación de la calidad en la interpretación: docencia y profesión.* Granada: Comares.

Collados Aís, Ángela, María Manuela Fernández, and Daniel Gile (eds). 2003b. *La evaluación de la calidad en la interpretación: investigación.* Granada: Comares.

Congressrental. Accessed February 2010. www.congressrental.asia/images/ microphone2 .jpg.

Coppola, Sofia. 2003. *Lost in Translation*. Film.

Cordero, Anne. 1994. "The role of the university in the professionalization of the translators". In *Professional Issues for Translators and Interpreters*, D. Hammond (ed). Amsterdam and Philadelphia: John Benjamins. 171-179.

Cronin, Michael. 2003. *Translation and Globalization.* London and New York: Routledge.

Cronin, Michael. 2009. *Translation goes to the Movies.* London and New York: Routledge.

Davies, Graham and Sue Hewer. Accessed October 2008. "Introduction to new technologies and how they can contribute to language learning and teaching". http://www.ict4lt.org/en/en_mod1-1.htm#anchor257911.

Déjean Le Féal, Karla. 1990. "Some thoughts on the evaluation of simultaneous interpretation". In *Interpreting – Yesterday, today and tomorrow,* D. and M. Bowen (eds). Binghamton, NY: SUNY. 154-160.

de Manuel Jerez, Jesús (ed). 2003a. *Nuevas tecnologías y formación de intérpretes.* Granada: Atrio.

ISBN:978-84-693-4073-8/DL:T.993-2010

de Manuel Jerez, Jesús. 2003b. "¿Cambian las nuevas tecnologías la formación de intérpretes?" In *Panorama actual de la investigación en traducción e interpretación* (2 volumes), E. Ortega Arjonilla (ed.). Granada: Editorial Atrio.

de Manuel Jerez, Jesús. 2006. *La incorporación de la realidad profesional a la formación de intérpretes de conferencias mediante las nuevas tecnologías y la investigación-acción.* Doctoral dissertation. Granada: Universidad de Granada.

Delisle, Jean, and Judith Woodsworth. 1995. *Traducteurs dans l'histoire.* Ottawa: Les Presses de l'Université d'Ottawa.

DG Interpretation. Accessed March 2007. *Welcome to the Directorate General for Interpretation*. http://scic.cec.eu.int/europa/display.jsp?id=j_8.

DG SCIC. 2003a. *Interpreting and new technologies – report May 2003*.

DG SCIC. 2003b. *New technologies: Interactive virtual conferences*.

DG SCIC. 2003c. *New technologies: Multilingual on-Demand streaming (VoD).*

DG SCIC. 2003d. *New technologies: Web-streaming*.

DG SCIC. Accessed October 2009. "What we do". http://scic.ec.europa.eu /europa/jcms/c_5204/what-we-do-faq.

Dictionary.com. Accessed May 2009. http://www.reference.com/.

Diriker, Ebru. 2009. "Meta-discourse as a Source for Exploring the Professional Image(s) of Conference Interpreters". *Hermes* 42. 71-91.

Divace. Accessed October 2007a. http://divace.sanako.com/~userforum/ tutorials/divaceintro.html.

Divace. Accessed October 2007b. http://divace.sanako.com/~userforum/ tutorials/divace02.html.

Djoudi, Nadira. 2000. *Evaluierung des automatischen Dolmetschers "Talk and Translate".* Unpublished thesis, Germersheim/Mainz: Johannes Gutenberg – Universität.

Dodds, John Martin, Federica Scarpa, and Christopher Taylor. 1996. "The development of electronic tools in the training of translators and interpreters". http://www.sslmit.univ.trieste.it/italiano/research/res_6/sub_64a.htm. Accessed June 2005.

Donovan, Clare. 2006. "Trends – Where is Interpreting heading and how can training courses keep up?" Presentation at EMCI conference in London, University of Westminster: "The Future of Conference Interpreting: Training, Technology and

ISBN:978-84-693-4073-8/DL:T.993-2010

Research", 30 June – 1 July 2006. http://www.emcinterpreting.org/ resources/conferences.php. Accessed June 2008.

Donovan, Clare. 2008. Personal communication by e-mail.

Edutech. Accessed July 2009. "Virtual environment – Edutech – Wiki". http://edutechwiki. unige.ch/en/Virtual_environment.

Elice. Accessed October 2007. http://www.spe.com.my/language_labs/elice.htm.

EMCI. Accessed December 2009a. "What is EMCI?". http://emcinterpreting.org.

EMCI. Accessed December 2009b. "Resources". http://emcinterpreting.org/resources.php.

Encarta Encyclopedia. Accessed May 2009. http://encarta.msn.com/guide_ page_FAQ /FAQ.html.

Encyclopaedia Britannica. Accessed May 2009. http://www.britannica.com/.

Enríquez Raído, Vanessa, and Austermühl, Frank. 2003. "Translation Technology and Software Localization". In *Speaking in Tongues: Language Across Contexts and Users (English in the World*, vol. 2), L. Pérez González (ed.). Valencia: Universidad de Valencia. 225-250.

Esteban Causo, José A. 1997. "Interprétation de conférence et nouvelles technologies". *Terminologie et traduction – revue des services linguistiques des Institutions européennes* 3: 112-120.

Esteban Causo, José A. 2000. "Les Nouvelles Technologies: Le Point de Vue du SCIC". *Communicate !* March-April 2000. www.aiic.net. Accessed May 2005.

Esteban Causo, José A. 2003. "La interpretación en el siglo XXI: desafíos para los profesionales y los profesores de interpretación". In *Nuevas Tecnologías y Formación de Intérpretes,* J. de Manuel Jerez (coord). Granada: Editorial Atrio. 143-185.

ETI Virtual Institute. Accessed December 2009. "École de Traduction et d'Interprétation, Université de Genève – Virtual Institute". http://virtualinstitute.eti.unige.ch /virtualinstitute.

Eurostat. Accessed December 2009. "Population and social conditions". http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-QA-09-047/EN/KS.

Folinsbee, Sue, and Paul Jurmo. 1994. *A Collaborative Needs Assessment: A Handbook for Workplace Development Planners.* Canada: ABC CANADA Literacy Foundation. http://www.nald.ca/library/research/abc/colnee/p31.htm. Accessed December 2008.

ISBN:978-84-693-4073-8/DL:T.993-2010

Fors, Jennie. 1998. "Perspectives on remote public service interpreting". In *Quality issues in remote interpreting – Workshop in Vigo, Galicia, 26 March 1998,* H. Niska, I. Kurz, J. Fors, R. de Boeck, and D. Gile. http://www.geocities.com /~tolk/lic/rempape.htm. Accessed June 2009.

Gabr, Moustafa. 2007. "A TQM Approach to Translator Training – Balancing Stakeholders' Needs and Responsibilities. *The Interpreter and Translator Trainer* 1 (1): 65-77.

Gaiba, Francesca. 1998. *The Origins of Simultaneous Interpretation. The Nuremberg Trial.* Ottawa: University of Ottawa Press.

Gambier, Yves. 2003. "Summary of discussion on translation and technology". In *Innovation and E-Learning in Translator Training,* A. Pym, C. Fallada, J.R. Biau, and J. Orenstein (eds). Tarragona: Intercultural Studies Group. 58-60.

Gambier, Yves. 2008. "Stratégies et tactiques en traduction et interprétation". In *Efforts and Models in Interpreting and Translation Research – A Tribute to Daniel Gile,* G. Hansen, A. Chesterman, and H. Gerzymisch-Arbogast (eds). Amsterdam and Philadelphia: John Benjamins. 63-82.

García-Landa, Mariano. 1999. "Diario de Intérprete". *Herméneus* 1/1999: 91-113.

García Yebra, Valentín. 1994. *Traducción: Historia y Teoría*. Madrid: Editorial Gredos.

George, Philip, and Luca Salice. 1994. "Quality Assurance in Quality Circles". In *Quality: Assurance, Management and Control. Proceedings of the Seventh Annual Conference of the Institute of Translation and Interpreting, Nottingham, 28-29 April 1994,* Picken, C. (ed.). London: Institute of Translation & Interpreting. 42-46.

Ghusa. Accessed October 2007. "Telephone interpreting > Routinely used by". http://www.ghusa.net/telephone_interpreting_2.htm.

Gile, Daniel. 1983. "Des difficultés de langue en interprétation simultanée". *Traduire* 117: 2-8.

Gile, Daniel. 1989. "Perspectives de la recherche dans l'enseignement de l'interprétation". In *The Theoretical and Practical Aspects of Teaching Conference Interpretation,* L. Gran and J. Dodds (eds). Udine: Campanotto Editore. 27-33.

Gile, Daniel. 1990a. "L'évaluation de la qualité de l'interprétation par les délégués: une étude de cas". *The Interpreters' Newsletter* 3: 66-71.

ISBN:978-84-693-4073-8/DL:T.993-2010

Gile, Daniel. 1990b. "Scientific research vs. personal theories in the investigation of interpretation". In *Aspects of applied and experimental research on conference interpretation*, L. Gran and C. Taylor (eds). Udine: Campanotto. 28-41.

Gile, Daniel. 1995a. *Basic Concepts and Models for Interpreter and Translator Training.* Amsterdam and Philadelphia: John Benjamins.

Gile, Daniel. 1995b. *Regards sur la recherche en interprétation de conférence.* Lille: Presses Universitaires de Lille.

Gile, Daniel. 1995c. "Fidelity Assessment in Consecutive Interpretation: An Experiment". *Target* 7:1. 151-164.

Gile, Daniel. 1997. "Conference interpreting as a cognitive management problem". In *Cognitive Processes in Translation and Interpretation,* J.H. Danks, G.M. Shreve, S.B. Fountain, and M.K. McBeath (eds). London: Sage. 196-214.

Gile, Daniel. 1997/2002. "Conference interpreting as a cognitive management problem". In *The Interpreting Studies Reader*, F. Pöchhacker and M. Shlesinger (eds). London and New York: Routledge. 163-176.

Gile, Daniel. 2000. "Opportunities in Conference Interpreting Research". In *Investigating translation,* A. Beeby, D. Ensinger, and M. Presas. Amsterdam and Philadelphia: John Benjamins. 77-90.

Gile, Daniel. 2001. "Selecting a topic for PhD research in interpreting". In *Getting Started in Interpreting Research,* D. Gile, H.V. Dam, F. Dubslaff, B. Martinsen, and A. Schjoldager (eds). Amsterdam and Philadelphia: John Benjamins. 1-22.

Gile, Daniel (ed.). 2003-2009. *The CIRIN Bulletin – Conference Interpreting Research Information Network,* Nos. 27 to 39. December 2003 to December 2009. http://cirinandgile.com. Accessed January 2010.

Gile, Daniel. 2008. "Do TS researchers need to be Translators?" European Society for Translation Studies. http://www.est-translationstudies.org/Research%20issues /TS%20sc. Accessed December 2008.

Gile, Daniel, Ingrid Kurz, Bistra Alexieva, Sylvia Kalina, Bill Isham, Bill, Heidemarie Salevsky, and Sonja Tirkkonen-Condit. 1997. "Methodology". In *Conference Interpreting: Current Trends in Research. Proceedings of the international conference on "Interpreting: What do we know and how?, Turku, August 25-27, 1994*, Y. Gambier, D. Gile and C. Taylor (eds.), 109-122. Amsterdam and Philadelphia: John Benjamins.

ISBN:978-84-693-4073-8/DL:T.993-2010

Gillies, Andy. Accessed July 2009. "Recording Vocabulary and Terminology". *Interpreter Training Resources – the only dedicated site for students of conference interpreting.* http://interpreters.free.fr/misc/databases.htm.

Global Footprint Network. Accessed April 2009a. "Application Standards". www.footprintnetwork. org/en/index.php/GFN/page/application_standards/.

Global Footprint Network. Accessed April 2009b. "Carbon Footprint". www.footprintnetwork. org/en/index.php/GFN/page/carbon_footprint/.

Gouadec, Daniel. 2002. *Profession Traducteur*. Paris: La Maison du Dictionnaire. Published in English as Gouadec, D. (2007). *Translation as a profession.* Amsterdam and Philadelphia : John Benjamins.

Gracia-Garcia, Roberto. Accessed June 2009. "Telephone interpreting: a view of pros and cons". www.a2hc.org/articles/Telephone_interpreting-pros_and_cons.pdf.

Gran, Laura, Angela Carabelli, and Raffaella Merlini. 2002. "Computer-assisted interpreting training". In *Interpreting in the 21st Century. Challenges and opportunities. Selected papers from the 1st Forlì Conference on Interpreting Studies, 9-11 November 2000,* G. Garzone and M. Viezzi (eds). Amsterdam and Philadelphia: John Benjamins. 277-294.

Hamidi, Miriam, and Franz Pöchhacker. 2007. "Simultaneous Consecutive Interpreting : A New Technique Put to the Test". *Meta* 52(2): 276-289.

Hansen, Inge Gorm, and Miriam Shlesinger. 2007. "The silver lining – Technology and self-study in the interpreting classroom". *Interpreting* 9(1): 95-118.

Heh, Yung-Chung and Hu Qian. 1997. "Over-the-Phone Interpretation: a New Way of Communication between Speech Communities". *Proceedings of the 38th Annual Conference of the American Translators Association.* San Francisco. 51-60.

Herbert, Jean. 1952. *The Interpreter's Handbook: How to Become a Conference Interpreter.* Genève: Librarie de l'Université, Georg.

Heynold, C. 1995. *Videoconferencing – a close-up.* Commission Européenne: Les cahiers du SCIC No. 1.

Hofman (Djoudi), Nadira. 2008. Personal communication by e-mail.

Holmes, James S. 1988. "The Name and Nature of Translation Studies". In *Translated! Papers on Literary Translation and Translation Studies*, J.S. Holmes. Amsterdam: Rodopi. 66-80.

Howe, Meg, and Graeme Young. 2007. "Calculating Ecological Footprint components, and Easy Ways to Reduce Your Impact on Earth". http://www.small-farm-

ISBN:978-84-693-4073-8/DL:T.993-2010

permaculture-and-sustainable-living.com/ecological_footprint_components.html. Accessed April 2009.

Hufvudstadsbladet. 2004. *Hufvudstadsbladet 1864-2004.* 14

Hutchins, W. John. 2006. *Machine translation: a concise history.* www.hutchinsweb.me.uk/CUHK-2006.pdf. Accessed June 2008.

Hutchins, John, and Harold Somers. 1992. *An Introduction to Machine Translation.* London: Academic Press Ltd.

IATE. Accessed May 2009. http://iate.europa.eu/.

IJIE. 2009. *International Journal of Interpreter Education.* http://www.cit-asl.org/Journal/2009_Vol1/index.html. Accessed February 2010.

ILO (International Labor Organization). Accessed October 2007. http://www.ilo.org/public /spanish/region/ampro/cinterfor/temas/gender/temas/tic/indexa.htm.

Internet World Stats. Accessed February 2009. http://www.internetworldstats.com/top20.htm.

ISO 639.2. Accessed April 2009. "Codes for the Representation of Names of Languages". http://www.loc.gov/standards/iso639-2/php/code_list.php.

ITD (Information Technology Department of the North Dakota State Government). Accessed October 2007. http://www.nd.gov/itd/planning/definition.html.

Ivory, James. 1996. *Surviving Picasso.* Film.

Jekat, Susanne and Alexandra Klein. 1996. "Machine interpretation. Open problems and some solutions". *Interpreting* 1(1): 7-20.

Jiménez Serrano, Oscar. 2003. "La formación de intérpretes profesionales ante las nuevas tecnologías". In *Nuevas tecnologías y formación de intérpretes,* J. de Manuel Jerez (coord.). Granada: Editorial Atrio. 187-201.

Kalina, Sylvia. 2002a. "Interpreters as Professionals". *Across Languages and Cultures* 3 (2): 159-169.

Kalina, Sylvia. 2002b. "Quality in Interpreting and its Prerequisites – A Framework for a Comprehensive View". In *Perspectives on interpreting,* G. Garzone, P. Mead, M. Viezzi (eds). Bologna: CLUEB. 121-130.

Kalina, Sylvia. 2009. "Dolmetschen im Wandel – neue Technologien als Chance oder Risiko". In *Übersetzen in die Zukunft. Herausforderungen der Globalisierung für Dolmetscher und Übersetzer.* Tagungsband der internationalen Fachkonferenz des Bundesverbandes der Dolmetscher und Übersetzer e.V. (BDÜ), Berlin, 11.-

ISBN:978-84-693-4073-8/DL:T.993-2010

13. September 2009. W. Baur, S. Kalina, F. Mayer, and J. Witzel (eds). Berlin: BDÜ, 393-401.

Kayne, R. Accessed May 2009. "What is Voice Recognition?". *wiseGEEK.* http://www.wisegeek.com/what-is-voice-recognition.htm.

Kies, Daniel. 2007. "Concordancer", *The HyperText Books*. Glen Ellyn, Illinois: College of DuPage, Department of English. http://papyr.com/ applets/concordancer/. Accessed June 2008.

Kiraly, Don. 2000. *A Social Constructivist Approach to Translator Education: Empowerment from Theory to Practice*. Manchester, UK, and Northampton, MA: St. Jerome.

Kluver, Randy. 2000. "Globalization, Informatization, and Intercultural Communication". *American Communication Journal* 3(3). http://acjournal.org/holdings/vol3/ Iss3/spec1/kluver.htm. Accessed May 2008.

Ko, Leong. 2006. "Teaching interpreting by distance mode: Possibilities and constraints." *Interpreting* 8(1): 67-96.

Ko, Leong. 2008. "Teaching Interpreting by Distance Mode: An Empirical Study." *Meta* 53(4): 814-840.

Kopczynski, A. 1994. "Quality in Conference Interpreting". In *Translation Studies – An Interdiscipline*, M. Snell-Hornby, F. Pöchhacker and K. Kaindl (eds). Amsterdan and Philadelphia: John Benjamins: 189-198.

Kurz, Ingrid. 1989. "The Use of Video-Tapes in Consecutive and Simultaneous Interpretation Training". In *The Theoretical and Practical Aspects of Teaching Conference Interpretation,* L. Gran and J. Dodds (eds). Udine: Campanotto Editore. 213-215.

Kurz, Ingrid. 1993/2002. "Conference Interpretation: Expectations of Different User Groups". In *The Interpreting Studies Reader,* F. Pöchhacker and M. Shlesinger (eds). Routledge: London and New York.

Kurz, Ingrid. 1994. "A look into the 'black box' – EEG probability mapping during mental simultaneous interpreting". In *Translation Studies: An interdiscipline*, M. Snell-Hornby, F. Pöchhacker, and K. Kaindl (eds). Amsterdam & Philadelphia: John Benjamins. 199-207.

Kurz, Ingrid. 1995. "Watching the brain at work – an exploratory study of EEG changes during simultaneous interpreting (SI)". *The Interpreters' Newsletter* 6. 3-16.

ISBN:978-84-693-4073-8/DL:T.993-2010

Kurz, Ingrid. 2001. "Conference Interpreting: Quality in the Ears of the User". *Meta* 46(2): 394-409.

Kurz, Ingrid. 2002. "Interpreting training programmes: The benefits of coordination, cooperation, and modern technology". In *Teaching translation and interpreting 4: Building bridges,* E. Hung (ed.)**.** Amsterdam & Philadelphia: John Benjamins. 65-72.

Laaksonen, Heikki. 2007. "MEDATA Real Time". *DG SCIC NEWS* 124. 8. http://web.tiscalinet.it/iacovoni/files/pdf/SimultaneousConsecutive2.pdf. Accessed July 2009.

Lang, Annette. 2009. "WebInterpret – Simultan dolmetschen online". In *Übersetzen in die Zukunft. Herausforderungen der Globalisierung für Dolmetscher und Übersetzer*. Tagungsband der internationalen Fachkonferenz des Bundesverbandes der Dolmetscher und Übersetzer e.V. (BDÜ), Berlin, 11.-13. September 2009, W. Baur, S. Kalina, F. Mayer, J. Witzel (eds). Berlin: BDÜ, 401-411.

Langenscheidt. Accessed October 2007. http://www.langenscheidt.de/catalog/ reihe_langenscheidt_e-fachwoerterbuecher_475_996.html.

Language Teacher. 2008. http://www.universal-translator.net/pocket_dictionaries /dictionaries/pro.html. Accessed May 2009.

Language Weaver. 2006. *Language Weaver Ships Version 4.2, Adds Multiple Function Upgrades and Offers New Licensing Option.* http://www.languageweaver.com /Page.asp?LSM=&intNodeID=856&intPageID=995. Accessed October 2007.

Language Weaver. 2010. *Frequently Asked Questions – LW Enterprise Translation Server Product Features".* http://www.languageweaver.com/page0.asp?int PageID= 1114&intNodekID=968&intLng=64. Accessed February 2010.

Lee, Jieun. 2007. "Telephone interpreting – seen from the interpreters' perspective". *Interpreting* 9(2): 231-252.

Liu, Xiaohong. 2001. *Chinese Ambassadors. The Rise of Diplomatic Professionalism since 1949.* Seattle and London: University of Washington Press.

liveETI. Accessed December 2009. "Video speech repository". http://live.eti.unige.ch.

Live subtitling. 2008. http://www.subtitling.com/downloadsLive Subtitling.pdf. Accessed December 2009.

LookUp. Accessed July 2005. www.lookup-online.de.

Lost in Babel. Accessed May 2009. http://www.webpersonal.net/ dmarques/ resources/sear1.htm.

ISBN:978-84-693-4073-8/DL:T.993-2010

Luccarelli, Luigi. 2004. "Letter from the Editor – A Profession". *Communicate!* November-December 2004. www.aiic.net. Accessed May 2005.

Mack, Gabriele, and Lorella Cattaruzza. 1995. "User surveys in SI: a means of learning about quality and/or raising some reasonable doubts". In *Topics in interpreting research,* J. Tommola (ed.). Turku: University of Turku, Centre for Translation and Interpreting. 37-49.

Mackenzie, Rosemary. 2000. "POSI-tive thinking about quality in translator training in Finland". In *Investigating translation,* A. Beeby, D. Esnginer, and M. Presas (eds). Amsterdam and Philadelphia: John Benjamins. 213-222.

Mackintosh, Jennifer. 1999. "Interpreters are made not born". *Interpreting* 4(1): 67-80.

Mann, Michael. 1999. *The Insider.* Film.

Marius. Accessed April 2009. http://marius.ugr.es.

McNamara, Carter. Accessed April 2005a. "Basics of Developing Questionnaires". http://www.mapnp.org/library/evaluatn/questnrs.htm.

McNamara, Carter. Accessed July 2005b. "Types and Formats of Questions". http://www.mapnp.org/library/evaluatn/dsn_ques.htm.

McTiernan, John. 2002. *Rollerball.* Film.

Mead, Peter. 2001. "Doctoral work on interpretation". In *Getting started in Interpreting Research,* D. Gile, H. V. Dam, F. Dubslaff, B. Martinsen, and A. Schjoldager (eds). Amsterdam & Philadelphia: John Benjamins. 121.

MedicineNet.com. Accessed May 2009. http://www.medicinenet.com/swine_flu/ article.htm#what.

Melissi. Accessed March 2009a. http://www.melissi.co.uk/overview.htm.

Melissi. Accessed May 2009b. http://www.melissi.co.uk/blackbox/download/ BBXprice260505.pdf.

Menéndez Pidal, Gonzalo. 1999. "Cómo trabajaron las escuelas alfonsíes". *Quaderns, Revista de Traducció* 4: 67-84.

Merck Veterinary Manual. 2008. http://www.merckvetmanual.com/mvm/ index.jsp? cfile=htm/bc/121407.htm. Accessed May 2009.

Merriam-Webster. Accessed February 2009a. sv. Luddite. http://www.merriam-webster.com /dictionary/luddite.

Merriam-Webster. Accessed January 2009b. sv: theory. http://www.merriam-webster.com/ dictionary/theory.

Merriam-Webster. Accessed May 2009c. sv. Nature. http://www.merriam-webster.com/.

ISBN:978-84-693-4073-8/DL:T.993-2010

Merriam-Webster. Accessed May 2009d. http://www.merriam-webster.com/.

Mertz, David. 2001. "Charming Python: Developing a full-text indexer in Python". *developerWorks - IBM's resource for developers.* http://www.ibm.com/developerworks/linux/library/l-pyind.html. Accessed June 2008.

Messina, Alessandro. 2002. "Quality research and quality standards in interpreting: the state of the art". In *Perspectives on interpreting.* G. Garzone, P. Mead, M. Viezzi (eds). Bologna: CLUEB. 103-109.

Michell, Roger. 1999. *Notting Hill.* Film.

Microsoft Word MVP. 2007. http://word.mvps.org/FAQs/TblsFldsFms/TableBasicsContent.htm. Accessed July 2009.

MIIS (Monterey Institute of International Studies). Accessed March 2009. "MA in Conference Interpretation". http://translate.miis.edu/maci/index.html.

Mikkelson, Holly. 2004. "The Professionalization of Community Interpreting". http://www.aiic.net/ViewPage.cfm/article1214 . Accessed May 2005.

Moodle. Accessed July 2009. http://moodle.com.

Moran, Matthew. 2008. "The IT Career Builder's Toolkit, Chapter 2: Career Building Defined". http://www.ciscopress.com/articles/article.asp?p=1156070&seqNum=1. Accessed March 2009.

Moser, Peter. 1996. "Expectations of users in conference interpretation". *Interpreting,* 1(2): 145-178.

Moser-Mercer, Barbara. 2005a. "Remote Interpreting: Issues of Multi-Sensory Integration in a Multilingual Task". *Meta* 50 (2): 727-728.

Moser-Mercer, Barbara. 2005b. "Simultaneous interpreting: How a complex cognitive task can be constrained by technology while benefiting from it". Abstract for workshop in *Interactive media: The enhancement of multilingual communication and learning through technology, Ascona III, November 6-11, 2005,* http://www.unige.ch/eti/interpr/media.html. Accessed June 2005.

Moser-Mercer, Barbara. 2005c. "Remote interpreting: The crucial role of presence". *Bulletin suisse de linguistique appliqué* 81: 73-97.

Moser-Mercer, Barbara, Barbara Class, and Kilian G. Seeber. 2005. "Leveraging Virtual Learning Environments for Training Interpreter Trainers". *Meta* 50(4): http://www.erudit.org/livre/meta.2005/index.htm.

Moser-Mercer, Barbara; Lambert, Sylvie; Darò, Valeria; and Williams, Sarah. 1997. "Skill Components in Simultaneous Interpreting". In *Conference Interpreting: Current*

ISBN:978-84-693-4073-8/DL:T.993-2010

Trends in Research, Y. Gambier, D. Gile and C. Taylor (eds). Amsterdam and Philadelphia: John Benjamins. 133-148

Mouzourakis, Panayotis. 1996. "Videoconferencing: Techniques and challenges". *Interpreting* 1(1): 21-38.

Mouzourakis, Panayotis. 2000. "Interpretation booths for the third millenium". *Communicate!* March-April 2000. http://www.aiic.net/ViewPage.cfm/page131.htm. Accessed May 2005.

Mouzourakis, Panayotis. 2006. "Remote interpreting: A technical perspective on recent experiments". *Interpreting* 8(1): 45-66.

Mouzourakis, Takis. 2003. "That feeling of being there: vision and presence in remote interpreting". *Webzine.* Summer 2003. http://www.aiic.net/ViewPage.cfm?page_id=1173. Accessed June 2009.

Neunzig, Wilhelm. 2001. *La intervención pedagógica en la enseñanza de la traducción on-line – cuestiones de método y estudio empírico.* Doctoral dissertation. Bellaterra: Universitat Autònoma de Barcelona. Tesis doctoral.

Nichols, Mark. 2008. "E-Learning in Context". http://akoaotearoa/ac.nz/sites/default/files/ng/group_661/n877-1---e-learning-in-context.pdf. Accessed December 2009.

Noonan, Peggy. 2009. "William Safire". *Time* 174(25/26): 95.

OECD. Accessed January 2010. "OECD [Organisation for Economic Co-operation and Development] Glossary of Statistical Terms". stats.oecd.org/glossary/detail.asp?ID-4719.

OED. 2003. *Oxford English Dictionary*. Oxford: Oxford University Press.

Ojanperä, Päivi. 2009. "Lentäen lomalle – ja ilmasto itkee". *Extra – Turun Sanomat.* 19.6.2009.

Palme, Jacob. 1995. "The optimal Group Size in Computer Mediated Communication". http://www.dsv.su.se/jpalme/e-mail-book/group-size.pdf. Accessed May 2005.

Panisse, Mia. 2006. "L'interculturel dans la formation des enseignants suédophones et les cursus scolaires en Finlande". In F. Dervin and E. Suomela-Salmi (eds) *Intercultural Communication and Education – Finnish Perspectives*. Berne: Peter Lang. 71-88.

Peñaroja, Josep. Accessed December 2004. "Historia de los intérpretes jurados". *La linterna del traductor* 9/agosto2004. http://traducción.rediris.es/6articulos_a.htm.

Phelan, Mary. 2001. *The Interpreter's Resource*. Clevedon: Multilingual Matters.

ISBN:978-84-693-4073-8/DL:T.993-2010

Piiponen, Antti. 2009. *Représentations des interprètes dans dix films anglo-américains (1995-2005)*. MA thesis. University of Turku. Department of French Translation Studies.

Pöchhacker, Franz. 1995. "Simultaneous Interpreting: A Functionalist Perspective". *Hermes Journal of Language and Communication Studies* 14: 31-53.

Pöchhacker, Franz. 1999. "Teaching Practices in Simultaneous Interpreting". *The Interpreters' Newsletter* 9: 157-176.

Pöchhacker, Franz. 2001. "Quality Assessment in Conference and Community Interpreting". *Meta* 46(2): 410-425.

Pöchhacker, Franz. 2002. "Researching Interpreting Quality: Models and Methods". In *Perspectives on interpreting*, G. Garzone, P. Mead, M. Viezzi (eds). Bologna: CLUEB. 95-106.

Pöchhacker, Franz, and Miriam Shlesinger. 2002. *The Interpreting Studies Reader*. Routledge: London and New York.

Pollack, Sydney. 2005. *The Interpreter.* Film.

Popper, Karl R. 1972. *Objective Knowledge. an Evolutionary Approach.* London: Oxford.

Poole, Chris. 2003. "Definition of a Profession". *AUSIT Newsletter.*

Poole, Chris. 2005. "Introduction to Translation and interpreting terminology". www.ausit.org/eng/showpage.php3?id=851. Accessed May 2005.

Proteus. Accessed July 2008. "Bitext Maps and Alignment". http://nlp.cs.nyu.edu/bma/index.html.

Pym, Anthony. 1995. "Translation as a transaction cost". *Meta* 11(4): 594-605.

Pym, Anthony. 2000. *Negotiating the Frontier – Translators and Intercultures in Hispanic History*. Manchester: St. Jerome.

Pym, Anthony. 2004a. "Propositions on crosscultural communication and translation". *Target: International Journal of Translation Studies* 16(1): 1-28.

Pym, Anthony. 2004b. "Transaction cost". In *The Moving Text: Localization, Translation, and Distribution.* Amsterdam and Philadelphia: John Benjamins.

Pym, Anthony, Carmina Fallada, José Ramón Biau, and Jill Orenstein. 2003. "Summary of discussion on Interpreting and e-learning". In *Innovation and E-Learning in Translator Training,* A. Pym, C. Fallada, J. R. Biau, and J. Orenstein (eds.). Tarragona: Intercultural Studies Group.

ISBN:978-84-693-4073-8/DL:T.993-2010

QualComm. 2000. "Qualcomm CDMA Technologies' PureVoice VR Softwate Selected by DENSO, HYUNDAI, SANYO and TOSHIBA". http://www.qualcomm.com/ press/releases/2000/press266.html. Accessed October 2007.

Quicheron, Jean Bernard. 1984. "Mieux interpreter aux congrès techniques, un défi inaccessible?". *Lebende Sprachen* 1984(1): 5-7.

Quicheron, Jean Bernard. 1991. "Mieux se preparer pour mieux interpreter lors de congrès et réunions scientifiques". In *Translation, a creative profession. Proceedings of the XIIth World Congress of FIT in Belgrade,* M. Jovanovic (ed.). Belgrade: Prevodilac. 377-385.

Rauch. Accessed October 2007. *Federal Courts Implement Remote Simultaneous Interpreting*. http://www.rauchcom.com.

Roland, Ruth A. 1999. *Interpreters as Diplomats – A Diplomatic History of the Role of Interpreters in World Politics*. Ottawa: University of Ottawa Press.

Royal Saskatchewan Museum. 2005. "What is an ecological footprint?" http://www.royalsaskmuseum.ca/gallery/life_sciences/footprint_mx_2005.swf. Accessed April 2009.

Rudvin, Mette. 2004. "Review of Brunette, Louise; Bastin, Georges; Hemlin, Isabelle; and Clarke, Heather (eds). 2003. *The Critical Link 3. Interpreters in the Community. Selected papers from the Third International Conference on Interpreting in Legal, Health and Social Service Settings, Montréal, Québec, Canada 22–26 May 2001*". Interpreting 6 (2): 238–242.

Rütten, Anja. 2006. *Information and Knowledge Management in Conference Interpreting.* Doctoral thesis. Universität des Saarlandes.

Sanako. Accessed February 2009. "Learning and teaching in the information age – Information seeking and collaborative information production", in *Sanako Teachers' Academy*. http://moodi.jyu.fi/index.php?id=72.

Sanako Lab100. Accessed December 2009. http://www.sanako.com/ Products/ Language_Learning/ SANAKO _Lab_100_/SANAKO_Lab_100_100_STS.iw3.

Sand, Peter. 2003. "Manage your terminology with Interplex". *Words – AIIC.* http://aiic.net/ViewPage.cfm/article1028.htm. Accessed July 2009.

Sandrelli, Annalisa. 2003a. "El papel de las nuevas tecnologías en la enseñanza de la interpretación simultánea: *Interpretations*". In *La evaluación de la calidad en interpretación: docencia y profesión,* A. Collados, M. Fernández, M. Pradas, C. Sánchez, and E. Stévaux (eds). Granada: Editorial Comares. 211-223.

ISBN:978-84-693-4073-8/DL:T.993-2010

Sandrelli, Annalisa. 2003b. "New Technologies in interpreter training: CAIT". In *Textologie und Translation,* H. Gerzymisch-Arbogast, E. Hajičová, P. Sgall, Z. Jettmarová, A. Rothkegel and D. Rothfuß-Bastian (eds)**.** Tübingen: Gunter Narr. 261-293.

Sandrelli, Annalisa. 2003c. "Herramientas informáticas para la formación de intérpretes: *Interpretations* y *Black Box*". In *Nuevas tecnologías y formación de intérpretes,* J. de Manuel Jerez (coord.). Granada: Editorial Atrio. 67-112.

Sandrelli, Annalisa. 2005. "Designing CAIT (Computer-Assited Interpreter Training) Tools: *Black Box*"**.** In *MuTra – Challenges of Multidimensional Translation, Saarbrücken 2-6 May 2005. Conference Proceedings – EU High Level Scientific Conference Series. Proceedings of the Marie Curie Euroconferences.* www.euroconferences.info/proceedings/2005_Proceedings/2005_Sandrelli_Anna lisa.pdf. Accessed October 2007.

Sandrelli, Annalisa, and Jesús de Manuel Jerez. 2007. "The Impact of Information and Communication Technology on Interpreter Training: State-of-the-Art and Future Prospects". *The Interpreter and Translator Trainer* 1(2): 269-303.

Sandrelli, Annalisa, and Jim Hawkins. 2006. "From Black Box to the Virtual Interpreting Environment (VIE): another step in the development of Computer Assisted Interpreter Training". http://www.emcinterpreting.org/resources /conferences. php. Accessed June 2008.

Sauer, Annamarie. 1997. "An Invitation to Conference Interpreting". *Terminologie et Traduction - la revue des services linguistiques des institutions européennes* 3/1997: 15-25.

Schensul, Jean J. 2005. "What is Ethnography – Introduction to Ethnographic Research". http://cira.med.yale.edu/events/mbseminars/mbs070705.pdf. Accessed February 2009.

Schensul, Stephen, Jean Schensul, and Margaret LeCompte. 1999. *Essential ethnographic methods: observations, interviews, and questionnaires.* Walnut Creek, California: Altamira Press.

Schweda-Nicholson, Nancy. 1985. "Consecutive Interpretation Training: videotapes in the classroom". *Meta* 30(2): 148-154.

Scott-Tennent, Christopher, María González Davies, and Fernanda Rodríguez Torras. 2000. "Translation Strategies and Translation Solutions: Design of a Teaching Prototype and Empirical Study of its Results". In *Investigating translation,* A.

ISBN:978-84-693-4073-8/DL:T.993-2010

Beeby, D. Ensinger, and M. Presas (eds). Amsterdam and Philadelphia: John Benjamins. 107-116.

SDL Trados. 2007. *SDL Trados 2007.* http://www.sdl.com/en/products/products-index/sdl-trados. Accessed July 2008.

Setton, Robin. 1999. *Simultaneous Interpretation: a cognitive-pragmatic analysis.* Amsterdam and Philadelphia: John Benjamins.

Shlesinger, Miriam. 1997. "Quality in Simultaneous Interpreting". In *Conference Interpreting: Current Trends in Research. Proceedings of the International Conference on Interpreting: What do we know and how? Turku, August 25-27, 1994,* Y. Gambier, D. Gile and C. Taylor (eds). Amsterdam & Philadelphia: John Benjamins. 133-148.

Shlesinger, Miriam, Karla Déjean le Féal, Ingrid Kurz, Gabriele Mack, Lorella Cattaruzza, Anna-Lenna Nilsson, Helge Niska, Franz Pöchhacker, and Maurizio Viezzi. 1997. "Quality in Simultaneous Interpreting". In *Conference Interpreting: Current Trends in Research*, *Proceedings of the International Conference on Interpreting: What do we know and how? Turku, August 25-27, 1994,* Y. Gambier, D. Gile and C. Taylor (eds.). Amsterdam & Philadelphia: John Benjamins. 123-131.

Singer, Bryan. 1995. *The Usual Suspects.* Film.

Singer, Bryan. 2000. *X-men.* Film.

Source Forge. Accessed July 2009. http://sourceforge.net/projects/evai/.

Speech Repository. Accessed July 2009. http://multilingualspeeches.tv/ scic_portal/scic/speech_ repository.

STAR. Accessed July 2008. *Transit – The translation memory system.* http://www.star-group.net/star-www/description/transit/star-group/eng/star.html.

Stiglitz, Joseph E. 2002. *Globalization and Its Discontents.* New York: Norton & Company.

Stoll, Christoph. 2002. "Dolmetschen und neue Technologien". In *Übersetzen und Dolmetschen in Praxis und Lehre,* J. Best and S. Kalina (eds). Tübingen: UTB Francke. 1-8.

Stoll, Christoph. 2005. Personal communication by e-mail.

Stoll, Christoph. 2009. *Moving cognition upstream – workflow and terminology management for professional conference interpreters.* Doctoral thesis. Ruprecht-Karls University, Heidelberg.

ISBN:978-84-693-4073-8/DL:T.993-2010

Stone, Oliver. 1995. *Nixon.* Film.

Sunnari, Marianna. 1995. "Processing strategies in simultaneous interpreting: 'Saying it all' vs. Synthesis". In *Topics in Interpreting Research*, J. Tommola (ed.). Turku: University of Turku, Centre for Translation and Interpreting.

Sunnari, Marianna. 2006. "Tulkkaus ja tulkkauksen opetus Suomessa". In *Translation and Interpreting – Training and Research,* J. Tommola and Y. Gambier (eds). Turku: University of Turku. 147-159.

Swabey, Pete. Accessed May 2008 "The death of the (open) Internet". *Information Age* May 2008. www.information-age.com/magazine/may-2008/departments/ 329056/ the-death-of-the-open-internet.tl).

SySurvey. 2002. "Open-Ended Questions". http://www.sysurvey.com/tips/open.htm. Accessed May 2005.

Tandberg. Accessed February 2010. "Photo Gallery". http://www.tandberg.com/press-room/videoconferencing-telepresence-photo-gallery.jsp.

Tella, Seppo, Sanna Vahtivuori, Anu Vuorento, Petra Wager, and Ulla Oksanen. 2001. *Verkko opetuksessa – opettaja verkossa.* Helsinki: Edita Oyj.

Tennant, Andy. 1999. *Anna and the King.* Film.

Tommola, Jorma. 2003. "Estimating the transfer of semantic information in interpreting". In *La evaluación de la calidad en interpretación,* A. Collados Aís, M. Fernández Sánchez, and D. Gile (eds). Granada: Editorial Comares. 125-146.

Tommola, Jorma. 2006. "Tulkkaus tutkimuskohteena". In *Translation and Interpreting – Training and Research*, J. Tommola and Y. Gambier (eds). Turku: University of Turku. 161-171.

Tommola, Jorma and Marketta Helevä. 1998. "Language direction and source text complexity: effects on trainee performance in simultaneous interpreting". In *Unity in Diversity? Current Trends in Translation Studies,* L. Bowker, M. Cronin, D. Kenny and J. Pearson (eds). Manchester: St. Jerome. 177-186.

Torres del Rey, Jesús. 2005. *La interfaz de la traducción. Formación de traductores y nuevas tecnologías.* Granada: Comares.

Translationzone. Accessed July 2008. *Translation memory.* http://www.translationzone.com/en/ Products/translation-memory/default.asp.

UN. 2009. "Definitions of major areas and regions". http://esa.un.org /unpp/index.asp?panel=5. Accessed January 2010.

ISBN:978-84-693-4073-8/DL:T.993-2010

UNESCO. 2000. "El boom mundial de los medios de comunicación". *El Correo de la Unesco*. 2000 (02) http://www.unesco.org/courier/2000_02/sp/dossier/txt02.htm. Accessed March 2008.

United Nations. Accessed April 2009. http://www.un.org/members/list.shtml.

Varantola, Krista. 1980. *On simultaneous interpreting.* Publications of Turku Language Institute No. 1. Turku: Turku Language Institute.

Villarreal, Yrma. 2001. "A Quest for the Professionalization of the Chicago Area Court Interpreters". *Interpreting in the Community: The Complexity of the Profession. International Conference Critical Link 3. May 22-26, 2001. Montreal, Quebec, Canada:* 1-3. www.criticallink.org/proceedings/12.pdf. Accessed May 2005.

Vuorikoski, Anna-Riitta. 1998. "User Responses to Simultaneous Interpreting". In *Unity in Diversity? Current Trends in Translation Studies*, L. Bowker, M. Cronin, D. Kenny, and J. Pearson. (eds). Manchester: St. Jerome. 187-194.

Vuorikoski, Anna-Riitta. 2004. *A Voice of its Citizens or a Modern Tower of Babel? – The Quality of Interpreting as a Function of Political Rhetoric in the European Parliament*. Academic Dissertation, Acta Universitatis Tamperensis 985 and Acta Electronica Universitatis Tamperensis 317. Tampere, Finland: University of Tampere, School of Languages and Translation Studies.

Wadensjö, Cecilia, Birgitta Englund Dimitrova, and Anna-Lena Nilsson. 2007. *Critical Link 4: Professionalization of interpreting in the community – selected papers from the 4th International Conference on Interpreting in Legal, Health and Social Service Settings, Stockholm, Sweden, 20-23 May 2004.* Amsterdam and Philadelphia: John Benjamins.

Wassmer, Thomas. Accessed July 2008. *Dr. Tom's Independent Software Reviews – STAR Transit.* http://www.localizationworks.com/DRTOM/Star/STAR.html.

Weber, Max. 1968. *On Charisma and Institution Building.* Chicago and London: The University of Chicago Press.

Webzine & Communication. Accessed August 2005. "'The Whisperers': A Journey into the World of Interpreters". *Communicate!* September-October 2005. http://www.aiic.net/ ViewPage.cfm/article1484.htm.

Whatis.com. 2000. "What is CD-ROM?". http://searchcio-midmarket.techtarget.com/s Definition/0,,sid183_gci211759,00.html. Accessed May 2009.

Whatis.com. 2001. "What is a search engine?". http://searchsoa.techtarget.com/s Definition/0,,sid26_gci212955,00.html. Accessed May 2009.

ISBN:978-84-693-4073-8/DL:T.993-2010

Whatis.com. 2007a. "What is online?". http://searchnetworking.techtarget.com/s Definition/0,,sid7_gci542050,00.html. Accessed May 2009.

Whatis.com. 2007b. "What is Wikipedia?". http://whatis.techtarget.com/definition /0,,sid9_gci967853,00.html. Accessed May 2009.

Whatis.com. 2008. "sv ICT". http://searchcio-midmarket.techtarget.com/ sDefinition/0,,sid183_gci928405,00.html. Accessed July 2008.

Will, Martin. 2000. "Bemerkungen zum Computereinsatz beim Simultandolmetschen". In *Dolmetschen: Theorie - Praxis - Didaktik mit ausgewählten Beiträgen der Saarbrücker Symposien,* S. Kalina, S. Buhl and H. Berzymisch-Arbogast (eds). St. Ingbert: Röhrig Universitätsverlag (Arbeitsberichte des Advanced Translation Research Center (ATRC) an der Universität des Saarlandes 1/2000). 125-135.

Wordfast. Accessed July 2008. *Solutions for Translators, LSPs/Agencies, Corporations, Educational Institutions.* http://www.wordfast.com.

Worldmapper. Accessed February 2009. "Internet Users 2002". http://www.worldmapper.org /display.php?selected=336.

Wright, Sue Ellen. Accessed August 2009. "Scientific, Technical and Medical Translation". http://www.accordent.umontreal.ca/20090115-114727-1.

Zanettin, Federico. 2002. "DIY Corpora: The WWW and the Translator". In *Training the Language Services Provider for the New Millenium,* B. Maia, J. Haller, and M. Ulrych (eds). Porto: Facultade de Letras, Universidade do Porto. 239-248.

Zhang, Irene A. 2006. "The Teaching and Learning of Interpreting in China's Mainland". EMCI London 2006. http://www.emcinterpreting.org/ resources/conferences.php. Accessed June 2008.

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Appendix: Questionnaires

I prepared two different questionnaires since I had two types of subjects I was addressing and from whom I expected to have different experiences and points of view. I tried to keep the questionnaires as brief as possible since interpreting is a profession where being in a hurry is the norm, and I wanted as many professional interpreters to answer the questionnaire as possible.

Thus, the questionnaires were prepared with two main aims: to be simple and easy to answer, but with some open questions in order to obtain the original thought of each of the subjects on some crucial aspects.

The questionnaires were distributed and collected during the first half of 2008.

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Questionnaire for Conference Interpreters

A. Cover letter

Dear Conference Interpreter:
My name is Diana Berber, doctoral student at Universitat Rovira i Virgili (Tarragona, Spain), where I am working on my doctoral thesis on the use of ICT (Information and Communication Technologies) in conference interpreting. I am conducting a worldwide survey for my research and would therefore like to request your cooperation in this project by filling in the questionnaire found in the following link.
https://web.abo.fi/csk/misc/surveyconfint
Filling in the questionnaire should take no more than 15 minutes of your time, as the questions are mainly multiple choice. The questionnaire will be automatically registered in my database when you press the "Submit" button. Should you be unable for any reason to access the questionnaire but would still like to participate in the survey, please do not hesitate to contact me, and I will be happy to e-mail you the questionnaire in Word format, which you can e-mail back to me as an attachment when you have filled it in.
The initial results of this survey will be presented during the next world conference of FIT, to be held in Shanghai in August, 2008, and of course you can contact me for further information: dberber@abo.fi.
I look forward to receiving your feedback. If possible, I would ask you to please submit the questionnaire by April 15, 2008.
Your cooperation in this research is greatly appreciated.
Best wishes,
Diana Berber

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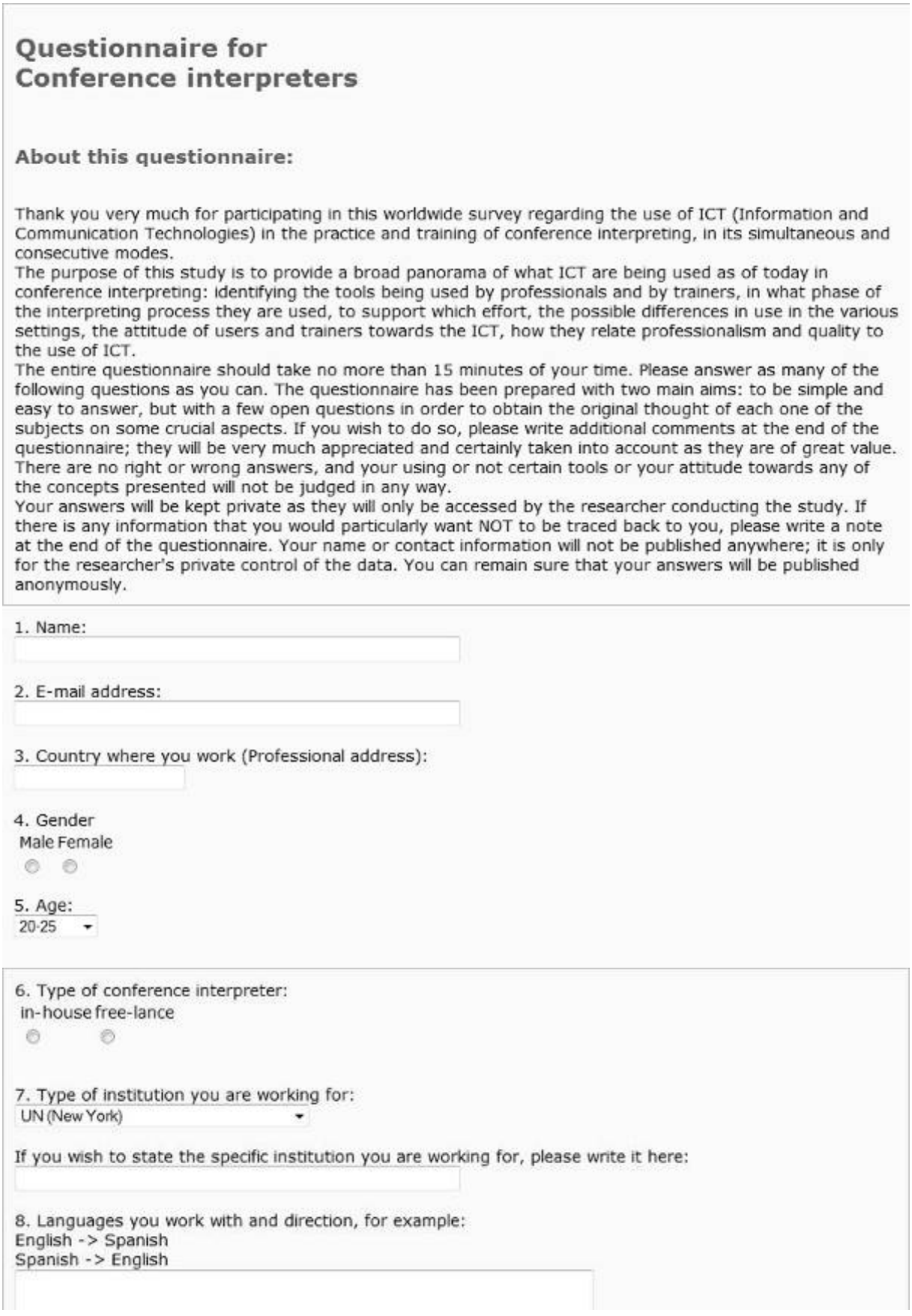
Questionnaire in electronic format



Questionnaire for Conference interpreters

About this questionnaire:

Thank you very much for participating in this worldwide survey regarding the use of ICT (Information and Communication Technologies) in the practice and training of conference interpreting, in its simultaneous and consecutive modes.
The purpose of this study is to provide a broad panorama of what ICT are being used as of today in conference interpreting: identifying the tools being used by professionals and by trainers, in what phase of the interpreting process they are used, to support which effort, the possible differences in use in the various settings, the attitude of users and trainers towards the ICT, how they relate professionalism and quality to the use of ICT.
The entire questionnaire should take no more than 15 minutes of your time. Please answer as many of the following questions as you can. The questionnaire has been prepared with two main aims: to be simple and easy to answer, but with a few open questions in order to obtain the original thought of each one of the subjects on some crucial aspects. If you wish to do so, please write additional comments at the end of the questionnaire; they will be very much appreciated and certainly taken into account as they are of great value.
There are no right or wrong answers, and your using or not certain tools or your attitude towards any of the concepts presented will not be judged in any way.
Your answers will be kept private as they will only be accessed by the researcher conducting the study. If there is any information that you would particularly want NOT to be traced back to you, please write a note at the end of the questionnaire. Your name or contact information will not be published anywhere; it is only for the researcher's private control of the data. You can remain sure that your answers will be published anonymously.

1. Name:

2. E-mail address:

3. Country where you work (Professional address):

4. Gender
Male Female

5. Age:
20-25

6. Type of conference interpreter:
in-house free-lance

7. Type of institution you are working for:
UN (New York)

If you wish to state the specific institution you are working for, please write it here:

8. Languages you work with and direction, for example:
English -> Spanish
Spanish -> English

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9. What type of settings or nature of a meeting do you do conference interpreting in on a regular basis? Please tick as many boxes as needed.

- ☐ academic (arts and humanities, science, technology, etc)
- ☐ business (trade and commerce, economics, science, technology, etc.)
- ☐ diplomatic (negotiations, international political issues, etc.)
- ☐ politics (human rights, women's rights, religion, terrorism, etc.)
- ☐ Others. Which?

10. Which of the following ICT do you use in your interpreting work and during which phase of the interpreting process? How often do you use them? Please select none or as many of the boxes as needed. Note: remote interpreting is different from videoconferencing in that in the latter interpreters are located in the same venue as most of the conference participants, while in the first one interpreters are located in a completely different venue.

Type of ICT	Phase of the interpreting process when you use the ICT			Frequency with which you use the ICT			
	Before interpreting	During the interpreting (in the booth or during consecutive delivery)	After interpreting	Always	Very often	Seldom	Very seldom
Internet resources (Communications Technology):							
Search engines (Google, Yahoo, MSN, Altavista, etc.)	☐	☐	☐	☐	☐	☐	☐
Online dictionaries	☐	☐	☐	☐	☐	☐	☐
Online encyclopedias	☐	☐	☐	☐	☐	☐	☐
Terminology data bases (glossaries)	☐	☐	☐	☐	☐	☐	☐
Parallel texts	☐	☐	☐	☐	☐	☐	☐
Electronic norms manuals	☐	☐	☐	☐	☐	☐	☐
Information Technology:							
DIY (do-it-yourself) corpora	☐	☐	☐	☐	☐	☐	☐
Pocket electronic dictionaries	☐	☐	☐	☐	☐	☐	☐
Commercial CD-Roms: dictionaries	☐	☐	☐	☐	☐	☐	☐
Commercial CD-Roms: encyclopedias	☐	☐	☐	☐	☐	☐	☐
Commercial CD-Roms: terminology data bases (glossaries)	☐	☐	☐	☐	☐	☐	☐
Remote interpreting	☐	☐	☐	☐	☐	☐	☐
Video conferencing	☐	☐	☐	☐	☐	☐	☐
Telephone interpreting	☐	☐	☐	☐	☐	☐	☐

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11. In which setting/s or nature of a meeting do you use them?

Type of ICT	Setting or nature of meeting				
	Academic	Business	Diplomatic	Politics	Other
Internet resources (Communications Technology):					
Search engines (Google, Yahoo, MSN, Altavista, etc.)	☐	☐	☐	☐	☐
Online dictionaries	☐	☐	☐	☐	☐
Online encyclopedias	☐	☐	☐	☐	☐
Terminology data bases (glossaries)	☐	☐	☐	☐	☐
Parallel texts	☐	☐	☐	☐	☐
Electronic norms manuals	☐	☐	☐	☐	☐
Information Technology:					
DIY (do-it-yourself) corpora	☐	☐	☐	☐	☐
Pocket electronic dictionaries	☐	☐	☐	☐	☐
Commercial CD-Roms: dictionaries	☐	☐	☐	☐	☐
Commercial CD-Roms: encyclopedias	☐	☐	☐	☐	☐
Commercial CD-Roms: terminology data bases (glossaries)	☐	☐	☐	☐	☐
Remote interpreting	☐	☐	☐	☐	☐
Video conferencing	☐	☐	☐	☐	☐
Telephone interpreting	☐	☐	☐	☐	☐

12. **Efforts:** There are three basic efforts involved in the process of interpreting: listening and analysis, production, memory. Which effort or efforts do you consider the following ICT can support?

Type of ICT	Efforts involved in interpreting		
	Listening and analysis	Production	Memory
Internet resources (Communications Technology):			
Search engines (Google, Yahoo, MSN, Altavista, etc.)	☐	☐	☐
Online dictionaries	☐	☐	☐
Online encyclopedias	☐	☐	☐
Terminology data bases (glossaries)	☐	☐	☐
Parallel texts	☐	☐	☐
Electronic norms manuals	☐	☐	☐
Information Technology:			
DIY (do-it-yourself) corpora	☐	☐	☐
Pocket electronic dictionaries	☐	☐	☐
Commercial CD-Roms: dictionaries	☐	☐	☐
Commercial CD-Roms: encyclopedias	☐	☐	☐
Commercial CD-Roms: terminology data bases (glossaries)	☐	☐	☐
Remote interpreting	☐	☐	☐
Video conferencing	☐	☐	☐
Telephone interpreting	☐	☐	☐

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13. If you are (or if you were hypothetically) hiring personnel, what traits do you look for (or would you look for) in potential interpreters regarding their knowledge of ICT? Place in order of importance to you the following ICT potential interpreters should master or at least be familiar with. Indicate by numbering from 1-4, where 1 is the most important.

- [ ] Internet resources (Communications Technology): Search engines (Google, Yahoo, MSN, Altavista, etc.)
- [ ] Online dictionaries
- [ ] Online encyclopedias
- [ ] Terminology data bases (glossaries)
- [ ] Parallel texts
- [ ] Electronic norms manuals
- [ ] Information Technology: DIY (do-it-yourself) corpora
- [ ] Pocket electronic dictionaries
- [ ] Commercial CD-Roms: dictionaries
- [ ] Commercial CD-Roms: encyclopedias
- [ ] Commercial CD-Roms: terminology data bases (glossaries)
- [ ] Remote interpreting
- [ ] Video conferencing
- [ ] Telephone interpreting

14. Are all the ICT you need available in the source language/s you work with? If not, which ICT and in which language/s do you consider would be needed?

15. **Professionalism**, besides qualifications and attitudes, includes the use of materials and equipment.

Would you consider that the use of ICT can enhance professionalism of the conference interpreter?
Yes No
( ) ( )

Do you think the use of ICT should be on the list of traits which are essential for an interpreter to be considered a 'real' professional?
Yes No
( ) ( )

Could you briefly explain your point of view please?

16. **On quality**: in a scale from 1 to 4, with 1 being the highest, please indicate to what degree ICT are important for that element of quality.

- [ ] sense consistency
- [ ] coherence
- [ ] correct target language
- [ ] technical terms
- [ ] syntax and style
- [ ] delivery
- [ ] voice and articulation
- [ ] booth manners

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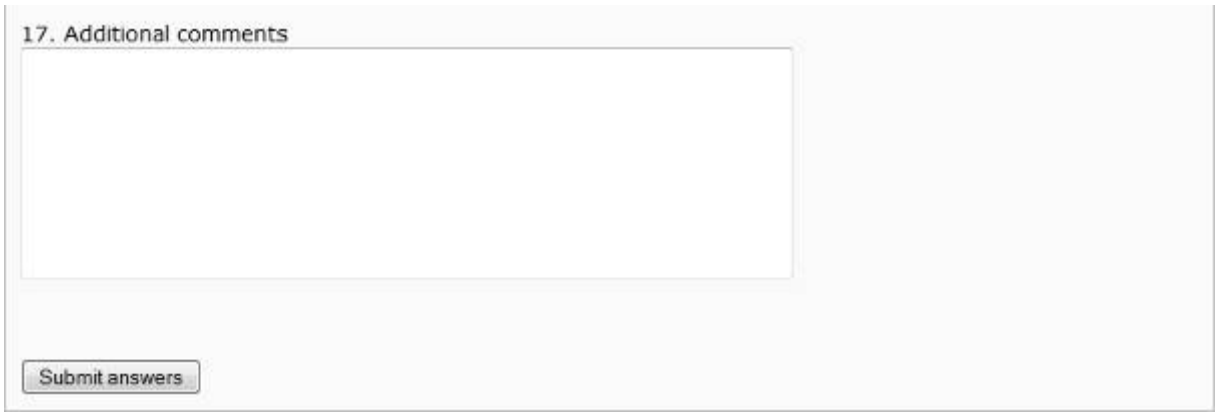

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Questionnaire for Conference Interpreter Trainers

on the use of ICT in educational settings

A. Cover letter

Dear Conference Interpreter Trainer:

My name is Diana Berber, doctoral student at Universitat Rovira I Virgili (Tarragona, Spain), where I am working on my thesis on the use of ICT (Information and Communication Technologies) in conference interpreting. One important section of my thesis is dedicated to their usage in educational settings.

The reason for contacting you is to request your cooperation in this project by filling in the questionnaire found at the following link.

https://web.abo.fi/csk/misc/surveyconfinttrainers

Completing the questionnaire should take no more than 15 minutes of your time. Should you be unable for any reason to access or submit the questionnaire but would still like to participate in the survey, please do not hesitate to contact me, and I will be happy to e-mail you the questionnaire in Word format, which you can e-mail back to me as an attachment once completed.

The initial results of this survey will be published during the next world conference of FIT (international federation of associations of translators, interpreters and terminologists), to be held in Shanghai in August 2008, and of course you can contact me for further information:
dberber@abo.fi.

I look forward to receiving your feedback. If possible, I would ask you to please submit the questionnaire by May 26, 2008.

Your cooperation in this research is greatly appreciated.
Best wishes,
Diana Berber

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B. Questionnaire in electronic format

Questionnaire for Conference Interpreter Trainers

on the use of ICT in educational settings

About this questionnaire:

Thank you very much for participating in this worldwide survey regarding the use of ICT (Information and Communication Technologies) in the training of conference interpreters.
The purpose of this study is to provide a broad panorama of what ICT are being used today in conference interpreting: identifying the tools being used by professionals and by trainers, in what phase of the interpreting process they are used, the attitude of users and trainers towards the ICT, how they relate professionalism and quality to the use of ICT. With the term ICT we intend to cover computer-based information systems, particularly software applications and computer hardware, as well as other equipment related to the transfer of messages and information.
The entire questionnaire should take no more than 15 minutes of your time. If you wish to write additional comments at the end of the questionnaire, they would be very much appreciated and certainly taken into account as they are of great value.
There are no right or wrong answers, so your using or not using certain technologies or your attitude towards any of the concepts presented will not be judged in any way. Your answers will be kept confidential as they will be accessed only by the researcher conducting the study. Your name, the name of your institution, and your contact information will not be published anywhere; they are requested only to keep record of the data sent out and received.

1. Name:

2. E-mail address:

3. Name of your institution:

4. Country where your institution is located
Algeria

5. Level of the conference interpreting course taught at your institution
- [ ] Undergraduate (UG = first 4 or 5 years of university education)
- [ ] Graduate (G)

6. Language and direction interpreting institution is taught at your institution, for example:
English -> Spanish
Spanish -> English, etc.

7. Do you have in your curriculum specific subjects on the usage of ICT (Information and Communication Technologies)?
- Yes
- No

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8. If you answered 'yes' to the previous question, could you please specify the following:

At what level are they taught?

- ☐ Undergraduate
- ☐ Graduate

What is/are the name/s of the subject/s?

9. If you answered 'no' to question 7, could you please explain the reason(s) for not having a specific subject on ICT in your curriculum:

- ☐ They are part of other subjects
  Which or what type of subjects?
- ☐ Lack of interest on the part of the teachers
  Possible reasons
- ☐ Lack of interest on the part of students
  Possible reasons
- ☐ Lack of funds
- ☐ We do not teach them nor use them for training but inform students of their existence

Other(s). Which?

10. Do you use any of the following pedagogical tools?

- ☐ Training tools (to practice and develop skills)
- ☐ Distance learning

11. Which equipment and ICT are available for conference interpreting trainers and students/trainees in your institution? Please write the name(brand) and type of ICT or general specifications:

for self-training / training tools

for teaching / distance learning, or others

12. Would you like to comment on the results obtained with these ICT?

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13. Which of the following ICT do you teach or inform your students to use?

ICT	Train the students to use this particular ICT	Inform the students/trainees of the existence of these ICT but do not actually teach the students/trainees how to use them
Search engines (Google, Yahoo, MSN, Altavista, etc.)	○	○
Parallel texts on Internet	○	○
Dictionaries on Internet	○	○
Encyclopaedias on Internet	○	○
Terminology data bases (glossaries) on Internet	○	○
DIY (do-it-yourself) corpora	○	○
Dictionaries on commercial CD-ROMs	○	○
Encyclopaedias on commercial CD-ROMs	○	○
Terminology data bases (glossaries) on commercial CD-ROMS	○	○
Pocket electronic dictionaries	○	○
Videoconferencing (Interpreter located in the same venue as most of the conference participants)	○	○
Remote interpreting (interpreter located in a completely different venue from all conference participants)	○	○
Telephone interpreting	○	○

14. Please indicate next to the following IT the order of importance that you consider they have in what conference interpreter trainees should master or at least be familiar with.

ICT	Very important	Important	Not important
Search engines (Google, Yahoo, MSN, Altavista, etc.)	○	○	○
Parallel texts on Internet	○	○	○
Dictionaries on Internet	○	○	○
Encyclopaedias on Internet	○	○	○
Terminology data bases (glossaries) on Internet	○	○	○
DIY (do-it-yourself) corpora	○	○	○
Dictionaries on commercial CD-ROMs	○	○	○
Encyclopaedias on commercial CD-ROMs	○	○	○
Terminology data bases (glossaries) on commercial CD-ROMS	○	○	○
Pocket electronic dictionaries	○	○	○
Videoconferencing	○	○	○
Remote interpreting	○	○	○
Telephone interpreting	○	○	○

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15. In what phase of the interpreting process do you teach the trainees they should use ICT and with what frequency have you noticed that they actually use them?

ICT	Phase of the interpreting process	Always	Very often	Often	Seldom	Not at all
Search engines (Google, Yahoo, MSN, Altavista, etc.)	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Parallel texts on Internet	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Dictionaries on Internet	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Encyclopaedias on Internet	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Terminology data bases (glossaries) on Internet	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
DIY (do-it-yourself) corpora	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Dictionaries on commercial CD-ROMs	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Encyclopaedias on commercial CD-ROMs	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Terminology data bases (glossaries) on commercial CD-ROMS	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○
Pocket electronic dictionaries	Before	○	○	○	○	○
	During (in the booth)	○	○	○	○	○
	After	○	○	○	○	○

16. In cases where you have noticed that the trainees are not using the ICT available to them, what, in your opinion, could be the possible reason(s)?

- ☐ Negative attitude towards technology
- ☐ Lack of information

Others. Which?

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17. Efforts: according to Gile (1997-2002), there are three basic efforts involved in the process of interpreting: 1) listening and analysis, 2) production, and 3) memory. Which effort(s) do you consider the following ICT can support?

ICT	Listening and analysis	Production	Memory
Search engines (Google, Yahoo, MSN, Altavista, Etc.)	☐	☐	☐
Parallel texts on Internet	☐	☐	☐
Dictionaries on Internet	☐	☐	☐
Encyclopaedias on Internet	☐	☐	☐
Terminology data bases (glossaries) on Internet	☐	☐	☐
DIY (do-it-yourself) corpora	☐	☐	☐
Dictionaries on commercial CD-ROMs	☐	☐	☐
Encyclopaedias on commercial CD-ROMs	☐	☐	☐
Terminology data bases (glossaries) on commercial CD-ROMS	☐	☐	☐
Pocket electronic dictionaries	☐	☐	☐

18. Professionalism, besides qualifications and attitudes, includes the use of materials and equipment. Would you consider that the use of ICT can help your trainees become 'real' professionals?

- ○ Yes
- ○ No

Could you briefly explain your point of view?

19. On quality: please indicate next to the following elements of quality (Pöchhacker 1999) to what degree ICT are important and useful to develop that element of quality in your students/trainees.

Element of quality	Very important	Important	Not important
Sense consistency	○	○	○
Coherence	○	○	○
Correct target language	○	○	○
Technical terms	○	○	○
Syntax and style	○	○	○
Delivery	○	○	○
Voice and articulation	○	○	○
Booth manners	○	○	○

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20. Do you specifically teach or discuss any of these notions (professionalism and quality) with the conference interpreting trainees, regarding ICT?

- Yes
- No

Comments:

21. Being that most of your trainees will eventually work for international organizations and most likely in diplomatic settings (as opposed to business, academic, or political settings), which of the following ICT do you or would recommend to your students for interpreting in a diplomatic setting?

ICT	
Search engines (Google, Yahoo, MSN, Altavista, etc.)	☐
Parallel texts on Internet	☐
Dictionaries on Internet	☐
encyclopaedias on Internet	☐
terminology data bases (glossaries) on Internet	☐
DIY (do-it-yourself) corpora	☐
Dictionaries on commercial CD-ROMs	☐
Encyclopaedias on commercial CD-ROMs	☐
Terminology data bases (glossaries) on cmmercial CD-ROMs	☐
Pocket electronic dictionaries	☐

22. Additional comments

Thank you very much for your answers!

Submit answers