

UNIVERSIDADE FEDERAL DE SANTA CATARINA  
PÓS-GRADUAÇÃO EM LETRAS/INGLÊS E LITERATURA CORRESPONDENTE

THE USE OF ICT TOOLS IN UNDERGRADUATE ENGLISH LANGUAGE  
PROGRAMMES: BELIEFS OF PROFESSORS AND STUDENTS

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**To my parents João and Sônia, for  
being such extraordinary people  
and examples to be followed**

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## **ABSTRACT**

### **THE USE OF ICT TOOLS IN UNDERGRADUATE ENGLISH LANGUAGE PROGRAMMES: BELIEFS OF PROFESSORS AND STUDENTS**

**FERNANDA RAMOS MACHADO**

**UNIVERSIDADE FEDERAL DE SANTA CATARINA  
2009**

**Supervising Professor: Dr. Mailce Borges Mota**

The present study aims at investigating the (a) the use of ICT tools by both professors and students in undergraduate English language programmes, (b) the beliefs of these professors and students concerning the use of ICT tools in these undergraduate programmes and (c) the relationship between the use of ICT tools in the aforementioned programmes and the professors and students' beliefs towards this use. The data were collected from 9 professors of the undergraduate English language programmes at UFSC, UFMG and UFRJ and from 48 students at UFSC and UFRJ. The instruments used for data collection were online open-ended questionnaires, online semi-structured interviews and self-reports. In total, all the 9 professors and 48 students answered the questionnaire; 3 professors and 6 students from UFSC only took part in the interview and 2 professors and 1 student also from UFSC wrote the self-report. The analysis of data for the present study consisted of a careful process of reflection, interpretation and constructions of meanings from the triangulation of data collected through those three instruments. Results show that professors of the undergraduate English language programmes at UFSC, UFMG and UFRJ use a number of ICT tools in the courses they teach to complement their classes and to assist students in their learning process.

Moreover, overall professors and students expressed positive beliefs towards the use of ICT tools, pointing many ways in which they can complement the courses students take and improve their linguistic skills. However, a few students reported not to benefit from the way some tools were currently being employed and still one student reported not to believe ICT tools can assist in his learning process at all. Finally, a good degree of coherence was found in the relationship between the use professors and students reported to make of ICT tools and their beliefs towards this use. That is, participants not only believe ICT tools can assist in their teaching/learning process, but they effectively use such tools.

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## **RESUMO**

### **O USO DE FERRAMENTAS DE TIC EM CURSOS DE LETRAS INGLÊS: CRENÇAS DE PROFESSORES E ALUNOS**

**FERNANDA RAMOS MACHADO**

**UNIVERSIDADE FEDERAL DE SANTA CATARINA  
2009**

**Professora Orientadora: Dra. Mailce Borges Mota**

O presente estudo tem por objetivo investigar (a) o uso de ferramentas de TIC por ambos os professores e alunos em cursos de Letras Inglês, (b) as crenças desses professores e alunos em relação ao uso de ferramentas de TIC nesses cursos e (c) a relação entre o uso das ferramentas de TIC nesses cursos e as crenças dos professores e alunos em relação a esse uso. Os dados foram coletados de 9 professores dos cursos de Letras Inglês da UFSC, UFRJ e UFMG, e de 48 alunos da UFSC e da UFRJ. Os instrumentos utilizados para a coleta dos dados foram questionários abertos online, entrevistas semi-estruturadas online e auto-relatos. Ao todo, todos os 9 professores e 48 alunos responderam o questionário; 3 professores e 6 alunos da UFSC participaram da entrevista e outros 2 professores e uma aluna também da UFSC escreveram o auto-relato. A análise dos dados para o presente estudo consistiu de um processo cuidadoso de reflexão, interpretação e construção de significados a partir da triangulação dos dados obtidos através daqueles três instrumentos. Os resultados indicam que os professores do curso de Letras Inglês da UFSC, da UFRJ e da UFMG usam várias ferramentas de TIC nos cursos que lecionam com o objetivo de complementar as suas

aulas e de auxiliar seus alunos no seu processo de aprendizagem. Além disso, a maioria dos professores e alunos expressou crenças positivas em relação ao uso de ferramentas de TIC, apontando várias formas como essas ferramentas podem complementar o próprio curso e ajudar os alunos a melhorarem suas habilidades lingüísticas. Porém, alguns poucos alunos reportaram não se beneficiar da maneira como algumas ferramentas estavam sendo empregadas, e ainda um aluno afirmou não acreditar que as ferramentas de TIC podem de alguma forma auxiliar no seu processo de aprendizagem. Por fim, um bom grau de coerência foi encontrado da relação entre o uso que professores e alunos dizem fazer das ferramentas de TIC e as suas crenças em relação a esse uso. Ou seja, os participantes não apenas acreditam que as ferramentas de TIC podem auxiliar no seu processo de ensino/aprendizagem, mas eles de fato as utilizam.

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## CHAPTER I

### INTRODUCTION

#### 1.1 Preliminaries

During the past few decades, there has been a revolution in technology and in information. With the advent of the Internet, in 1969, which appeared out of the need of the United States Department of Defence, during the Cold War, to be able to share confidential information safely, and the creation of the World Wide Web (WWW) in 1991 (Paiva, 2001), the access to information through the computer became independent of time and space. In the wake of this, the dissemination of knowledge throughout the world was made possible and this has brought changes not only in the political and economic scenario, but also in the field of education. Regarding the latter, a number of initiatives in Brazil and abroad have been taken in order to keep up with the demands and tendencies of a globalized world that invests in high innovation of products, high variability in the process of production and, mainly, qualified, autonomous work force able to make decisions (Belloni, 2006).

The Open University in the United Kingdom, for instance, was created back in the 1960's based on the premise that communications technology, such as radio and television, could give students (who did not have the chance to attend classes on campus) the opportunity to have access to quality higher education, reducing this way the exclusion rate of low income groups. By the late 1990's, the Open University started to exploit the internet facilities and became 'the world's leading e-university', counting currently with approximately 150 thousand undergraduate students and around 30

thousand postgraduate students from all around the world (Open University, n.d., para.3).

In Brazil, the first initiative using technology to provide secondary education for people that for some reason did not have access to school started to take place in the late 1970's with a pioneering tele-education project initially called 'Telecurso 2º Grau', carried out by the Roberto Marinho Foundation and Padre Anchieta Foundation. In the 1980's, the project was expanded to include primary education as well and then the 'Telecurso 1º Grau' was created. In the 1990's, with the establishment of some partnerships (FIESP, SESI, SENAI)<sup>1</sup>, both projects were mingled together and received the name 'Telecurso 2000'. Currently, the project is called 'Novo Telecurso and has benefited more than 5, 5 million people in the course of 30 years. In addition to the didactic material, VHS tapes and DVDs, the project also offers now a virtual environment for communication and exchange of experiences and knowledge between teachers, students, teachers and students and anyone willing to contribute (Telecurso2000, n.d., para.1).

Another big investment (nearly R\$ 200 million) in education with the aid of technology was the creation of the Open University of Brazil - UAB in 2005. Following the steps of the Open University in the United Kingdom previously mentioned, the objective of UAB is to offer distance higher education where access to a university would be otherwise impossible and, mainly, to primary and secondary teachers who still do not have a graduate degree and any person with an interest to give continuity to his/her studies. Since its creation, UAB has already offered more than 60 thousand vacancies in different courses (Secretaria de Educação à Distância, 2006, para.12).

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<sup>1</sup> FIESP: Federação das Indústrias do Estado de São Paulo; SESI: Serviço Social Industrial; SENAI: Serviço Nacional de Aprendizagem Industrial.

Finally, the Brazilian Federal Government agreed, in 2005, to participate in a project called ‘One Laptop per Child’ (OLPC) developed by an American non-governmental organization that receives the same name (OLPC), headed by Nicholas Negroponte, Seymour Papert and Mary Lou Jepsen. The objective is to promote the digital inclusion in poorer primary and secondary schools to assist the students in the learning process. The pilot-project, that in Brazil is called ‘One Computer per Child’ (UCA), started to be carried out in 2007, when five pre-selected schools<sup>2</sup> from different states received 400 laptops that were distributed to teachers and students for pedagogical use under the coordination of a university department from the respective states. Depending on the results from the pilot-project, the Federal Government plans to distribute 150 thousand laptops in 300 schools all around the country in the year 2009 (Câmara dos Deputados, 2008, para.2).

Furthermore, the current Guidelines and Basis for Brazilian Education (LDB)<sup>3</sup> envisage developing material, social, political and technological awareness and competency which can assure responsible practice of citizenship, and which can help both students and teachers succeed in professional life and further studies (Castro & Alves, 2007). The LDB emphasize the importance of Information and Communication Technology (ICT) as a tool to enrich the curriculum and to improve the quality of teaching. In line with the worldwide tendency to include the use of ICT in education and aiming at its democratization and improvement in quality, the Brazilian Ministry of Education created in 1997 the ProInfo – National Program for Information Technologies in Education<sup>4</sup> – with the amount of approximately R\$ 650 million to be

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<sup>2</sup> Escola Municipal Ernani Silva Bruno, in São Paulo (SP); Escola Estadual de Ensino Fundamental Luciana de Abreu, in Porto Alegre (RS); Escola Estadual Dom Alano Du Noday, in Palmas (TO); Centro Educacional nº 1 do Planalto and Centro Educacional nº 1 do Planalto - Educação de Jovens e Adultos, in Brasília (DF).

<sup>3</sup> My translation for ‘Lei de Diretrizes e Bases da Educação Nacional (LDB)’.

<sup>4</sup> My translation for ‘Programa Nacional de Informática na Educação’.

invested until the year 2010. In partnership with state and municipal authorities, the objective of the programme is to promote the pedagogical use of ICT in primary and secondary public schools by equipping them with appropriate infrastructure, computers, educational software and, soon, internet connection (Secretaria de Educação à Distância, n.d., para.1). In addition to this, the Ministry of Education also created the programme ‘Media in Education’<sup>5</sup>, which aims at providing teachers with training courses on how to make the best possible use of the ICT tools provided (Ministério da Educação, n.d., para.1).

As a result of these initiatives, a number of studies (Knezek & Christensen, 2002; Angeli, 2004; Gülbahar, 2007; Llomäki & Rantanen, 2007; to cite a few) and projects (Becta ICT research, 2004; InterActive Education, n.d.; JISC, 2006; SPOT +, n.d.) have investigated the impact of the integration of ICT tools in education. In the area of language teaching and learning, specifically, contributions come from a number of authors and in different research interests. Yunus (2007), for instance, investigated the use of ICT tools by ESL teachers from technical schools. Samuel and Bakar (2005), in turn, investigated the scenario on the use and integration of ICT tools by English language primary and secondary schools teachers. Still, other studies have looked into undergraduate students’ attitudes towards ICT use in the classes (Beauvois & Jean, 1996; Simsek, 2007) as well as high school EFL teachers’ attitudes towards the use of such tools (Albirine, 2004, 2006).

## **1.2 Statement of the Problem**

The potential of computers and their applications combined with the internet and other ICT tools have been claimed in the literature to assist professors and students in

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<sup>5</sup> My translation for ‘Mídias na Educação’.

the process of foreign language teaching and learning (Ehsani & Knodt, 1998; Paiva, 1999a, 1999b, 2001; Meloni et al, 2001; Brandl, 2002; Stepp-Greany, 2002; Young, 2003; White, 2003; Samuel & Bakar, 2005; Leffa, 2006; Simsek, 2007, Stockwell, 2007). In fact, computers have been used to assist in the process of language learning since the 1960's (Laghos & Zaphiris, 2005; Gruba, 2006). Some of the benefits found in studies investigating the use of e-mail (González-Bueno, 1998, Handle & Corl, 1999) websites, chat-rooms (Lee, 1998), computerized reading programme, videocassettes and authoring tools (Adair-Hauck, Willingham-McLain & Youngs, 1999) for language teaching are related to improvements in students' level of accuracy, initiative to interact, reading, writing and oral skills, motivation to learn the target language and use of more language functions.

It is claimed, however, that successful integration of ICT tools must involve training, improvements in infra-structure, technical support assistance and active participation from school administration members and teachers (Pelgrum, 2001; Jones, 2004; Baitaneh and Baniabdelrahman, 2006). In addition, studies (Galanouli, Murphy & Gardner, 2004; Samuel & Bakar, 2005) found that some teachers keep not using ICT tools even after having received specific training to do so and having a positive attitude towards the use. According to Fishbein and Ajzen (1975, as cited in Levine & Donitsa-Schmidt, 1998), "beliefs about an object lead to attitudes toward it and that, in turn, attitudes lead to behavioural intentions regarding the object" (p.128). In the face of this, research investigating teachers/professors and students' beliefs towards the use of ICT tools is necessary in order to gain a better understanding of possible reasons that may make them avoid integrating such tools to assist in their teaching/learning process.

Even though a considerable number of studies have investigated the use of ICT tools for language teaching and learning, research investigating the beliefs of professors

and students towards the use of ICT tools that can assist in their teaching and learning process is still scarce. In the Brazilian scenario, few studies have addressed this topic and contributions come from Perina (2003) and Oliveira (2004). Considering the number of initiatives taking place and the amount of public money that the Brazilian Federal Government has been spending to enhance the quality of education with implementation of ICTs, it is absolutely necessary to investigate whether prospective teachers graduating from Brazilian universities are being properly educated to effectively integrate ICTs in their classes and take advantage of these tools' full potential for their own benefit and that of their students. According to Roland (2006), only two undergraduate English language programmes (out of 11 investigated in public universities in Brazil) offer a specific course on the implementation of ICT tools for the teaching of English. The author argues that prospective teachers graduating from some of the best universities in the country are not being properly prepared to face this new trend in education, and will probably keep misusing or overlooking the potential of computers. I endorse Roland's words based on my own experience as an undergraduate student of the undergraduate English language programme at Universidade Federal of Santa Catarina (UFSC). I noticed that recording tapes in the language laboratory was the main, if not the only source through which students could practice oral skills and receive personalized feedback, let alone the other skills involved in language learning for which I have no remembrance of ICT tools being used to assist in our learning process during the programme at UFSC.

The present study, therefore, tries to contribute to the body of research by investigating the use of ICT tools by professors of three undergraduate English language programmes<sup>6</sup> and the beliefs of professors and students of those programmes

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<sup>6</sup> Hereafter, throughout this study, I will call these programmes 'Letras Inglês Programmes'.

towards the use of such tools. In addition to that, this study also addresses the relationship between the use of ICT tools in Letras Inglês Programmes and professors and students' beliefs towards this use which, to the best of my knowledge, no study has pursued this endeavour up to the present moment (at least) in the Brazilian context. It is important to investigate professors and students' beliefs towards the use ICT tools as beliefs can influence the uptake of such tools for either teaching or learning (Ertmer, 2005; Barcelos, 2000; 2006, Barcelos & Kalaja, 2003; Horwitz, 1987).

### **1.3 Objectives and Research Questions**

In this study, I propose to investigate (a) the use of ICT tools by both professors and students in Letras Inglês Programmes; (b) the beliefs of these professors and students concerning the use of ICT tools in these undergraduate programmes and (c) the relationship between the use of ICT tools in Letras Inglês Programmes and the professors and students' beliefs towards such tools.

In order to reach these objectives, the present study pursued the following research questions:

1. Do professors of Letras Inglês Programmes make use of ICT tools in the courses they teach? If so, which ICT tools do they use?;
2. What beliefs do students and professors of Letras Inglês Programmes have towards the use and integration of ICT tools in these Programmes?
3. What is the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students towards this use?

### **1.4 Significance of the Study**

As has been previously put, there is an ever-increasing number of studies investigating the use of ICT tools for language teaching and learning in the contexts of

both basic and higher education. This points to the potential of ICT tools in assisting teachers/professors and students in their teaching and learning process. In the Brazilian context, however, studies focusing on the scenario of ICT use in Letras Inglês Programmes are still scarce. For this reason and considering the investments of the Brazilian federal government for ICT integration in education, the present study hopes to contribute not only to this field of research, but also to a better understanding of the scenario of ICT tools use by both undergraduate students (some of which may become future teachers) and professors in Letras Inglês Programmes of some Brazilian universities.

Moreover, even though research on beliefs about language teaching and learning has been taking place since the late 1980's (Holec, 1987; Wenden, 1986, 1987; Abraham & Vann, 1987; Horwitz, 1987, 1988; Pajares, 1992; Barcelos, 2001, 2003a, 2003b, 2004, 2006, 2007a, 2007b), few studies have investigated the beliefs of professors and students towards the use of ICT tools in Letras Inglês Programmes in Brazilian Universities. Furthermore, no study, to the best of my knowledge, has investigated the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students from these programmes towards this use. In this sense the present study, on the one hand, may shed some light on a better understanding of the reasons that lead professors and students to use or avoid the use of ICT tools in Letras Inglês Programmes' courses. On the other hand, it attempts to bridge the gap in the research field of beliefs towards the use of ICT tools and hopes to offer grounds for further research.

Finally, the present study hopes to achieve two things. First, to provide police-makers at institutions offering Letras Inglês Programmes with useful information and evidence of the need for development of ICT training courses to enable professors to

make the best possible use of ICT tools in their classes. Second, to call attention to the urgent need of a reform in Letras Inglês Programmes' current curricula to include specific courses about the use of ICT tools for language teaching and learning, so that prospective teachers graduating from these programmes can benefit from the use of such tools during their own education and apply the acquired knowledge in their pedagogical practices to the benefit of their students.

### **1.5 Organization of the Thesis**

In this introductory chapter, the statement of the problem, objectives, research questions and significance of the present study have been presented. The remainder of the thesis is organized in four main chapters as follow:

Chapter II reviews the relevant literature related to the main topics of the present study, namely the use of ICT tools for language teaching and learning and factors that may influence both students and professors' use of these tools, such as their attitudes and beliefs. Chapter III presents the research questions that guided the present study and describes the method used for data collection and analysis. Chapter IV discusses the results obtained in the present study and retakes the research questions. Finally, chapter V presents a summary of the findings of the present study and its limitations, followed by some suggestions for further research and pedagogical implications.

## CHAPTER II

### REVIEW OF THE LITERATURE

In this chapter I will give an overview of the literature related to the main topics of my thesis: the use of Information and Communication Technology tools for foreign/second<sup>7</sup> language teaching and learning and factors that may influence both students and professors' use of these tools, such as their attitudes and beliefs. To do so, I divided the chapter into four sections. Section 2.1 will present some studies that investigated the use of ICT tools for foreign language teaching and learning. Section 2.2 will provide an overview of the limitations that can be involved in the integration of ICT tools for both foreign language teaching and learning and other subject areas. Section 2.3 will present some studies that investigated the attitudes of both teachers/professors and students towards the use of ICT tools for educational purposes and for foreign language teaching and learning specifically. Finally, section 2.4 will give an overview of the research on beliefs about language teaching and learning.

#### **2.1 Review of the literature on the use of Information and Communication Technologies (ICT) tools for foreign language teaching and learning**

The ever-increasing number of studies investigating the use of ICT tools for language teaching and learning (Paiva, 1999a, 1999b, 2001; Salaberry, 2001; Brandl, 2002; Stepp-Greany, 2002; Zhao, 2003; Young, 2003; Leffa, 2006; Simsek, 2007, Stockwell, 2007) and other subject areas (Sutherland et al., 2004; Angeli, 2004;

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<sup>7</sup> The present study will use the terms 'foreign language' and 'second language' interchangeably in order to avoid confusion, since some studies here presented which were carried out in non-English-speaking countries used the term 'foreign language', and other studies carried out in English-speaking countries used the term 'second language'.

Lowerison et al., 2006; Barton & Haydn, 2006) points to the relevance and potential of such tools in assisting teachers and students in the teaching and learning process.

Despite the amount of research on the use of ICT tools in education and, more specifically, for foreign language teaching and learning, a definition of the term 'ICT' is rarely stated. In an online computer dictionary, the '*WhatIs.com – The leading IT encyclopedia and learning center*', ICT is defined as

An umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. (ICT, n.d.)

Similarly, members of the United Nations Education, Scientific and Cultural Organization (UNESCO), who are responsible for the programme 'ICT in Education' carried out in Asia-Pacific countries, refer to ICT as

Forms of technology that are used to transmit, store, create, display, share or exchange information by electronic means. This broad definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing, e-mail and blogs. (UNESCO, 2006)

For the purposes of the present study, which investigates the use of ICT tools in Letras Inglês Programmes, and based on the definitions presented above, ICT is defined as any technological tool that make the production, distribution and exchange of information possible, and assist not only in the teaching and learning process of the target language, but also of the courses offered by the Letras Inglês Programmes (ICT, n.d.; Samuel & Bakar, 2005; UNESCO, 2006; Leffa, 2006g; Yunus, 2007; Paiva, 2008). Therefore, examples of ICT tools are: radio, TV, VCR and DVD, CD-ROMs and other resources offered by computers and the internet (such as computer software and hardware, e-mail, discussion groups, forums, instant messaging, blogs, tele/video-conference, websites, etc.). Moreover, I decided to place the research about Computer-Mediated Communication (CMC) and Computer Assisted Language Learning (CALL) within the general research field of the use of ICT tools for foreign language teaching and learning. The reason for that is related to the fact that computers, which are the focus of attention in CMC and CALL research, and the applications and services associated with them are themselves ICT tools, as shown in the aforementioned definitions of ICT.

Information and Communication Technology tools have the potential not only to help students to improve their communication opportunities and language skills (speaking, listening, reading and writing) but also to enhance students' autonomy within the learning process, and raise motivation and self confidence, while also broadening the chances for active student participation, interaction and verbalization (Ehsani & Knodt, 1998; Gonglewski, Meloni & Brant, 2001; Brandl, 2002; Young, 2003; White, 2003; Samuel & Bakar, 2005; Paiva, 2001).

Brandl (2002), for instance, who investigated the integration of internet-based reading materials into the foreign language curriculum, stated that "The Internet as a

resource can enrich and expand language instruction” (p.88). Moreover, provided that teachers manage to overcome challenges regarding the judgement of the reliability of the material offered and the designing of tasks that effectively allow students to explore and benefit from these materials, the author claims (based on Chun & Plass, 2000) that some of the features of internet-based materials have the potential to improve language learning. Such features are related to access to authentic material, communication through networking and the multimedia and hypermedia characteristic.

Conole’s (2008) study - which investigated undergraduate students’ use of technology - showed that the students use a number of ICT tools to assist or complement their learning of the courses they take. Two students, (out of eight from different subject areas) who were studying Applied Linguistics for language teaching, reported to have benefited from the use of ICT tools to learn linguistic skills, to have access to information, to solve vocabulary doubts as well as improve vocabulary and to communicate with friends and tutor. In addition, students showed to be familiar with some ICT tools (word processors, blogs, e-mail, MSN, Skype, etc) prior to using them for learning the courses they were taking.

Studies investigating the use of e-mail (González-Bueno, 1998; Handle & Corl, 1999), website and chat rooms (Lee, 1998), computerized reading program, videocassettes and authoring tools that enable the teacher to design interactive activities (Adair-Hauck, Willingham-McLain and Youngs, 1999) endorse the potentiality of such tools for enhancing foreign language learning. The results of the studies using e-mails showed that the voluntary, informal exchange of e-mails between students and instructor to discuss varied topics in the target language improved the level of accuracy, the amount of language use and language functions and students initiative to interact.

The results of the study using website and chat rooms showed that the use of a website designed by the instructor that provided students with links to Hispanic newspapers and search tools to look for materials for the final term project helped students improve reading skills and develop cultural knowledge. In addition, the use of chat rooms for having guided discussion and interactions with native speakers assisted students develop better oral skills and motivated them to keep using the target language to talk with native speakers outside the school. On the whole, the use of both websites and chat rooms increased students' interest and motivation to learn the target language.

Lastly, results of the study carried out by Adair-Houck et al. (1999) showed that the combination of a computerized reading program (that offered authentic newspapers texts, bilingual glossary, pre- and post reading questions and grammar notes), interactive multimedia activities (focusing on the grammar being used in each chapter of the course book) and videocassettes (that presented stories performed by native speakers acting out the topic of each chapter of the course book) proved to have improved students' reading and writing skills in the target language.

Concerning speaking skills, specifically, Ehsani and Knodt (1998), who regard the students' ability to participate in a communicative interaction as being one of the main goals of second language teaching, investigated the use of automatic speech recognition and speech processing technology in CALL applications. They argue that in CALL, such systems have the potential to teach and evaluate pronunciation, fluency, grammar and vocabulary, offering autonomy to the students and a better use of class time. They acknowledge, however, that current limitations such as ineffectiveness in understanding the meaning of some utterances, evaluating them at the pragmatic level, and in recognizing a wide range of different accents still remain to be overcome. Rypa and Price (1999), for instance, presented foreign language learning users' evaluation of

‘The Voice Interactive Training System’, which is “a language-training prototype developed to help improve comprehension and speaking skills” (p.385). Overall, users found the system highly motivating as it resembled real-life situations of language use and interaction. Moreover, users were very satisfied with being exposed to and having the opportunity to speak in the target language, and specially with receiving corrective feedback on their pronunciation through automatic speech recognition.

Besides the various benefits that ICT tools can bring to the foreign language teaching and learning process, their utilization is not without limitations and a number of considerations must be taken into account for successful integration of ICT tools in the foreign language classroom. The following section addresses some of these limitations.

## **2.2 Limitations to be taken into account for successful use of ICT tools for foreign language teaching and learning and other subject areas**

In Brazil, Castro and Alves (2007) investigated the implementation and use of computers in elementary and high schools in the city of Niterói, Rio de Janeiro. They found out that this city has a very high number of schools that offer computer facilities. However, there were shortcomings with computers’ maintenance, lack of educational software and proper teacher training. Teachers, who, as students, have not acquired the necessary pedagogical skills, will resort to computers merely as a convenient tool and source of information without being able to exploit their full potential. Moreover, the authors call attention to the lack of policies for the implementation and use of technologies in education.

In the same vein, Jones (2004) found in his review of the research literature on the barriers that refrain teachers from using ICT tools, that some of these barriers are

related to teachers' level of confidence in using the tools, technical support availability, quality training availability, lack of time to research and prepare classes integrating technology.

In the context of the use of ICT tools for language teaching and learning, Samuel and Bakar (2005) investigated the scenario of the integration and utilization of ICT tools among school English language teachers in Malaysia and looked at the obstacles faced by them. Results of the study show that some reasons for the scenario of poor integration of ICT tools among teachers in that context are the problems related to infrastructure and computer software. In addition, the difficulties they face is related to the school administration's weak support for ICT tools implementation and the insufficient ICT training that these teachers receive, resulting in a negative attitude towards its implementation. The authors still state that as ICT is a complex information and communication medium and is rapidly and constantly evolving, continuous training of educational professionals is indispensable.

Analogous to Samuel and Bakar's results are those of Baitaneh and Baniabdelrahman's (2006), whose study investigated the perceptions of undergraduate English as Foreign Language (EFL) students from the Departments of Curriculum and Instruction and English at Yarmouk University in relations to their computer literacy. The authors found, among other things, that the main limitation factors for the use of computers were related to lack of infra-structure (not enough computers), technical problems (malfunctioning machines and hardware), lack of experience in and time for using computers.

Moreover, Mateus (2004) argues for the importance of teachers' knowledge and specialized training on new technologies as key elements for promoting meaningful, reflective and critical learning. Citing Pretto (2001), she calls attention to the risk of

students' non-reflective and non-critical learning if teachers have just superficial knowledge and training on ICT tools. Likewise Samuel and Bakar (2005), Mateus investigated the scenario on the use of computers by prospective teachers of a Letras Português/Espanhol Programme and their attitudes towards the use of ICT tools in their pedagogical practices. The results of the study suggest that, as the Letras programme does not explore the potentiality of ICT tools and computer assisted teaching, it is likely that the in-service teachers will not consider them in their pedagogical practice.

In summary, it has been proposed that the use of ICT tools can play an important role in the development of diverse skills in foreign language learning. However, successful integration of such tools must involve not only improvements in infrastructure and technical support assistance, but also active participation of school administration members and teachers in order to both develop policies for ICT use and to include ICT in the subject curriculum. Moreover, in-service teachers must receive specialized training on technology use, and prospective teachers must experience technology during their graduate courses, so that full potential of ICT tools is explored. As stated by Sutherland et al. (2004), it is up to the individual teacher and his/her perspective to which degree ICT tools should be implemented in the classroom, and that some subjects may by their nature be more suitable for the use of ICT than others. In any case, they advise not to view ICT as entirely unproblematic and/or as a solution to all problems in education, but state that ICT in combination with more traditional methods and technologies has the potential of considerably enhancing the learning process.

Furthermore, results of the study carried out by Samuel and Bakar (2005), previously presented, showed that factors such as school administration's weak support for ICT tools implementation and the insufficient ICT training given to teachers led

them develop negative attitudes towards the integration of the tools and not to use these tools in their pedagogical practice even after having gone through a period of training. In addition, Albirine (2006) states, based on some authors (Koohang, 1989; Selwyn, 1997), that “a number of studies have shown that teachers’ attitudes towards computers are major factors related to both initial acceptance of computer technology as well as future behaviour regarding computer usage” (p. 374). Based on the influence that teachers and students’ attitudes can exert in the adoption of ICT tools, the following section presents some relevant literature on teachers and students’ attitudes towards the use of ICT for educational purposes, and for language teaching and learning specifically.

### **2.3 Attitudes of teachers and students towards the use of ICT for educational purposes and foreign language teaching and learning**

A significant amount of research has been carried out investigating teachers’ and students’ attitudes towards computer for educational purposes (Teo et al., 2008; Akbulut, 2008; Cepni et al., 2006; Robertson, 1995; Koohang, 1989). Coffin and MacIntyre (1999), for instance, offer in their article an extensive list of studies that have investigated the role of attitudes in predicting computer “user satisfaction, frequency of use and students’ academic performance (...) and the effects of gender on attitudes towards computers” (p.550).

Similar research, but smaller in amount, has been carried out investigating teachers and students’ attitudes towards diverse ICT tools for educational purposes. In their 2004 study, Galanouli, Murphy and Gardner investigated perceptions and attitudes of primary and secondary teachers from schools in Northern Ireland in relation to a national initiative (in the form of an on-line training course) called ‘New Opportunities

Fund' (NOF), as well as the impact this initiative had on these teachers' classroom practices. The goal of NOF was to offer training to teachers in all four countries of the United Kingdom in order for them to develop knowledge and competence on the use of diverse ICT tools in their classes, offering this way opportunities for students to progress in their studies. The authors found out that even though teachers felt more confident in using the computer in their pedagogical practice, there was still a significant negative reaction to the training courses. Many teachers found that the content of the training did not match that of their teaching subjects, they would rather prefer the training course to be taken face-to-face instead of on-line and they also found it too time-consuming. In sum, the NOF initiative did not achieve its goal in developing teachers' knowledge and competence on the use of ICT tools in their classes and many teachers carried on not using the tools.

Susskind (2005, 2007), in turn, examined the effects that lectures on developmental psychology presented with Power Point had on students' performance, self-efficacy, motivation and attitudes. In his review of the literature, he states that the use of Power Point offers a better structure to the presentation of the content, resulting in enhanced understanding on the part of the students. Moreover, the presentation tends to flow more easily, as less or no class time is spent writing on the whiteboard. His investigation showed that even though the use of Power Point did not significantly influence students' academic performance and behaviour towards the course, it did have a positive impact on student's self-efficacy and attitude.

Similarly, Le and Le (1999) investigated the attitudes of undergraduate and postgraduate students from the University of Tasmania towards the Web as a teaching and learning tool. The study arose out of the concern to include students' views and thoughts in the development of the new curriculum, as they are key players in the

educational experience. Special focus was given to students of education for they are acquainted with Web-based teaching. The authors found both positive and negative attitudes towards the Web as a teaching and learning tool. A group of students held the view that the Web is a stimulating tool that can boost students' motivation, interests and promote autonomy. Other students expressed their concern towards the Web by saying that it is a mere tool for commercial ends, and that it hides the cultural identity of students.

In the context of foreign language teaching and learning specifically, research on teachers' and students' attitudes towards the use of ICT remain somewhat unexplored. Albirine (2004, 2006) investigated the attitudes of teachers of English as a Foreign Language (EFL) towards the use of ICT in high schools in Syria, as well as the relationship between these teachers' attitudes, and five factors that apparently influence them: computer attributes, cultural perceptions, computer competence, computer access and personal characteristics. Results suggest that participants have highly positive attitudes towards the use of ICT in the classes, with most of them considering computers as a tool that enhances students' motivation and learning, saves time in class preparation, and should be used in the classroom. Moreover, the five factors mentioned above are overall positively correlated with EFL teachers' attitudes even though less positive attitudes towards computer technologies were also found. Some participants found computers to be: inappropriate to their teaching practices, somewhat unrealistic to their poor infrastructure and internet access, and not so important in face of other social problems that should be addressed first. Finally, Albirine (2004, 2006, citing Harper, 1987) points out what seems to be, according to some authors (Kersaint et al., 2003; Baylor & Ritchie, 2002; Pelgrum, 2001), the main problem when implementing

technology into education: the overlooking of teachers' attitudes when developing the new curricula for ICT implementation.

Analogous to this study is that of Simsek (2007), who investigated the attitudes of students of the foreign language education department towards the integration of ICT in an online reading skills course at the Middle East Technical University, in Ankara. In particular, he calls attention to the need of more research on this topic in different cultural, social and educational settings, since most studies have been carried out in the United States. The author goes on to state the importance of investigating students' attitudes in order to have a clearer understanding of their views and opinions related to the use of ICT. Simsek found out that students have a positive attitude towards the use of ICT as a teaching and learning tool despite having some problems in using computers.

Some of the studies reviewed so far (Albirine, 2004, 2006; Simsek, 2007) have shown that teachers and students have positive beliefs towards the use of ICT tools for foreign language teaching and learning and for other subject areas. Other studies (Galanouli, Murphy & Gardner, 2004; Samuel & Bakar, 2005), in turn, have shown that even after having gone through a period of ICT training, many teachers from the schools investigated still do not integrate ICT in their pedagogical practices. Similarly, some students who have experienced ICT tools in the classroom as a learning tool and showed to have positive attitudes towards using the tool seem not to fully benefit from this use (Susskind, 2005, 2007). Reynolds et al. (2003) and Bauer and Kenton (2005) have also carried out a study on the integration of ICT for educational purposes and they found out that most teachers, despite being technologically educated and competent, do not integrate ICT tools in their pedagogical practices or in their subject's curriculum. These findings suggest that training and positive attitude alone are apparently not

sufficient for the integration of ICT tools in education in general, neither in the context of foreign language teaching and learning specifically.

One way to understand why teachers and students keep not using ICT as teaching or learning tools is to investigate their beliefs towards the use of such tools. Levine & Donitsa-Schmidt (1998), for instance, recognize that most studies on the use of technology have not paid much attention to personal beliefs of users that may lead to attitudes. Moreover, Fishbein and Ajzen (1975, as cited in Levine & Donitsa-Schmidt, 1998) state that “beliefs about an object lead to attitudes toward it and that, in turn, attitudes lead to behavioural intentions regarding the object” (p.128). Pacheco (1995) adds to Fishbein and Ajzen (1975) by stating that belief is the cognitive component of attitude, and attitude is the sum of behaviour towards something. In face of the need for more studies addressing this issue, the present research proposes to investigate professors and students’ beliefs toward the use of ICT tools in the courses they teach/take in Letras Inglês Programmes since, to the best of my knowledge, no studies have been carried out so far investigating the relationship between the use of ICT tools for the teaching and learning of the courses offered in Letras Inglês Programmes (which include the teaching of English as a foreign language) and the beliefs of professors and students towards this use at least in the context of the aforementioned programmes in Brazilian universities.

The following section presents the scenario on the investigation of beliefs about language teaching and learning, the terms and definitions proposed by the literature and discusses the approaches that have been used to investigate beliefs. Finally, a definition of beliefs towards the use of ICT tools for the teaching and learning of the courses offered in Letras Inglês Programmes is stated, followed by a review of the few studies which investigate beliefs of professors towards the use of ICT tools.

## 2.4 Beliefs about language teaching and learning

A considerable amount of research on beliefs about language teaching and learning in the field of Applied Linguistics has been carried out in Brazil and abroad. In a compilation of theses and dissertations developed in some universities in Brazil, Barcelos (2007) found at least fifty studies up to that year, demonstrating the increasing interest in the area. Moreover, a number of articles have been published addressing this issue (Barcelos, 2001, 2003a, 2003b, 2004, 2006, 2007a, 2007b; Alvarez, 2007; Vieira-Abrahão, 2006; Kudiess, 2005; Leffa, 1991). In the international scenario, research on beliefs about language teaching and learning has been carried out even before, having started in the eighties, with studies by Holec (1987), Wenden (1986, 1987), Abraham & Vann (1987), Horwitz (1987, 1988), as already pointed by Barcelos (2001). Contributions on this same subject come also from Kalaja (1995), Ertmer (1995), Borg (2003), Tercanlioglu (2005) and Bai and Ertmer (2008), to cite a few. Additionally, in 1999, the journal *System* dedicated a whole issue to the research on language learning beliefs, publishing eight articles on this topic.

Despite the significant number of research carried out investigating beliefs about language teaching and learning, a consensus on the definition of beliefs has not yet been reached. According to Pajares (1992), belief is a complex concept and part of this complexity is due the fact that the term is used in different fields of research, and to the myriad of existing terms to refer to beliefs, as for instance: “attitudes, opinion, ideology, perceptions, implicit theory, explicit theory, personal theories, etc.” (p. 309). Barcelos (2004a), referring specifically to beliefs about language teaching and learning, also presents some of the terms and definitions used to refer to this construct. Table 1, taken from Barcelos (2000, p.42), presents some of them. (For the complete list of terms and its definitions, see: Barcelos, 2000, 2004a).

Table 1

*Different Terms and Definitions for Language Learning Beliefs<sup>8</sup>*

<b>Terms</b>	<b>Definitions</b>
Learner representations (Holec, 1987)	“Learners’ entering assumptions about their roles and functions of teachers and teaching materials” (p.152).
Learners’ philosophy of language learning (Abraham & Vann, 1987)	“Beliefs about how language operates, and consequently, how it is learned” (p. 95).
Metacognitive knowledge (Wenden, 1987)	“The stable, statable although sometimes incorrect knowledge that learners have acquired about language, learning, and the language learning process; also referred to as knowledge or concept of language learning or learner beliefs; there are three kinds: person, task and strategic knowledge” (p. 163).
Beliefs (Wenden, 1986)	“Opinions which are based on experience and opinions about respected others, which influence the way they (students) act” (p. 5).
Cultural beliefs (Gardner, 1988)	“Expectations in the mind of teachers, parents and students concerning the entire second language acquisition task” (p. 110).
Representations (Riley, 1989, 1994)	“Popular ideas about the nature of language and languages, language structure and language use, the relationship between thought and language, identity and language, language and intelligence, language and learning, and so on” (1994, p. 8).
Culture of learning languages (Barcelos, 1995)	“Learners’ intuitive implicit (or explicit knowledge) made of beliefs, myths, cultural assumptions and ideal about how to learn languages. This knowledge, according to learners’ ages and social economic level, is based upon their previous educational experience, previous (and present) readings about language learning and contact with other people like family, friends, relatives, teachers and so forth” (p. 40).
Culture of learning (Cortazzi & Jin, 1995)	“The cultural aspects of teaching and learning; what people believe about

<sup>8</sup> Source: Barcelos (2000; p. 42)

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‘normal and ‘good’ learning activities and processes, where such beliefs have a cultural origin” (p.230).

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Despite the lack of a consensus regarding which term and definition to use to refer to beliefs about teaching and learning, Pajares (1992) emphasizes the importance of conceptualizing beliefs and understanding the nature of its concept if research aims at gaining a better understanding of teachers and learners’ beliefs. Barcelos (2000), based on her own review of literature about beliefs, and Barcelos and Kalaja (2003, as cited in Barcelos, 2006), based on some recent studies on beliefs, offer some findings about the nature of beliefs. According to them, beliefs are multidimensional and paradoxical for many reasons. First, they can guide and at the same time be guided by action. Second, the longer you hold a belief, the harder it is to change it. Third, beliefs can change as we experience new things and they can, at the same time, change us, i.e., beliefs are socially constructed and contextually situated. Fourth, they can serve as tools to help us when performing a task, interacting with people, or as obstacles to change. Fifth, they are not easily distinguished from knowledge. Finally, their relationship with actions is very complex, as beliefs can, but do not necessarily influence actions.

In face of the multidimensional and paradoxical nature of beliefs, and the different terms and definitions used for beliefs about language and learning, different approaches are required to investigate this issue. The next section presents some approaches.

#### **2.4.1 Approaches in the investigation of beliefs about language teaching and learning**

Barcelos (2000, 2001, 2003a, 2004a) recognize three different research moments about language teaching and learning beliefs, and the differences among the moments

regard to the definition of beliefs, the methods used for investigation, and the relation between beliefs and actions. The three moments are briefly discussed below:

- In the first moment of research, called 'The Normative Approach', beliefs are defined as opinions that the students have about language and the learning process that can lead either to autonomous learning or to a resistance to learning. The methods used for data collection are questionnaires which offers a number of alternatives in which the participant has to choose between 'Strongly Disagree', 'Disagree', 'Neutral', 'Agree' and 'Strongly Agree'. Studies within this approach usually seek at describing and classifying the beliefs and make assumptions on how these beliefs may affect behaviour, thus the relationship between beliefs and actions is not directly addressed. The most used questionnaire is 'Beliefs About Language Learning Inventory'(BALLI), developed by Horwitz (1985), and some studies have also included interviews to complement data from questionnaire.
- In the second moment of research, called 'The Metacognitive Approach', beliefs are defined as metacognitive knowledge, that's is, they are 'the stable, storable although sometimes incorrect knowledge that learners have acquired about language, learning, and the language learning process'(Wenden, 1987, p.163), which can help them becoming more autonomous learners. Wenden (1987) assumes that this metacognitive knowledge constitutes learners' 'theory in action' (p.112), which will assist them in reflecting about their learning process. The methods used within this approach consist of semi-structured interviews, self-reports and can include open-ended questionnaires as well. The relationship between beliefs and actions is not directly addressed, but related to language learning strategies.

- In the third moment of research, called ‘The Contextual Approach’, beliefs are seen as part of students’ culture of learning and experiences, and as permeating students’ interactions with other people. Studies within this approach aim at gaining a better understanding of beliefs about language teaching and learning in specific contexts. Methods used for investigation consist of classroom observations, case studies, diaries, interviews, etc. The relationship between beliefs and actions are directly addressed, as investigations are done in the precise context and moment of students’ interactions.

The decision of which approach to follow to investigate beliefs about language teaching and learning must be guided by the objectives and context of research. For this reason, it is important to consider the advantages and limitations of each of the three approaches. Barcelos (2000, 2001, 2003a) discusses in details the advantages and limitations of the methods applied by each approach, which are summarized in Table 2, adapted from Barcelos (2001):

Table 2

*Advantages and Limitations of the Methods used in each Approach to Investigate Beliefs<sup>9</sup>*

	<b>Contextual Approach</b>	<b>Metacognitive Approach</b>	<b>Contextual Approach</b>
<b>Methods</b>	- Likert-scale type of questionnaires	- semi-structured interviews - self-reports - open-ended questionnaires	- classroom observations - case studies - diaries - interviews

<sup>9</sup> Source: Barcelos (2001, p.82-83)

<b>Advantages</b>	<ul style="list-style-type: none"> <li>- participants feel more comfortable</li> <li>- useful for limited resources and time</li> <li>- data can be collected in different contexts and days</li> </ul>	<ul style="list-style-type: none"> <li>- allow participants to reflect and elaborate upon their experiences and practices;</li> <li>- allow participants' self-evaluation of learning (teaching) process</li> </ul>	<ul style="list-style-type: none"> <li>- offer a broader definition of belief, characterizing them as dynamic and social</li> <li>- offer more refined details about beliefs and the context where they develop</li> <li>- consider students perspectives and contexts</li> </ul>
<b>Limitations</b>	<ul style="list-style-type: none"> <li>- participants have difficulty in answering them because they are too general</li> <li>- limit participants' choices</li> <li>- produce little discourse from participants</li> <li>- do not reflect participants' thoughts</li> </ul>	<ul style="list-style-type: none"> <li>- beliefs are only inferred from verbal declarations and intentions, not from actions</li> <li>- recognize relation between belief and context, but this relation is not analysed</li> </ul>	<ul style="list-style-type: none"> <li>- very time consuming</li> <li>- more appropriate for small samples</li> </ul>

Following Pajares' (1992) suggestion that research on educational beliefs should try to narrow down and specify what exactly the beliefs are about, the present study aims at investigating the beliefs of professors and students towards the use of ICT tools in the Letras Inglês Programmes they teach/study. Thus, based on some studies on beliefs about language teaching and learning (Wenden, 1986, 1987; Kalaja, 1995; Barcelos, 2000, 2001, 2003a, 2004, 2006, 2007b), the present study defines beliefs about the use of ICT tools in Letras Inglês Programmes as stable, stable, though sometimes fallible implicit (or explicit) knowledge that teachers and learners have about the process of language teaching and learning with ICT tools, which is based on their previous experiences as teachers, students, or both, and on their previous experiences (or lack of experience) with ICT tools. The present study is thus in line with some authors' view of belief as knowledge (Wenden, 1987) and as socially constructed (Barcelos 2000, 2006).

In addition, in order to get a better understanding about the relationship between beliefs and the use or avoidance of ICT tools for language teaching and learning, this study considers the context where language teaching and learning takes place and ICT tools could be used, and identify professors and students' beliefs through verbal declarations and pieces of writing. In this sense, this study falls within the metacognitive approach of investigating beliefs.

Even though a considerable amount of research has been carried out on beliefs about language teaching and learning and on ICT integration for language teaching and learning, as we have seen throughout this chapter, very few studies have dedicated to investigate professors and students' beliefs towards the use of ICT tools for foreign language teaching and learning. The following section, therefore, presents some research contributions about beliefs and the use of ICT tools.

#### **2.4.2 Beliefs and the use of ICT tools**

Despite the lack of research addressing professors and students' beliefs towards the use of ICT tools for foreign language teaching and learning specifically, Perina (2003) and Ertmer (1999, 2005) bring some contributions.

Perina (2003) investigated the beliefs of English language teachers towards the use of computer in their teaching practice as well as towards their roles in the digital society. To do so, she sought for theoretical support on the literature about beliefs, and based on some authors (Pajares, 1992; Barcelos, 2000, 2001; and Borg, 2001) she defined beliefs as “individual, personal truth, based on experience, that guide action and can influence the beliefs of other people”<sup>10</sup> (p.10). Theoretical support also came from the literature about educational technology. Regarding the use of computers for

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<sup>10</sup> My translation, “(...) verdades pessoais, individuais, baseadas na experiência, que guiam a ação e podem influenciar a crença de outros”(p.10).

language teaching and learning, Perina (2003, based on Warschauer & Healey, 1998; Masetto, 2000; and Behrens, 2000) states that Computer Assisted Language Learning (CALL) and other ICT tools made available by the internet has the potential to promote interaction among students and students and teachers, motivation, curiosity, critical sense and autonomy. Moreover, they can offer the opportunity to work with authentic material, situations similar to experiences in real life and real time communication. The results of this study show that from the twenty English teachers' beliefs towards computers in their teaching practice identified, four were more frequently stated: students know more than teachers, teacher must know how to use computers, activities must be relevant and teachers must lose the fear of using computers. Moreover, even though most schools offered computer facilities and English language teachers reported to know how to use computers, some teachers did not use them in their teaching practice because of contextual constraints, such as lack of technical support and teachers' training, and incompatibility with the subject curriculum. Despite identifying teachers' roles in the digital society, their beliefs about computers and their future intentions using computers, the relationship between English language teachers' beliefs and their teaching practice was not addressed.

Another contribution, though not about language teaching and learning specifically, comes from Ertmer (1999), who proposes to describe barriers that can negatively affect teachers' attempts to integrate technology in their classes. According to this author, there are first-order and second-order barriers that affect technology integration. The former refers to barriers extrinsic to teachers, such as poor access to computers or other ICT tools, lack of time for instructional planning and inappropriate pedagogical administration support. The latter refers to barriers that are intrinsic to teachers, such as their beliefs towards teaching, learning and computers and deep-rooted

classroom routines based on their experience. In another study, Ertmer (2005) emphasises that most research has focused on the investigation of how teachers' beliefs influence their pedagogical practices in general, rather than looking into the influence that teachers' beliefs can exert on their adoption of technology in class. The author proposes then to examine the relationship between teachers' pedagogical beliefs and their technology practices. To do so, Ertmer (2005) presents two different findings from some empirical studies. Some studies (Calderhead, 1996; Clark & Peterson, 1986; Pajares, 1992; Kagan, 1992; in Ertmer, 2005) found that beliefs that teachers hold are essential for understanding or even predicting their behaviour in the classroom. On the other hand, some studies (Ertmer et al, 2001; Fang, 1996; Kane et al, 2002; in Ertmer 2005) did not find a relationship between teachers' belief and their classroom practices, attributing this fact to contextual constraints such as curriculum requirements and pressure from school administration. Moreover, "the potential power of beliefs as an influence on behaviour is inherently related to the nature of beliefs" (Ertmer, 2005, p.29; based on Nespor, 1987). Ertmer (2005) takes the view of Nespor (1987) who describes beliefs as being socially constructed and based on previous experiences, and adds that previous bad experiences with technology can negatively influence teachers' beliefs towards using it in future teaching practices.

Barcelos (2000, 2006), Barcelos and Kalaja (2003) seem to share this same opinion about the nature of beliefs, as discussed in the end of section '2.4.' above. Barcelos (2006) states that beliefs can both influence and be influenced by teachers and students' actions and by the context where they are inserted. Similarly, Horwitz (1987) - who seem to take a normative view on the investigation about beliefs - states that beliefs can be influenced by students' past experiences as language learners and can as well be shaped by their cultural background. In this sense, as argued by Ertmer (2005), a

previous negative or frustrating experience using ICT tools (either for language teaching and learning or personal purposes) and constraining contextual factors (poor infrastructure and administration support, lack of teacher training) may lead teachers and students to believe that technology adds more burden than facilitates the teaching and learning process. For this reason, the present study hopes to contribute to a better understanding of professors and students' beliefs towards the use of ICT tools in Letras Inglês Programmes (which includes the teaching/learning of a foreign language and other courses)<sup>11</sup>, as well as contribute to a better understanding of the relationship between the use of ICT tools and their beliefs towards the use of these technologies.

## **2.5 Summary of the Chapter**

In this chapter, I have reviewed relevant literature related to the topics of my thesis: the use of Information and Communication Technology tools for foreign language teaching and learning and factors that may influence both students and professors' use of these tools, such as their attitudes and beliefs towards this use. In the next chapter I describe the method used for data collection and analysis.

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<sup>11</sup> See Appendixes A and B for the curriculum of the Letras Inglês Programmes participating in the present study.

## CHAPTER III

### METHOD

In this chapter, I will describe the method adopted for conducting the present study and analysing data. To do so, I organized it in seven main sections. Firstly, I will present the objectives of the present study and its research questions (3.1). Secondly, I will present information about the context where the study was conducted (3.2) as well as the participants themselves (3.3). Then, I will describe the instruments (3.4) and procedures used for data collection (3.5) and, finally, I will explain how data analysis was carried out (3.6).

#### **3.1 The objectives of the study**

The objectives of the present study are to investigate (a) the use of ICT tools by both professors and students in Letras Inglês Programmes, (b) the beliefs of these professors and students concerning the use of ICT tools in these undergraduate programmes and (c) the relationship between the use of ICT tools in Letras Inglês Programmes and the professors and students' beliefs towards this use.

In order to reach these objectives, the present study pursued the following research questions:

1. Do professors of Letras Inglês Programmes make use of ICT tools in the courses they teach? If so, which ICT tools do they use?;
2. What beliefs do students and professors of Letras Inglês Programmes have towards the use and integration of ICT tools in these Programmes?
3. What is the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students towards this use?

Research questions 1, 2 and 3 address objectives a, b and c respectively.

### 3.2 The Context

The study was conducted with 48 students and 9 professors from Letras Inglês Programmes of three different universities: Universidade Federal de Santa Catarina (UFSC), Universidade Federal de Minas Gerais (UFMG) and Universidade Federal de Rio de Janeiro (UFRJ). The reasons that led me to select the Letras Inglês Programme from these institutions, followed by specific information about the programmes and the infra-structure offered are presented next.

The first reason for selecting the Letras Inglês Programme at UFSC regards easier access to participants and my personal intellectual interest, since I have been an undergraduate student in this programme. The second reason is related to the fact that the Letras Inglês Programme at this institution has been offering optional courses related to distant education, such as ‘Distance Education and Foreign Language’<sup>12</sup> and ‘Special Topics in Distance Education and Foreign Language’<sup>13</sup>. Lastly, UFSC has been demonstrating its interest in taking advantage of advances in technology for the benefit of education. In relation to undergraduate foreign language programmes, specifically, a partnership between the Secretary of Distance Education at UFSC (SEaD) and the Open University of Brazil (UAB) offered for the first time in 2007 the Distance Letras Espanhol Programme and approved the creation of the Distance Letras Inglês Programme (Catapan, 2007).

The Letras Inglês Programme at UFSC was created in 1959 (Sistema Acadêmico de Graduação) and offers the students the possibility of getting a BA Degree or a Teaching Degree. The former allows the professional to work in various fields such as research, translation and general language counselling while the latter gives the professional a license to teach in primary and secondary schools or even in university

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<sup>12</sup> My translation for ‘Educação a Distância e Língua Estrangeira’.

<sup>13</sup> My translation for ‘Tópicos Especiais em EaD e Língua Estrangeira’.

preparatory courses. Every year a total of 40 vacancies are offered by this programme for the entrance examinations' applicants. Successful applicants start the undergraduate course straight away in the first semester of the year and, for this reason, the 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, and 7<sup>th</sup> terms of the undergraduate Letras Inglês Programme are only offered in the first semester of each year, while the 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup> and 8<sup>th</sup> terms are only offered in the second semester of each year. Usually, students take the same courses until they finish the fourth semester. After completing this basic cycle, students have to choose if they want to pursue a BA Degree or a Teaching Degree. Having decided on that, students start to take specific courses from the fifth term until the end of the programme, also called professional cycle. Moreover, the programme should be completed in a minimum of 6 and a maximum of 14 semesters, the BA degree having a duration time of 2.484 hours and the Teaching Degree a duration of 2.970 hours in total. In relation to the total number of courses students should take during the Letras Inglês Programme, the BA Degree consists of 35 mandatory courses (2.124 hours) plus 360 hours of optional courses, while the Teaching Degree consists of 37 mandatory courses (2.376 hours) plus 486 hours of Teaching Practicum and 108 hours of optional courses. For a complete list of how courses are organized along the semesters see Appendix A.

Concerning the infra-structure offered by the university, all the classrooms are equipped with a television, a hi-fi system, a video and DVD player and many of them also equipped with an overhead projector. The professor can always require an overhead projector from the department secretaries whenever s/he needs it in case it is not placed in the classroom. Moreover, professors can book as many days as they want to take their students to the Language Lab, which is equipped with audio and recording system destined to the practice and improvement of linguistic skills such as pronunciation and listening. The lab is also available for students' individual practice at specific times. In

addition to that, a Computer Lab with computers connected to the internet is available for students' academic use at all times, not being necessary to book a seat in advance. These computers, however, are not accompanied by speakers and headphones and the Lab is not for exclusive use of Letras Inglês Programme's students. Professors also have the opportunity to take his/her students to a private computer lab located in a smaller room in the very Computer Lab. Still, there is a Reading Room that offers a quiet environment and is equipped with a small library that offers dictionaries, grammars, magazines, etc in the target language. The University Central Library, in turn, is where students can find innumerable national and international titles and scientific journals and a large studying area filled with tables and rooms for individual study. Finally, there are two rooms in the 'Expression and Communication Centre (CCE-B) – which is right behind where the Letras Inglês Programme Department is located – equipped with data show which professors can make use of whenever they want (and depending on availability) by booking it in advance (Departamento de Língua e Literatura Estrangeira, n.d., para1).

Despite UFSC, the Letras Inglês Programme offered by UFMG was also selected to make part in the present study. The reason for selecting the Letras Inglês Programme at this institution regards this programme's initiative, which started in 2005, to offer specific courses on Information and Communication Technologies to its undergraduate students. Some examples of courses offered between the years of 2005 and 2007 are 'Computer Assisted Language Learning', 'Reading and Writing on the Web', 'Digital Literacy' and 'Computer Literacy'. It is important to mention, however, that these subjects are optional, that is, they are not part of the Letras Inglês Programme's regular curriculum and, for this reason, are not mandatory for students.

The Letras Inglês Programme at UFMG was created in 1968 (Projeto Pedagógico Curso Letras – Fundamentos Conceituais, n.d., para1) and, like the programme offered by UFSC, gives students the possibility of getting a BA Degree or a Teaching Degree. Usually, students take the same disciplines during the first and second semesters, at the end of which they start directing the programme to their field of interest (BA or Teaching) by taking optional and specific disciplines. The programme should be completed in four years, the BA degree having a duration time of 2.430 hours and the Teaching Degree a duration of 2.850 hours in total. In relation to the total number of courses students should take during the Letras Inglês Programme, the BA Degree consists of 8 courses that are mandatory for all Letras Programmes (480 hours), 23 mandatory courses specific to the Letras Inglês Programme (1.400 hours), 8 optional courses (480 hours) and 60 hours dedicated to the writing of the end-of-programme final paper<sup>14</sup>. The Teaching Degree, in turn, consists of the same 8 courses that are mandatory to all Letras Programmes, 15 mandatory courses specific to the Letras Inglês Programme (900 hours), 9 mandatory courses specific to teaching (840 hours), 7 optional courses (420 hours) and 210 hours dedicated to cultural-scientific activities. For a complete list of how courses are organized along the semesters see Appendix B.

Concerning the infra-structure offered by this institution, all the classrooms are equipped with television, video or DVD player, hi-fi system, overhead projector and data show. Moreover, the students have free access to the Computer Lab where there are computers connected to the internet, and to the Language Lab where students can develop their language skills with the help of technological equipments.<sup>15</sup>In addition to that, there is also a Lab of Phonetic and Phonology available for professors to take their students in order to provide didactic support to subjects related to this issue. Finally, the

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<sup>14</sup> My translation for 'Trabalho de Conclusão de Curso'.

<sup>15</sup> It is not informed in the UFMG's website which technological equipments are these.

'Letras Department' offers to all its students a library with more than 50,000 titles and also a video and audio library with movies, documentaries and music CDs to get them in touch with the culture of the target language (Projeto Pedagógico Curso Letras - Descrição de Infra-Estrutura de Apoio Acadêmico da FALE, n.d., para.1).

Finally, the third programme selected was the Letras Inglês Programme offered by UFRJ. The reason for choosing this programme is related to the fact that it has offered ICT related courses such as 'The use of Internet in Language Teaching', taught in 2007.1 and 2007.2 (these courses, however, are not part of the programmes' curriculum and are not offered on a regular basis). Moreover, the Master's course offered by the Interdisciplinary Program of Applied Linguistics of UFRJ has developed a project called 'LingNet' (Projeto LingNet - Apresentação, n.d., para.1) which investigates (among other issues) the teaching and learning of languages and teachers' training in digital contexts. In addition to that, the project 'LingNet' has a partnership with the Research Lab in Information and Communication Technologies, known as 'Latec', the purpose of which is to gain knowledge about ICTs and their applications in education as well as to transfer this knowledge to the academic environment (Latec – Parcerias, n.d., para.1).

The Letras Inglês Programme at UFRJ was created in 1931 (Faculdade de Letras – Graduação, n.d., para.9) and, like the other two aforementioned institutions, offers both BA Degree and Teaching Degree. The programme should be completed in eight semesters if the students are pursuing a BA Degree. Students pursuing a Teaching Degree have to take complementary courses during two more semesters in the Department of Education, thus completing the programme in ten semesters. In relation to the total number of courses students should take during the Letras Inglês Programme, the only information available in the Letras Programme's website regards the number of

hours required by the BA Degree, which is a minimum of 2.265 hours. No information whatsoever is offered concerning the Teaching Degree and the Letras Inglês Programme's curriculum structure. Regarding infra-structure, the only information available regards the library offered by the 'Letras Department', which is the most extensive and specialized in the country, with an amount of approximately four-hundred thousand books.

### **3.3 Participants**

The participants of the present study were 48 students and 9 professors of the Letras Inglês Programmes at UFSC, UFMG, and UFRJ. Subsections 3.3.1 and 3.3.2 present information about the students and the professors, respectively.

#### **3.3.1 Students**

Forty-eight (34 female and 14 male) students regularly enrolled in the Letras Inglês Programmes of the three universities participated in the present study. Of these, 43 were students of the Letras Inglês Programme at UFSC. As will be explained in section 3.5, due to administrative constraints only 5 students from the Letras Inglês Programme at UFRJ and no students of this programme at UFMG participated in the present study. Moreover, participant students will be addressed as S1, S2, S3... S48 for practical reasons. In this sense, participants from S1 to S41, plus participants S43 and S46 refer to students from UFSC; while participants S42, S44, S45, S47 and S48 refer to students from UFRJ. Table 3 presents a summary of students' academic profile per institution. Participant students' profile information was taken from their responses to the part of the questionnaire used to collect data for the present study that asked about students' academic situation at the time of data collection in the Letras Inglês Programmes of the three institutions

Table 3

*Students' Academic Profile*

	UFSC	UFMG	UFRJ
Total number of participants	43	-	5
Number of participants pursuing Teaching Degree	22	-	3
Number of participants pursuing BA Degree	13	-	2
Number of participants who did not inform Degree	8	-	-
Number of participants between 1 <sup>st</sup> and 4 <sup>th</sup> terms	13	-	2
Number of participants between 5 <sup>th</sup> and 8 <sup>th</sup> terms	21	-	2
Number of students who did not inform the term	9	-	1

Table 3 shows that, at the time of data collection, from the 43 students taking the Letras Ingles Programme at UFSC, 22 were pursuing a Teaching Degree, 13 were pursuing a BA Degree and 8 had not yet decided on what degree to pursue. In addition, from the 43 students, 13 students reported to be studying the basic cycle, 21 the professional cycle and 9 did not inform in which cycle they were. Regarding the 5 students taking the Letras Inglês Programme at UFRJ, 3 of them were pursuing the teaching Degree and 2 were pursuing the BA Degree. Moreover, from the 5 students, 2 were studying the basic cycle, other two the professional cycle and one did not inform in which term s/he was.

### 3.3.2 Professors

A total of 9 professors (7 female and 2 male) participated in the present study. Of these, 5 were professors of the Letras Inglês Programme at UFSC, 3 at UFMG and 1 at UFRJ. In the present study, professors will be addressed as P1, P2, P3... and P9 for practical reasons. In this sense, P1, P2 and P3 refer to the professors from UFMG; P4 refers to the only one professor from UFRJ, and P5, P6, P7, P8 and P9 refer to the professors from UFSC. Table 4 presents a summary of professors' academic profile per institution. This information was taken from professors' responses to the part of the questionnaire used to collect data for the present study that asked about their academic

situation at the time of data collection in the Letras Inglês Programmes of the three institutions.

Table 4  
*Professors' Academic Profile*

	UFSC	UFMG	UFRJ
Total number of participants	5	3	1
Number of participants from Applied Linguistics	4	1	1
Number of participants from Linguistics	1	1	-
Number of participants from Literature	-	1	-
Number of 'Professores Titulares'	2	1	-
Number of 'Professores Adjuntos'	-	-	1
Number of 'Professores Adjuntos III'	-	1	-
Number of 'Professores Adjuntos IV'	2	-	-
Number of 'Professores Associados'	-	1	-
Number of 'Professores Substitutos'	1	-	-
Number of participants holding Post-PhD	2	1	-

Table 4 shows that from the 5 professors of the Letras Inglês Programme at UFSC, 4 of them are from the research field of Applied Linguistics, and 1 from Linguistics. Regarding their academic ranking at UFSC, 2 are entitled 'Professor Titular', other 2 are 'Professor Associado' and 1 is 'Professor Substituto'. Moreover, from the 5 professors, 2 hold a Post-PhD degree, 3 have been working at UFSC for between 17 and 31 years and the other 2 professors for approximately 2 years. From the 3 professors of the Letras Inglês Programme at UFMG, each one of them belongs to a different research field (1 from Applied Linguistics, 1 from Linguistics and 1 from Comparative Literature). Concerning these 3 professors' academic rank at UFMG, 1 professor is entitled 'Professor Titular', another one is 'Professor Ajunto III' and the last one is 'Professor Associado'. Moreover, from these 3 professors, 1 holds a Post-PhD degree and their teaching time at UFMG vary from 12 to 23 years. Finally, the only professor of the Letras Inglês Programme at UFRJ who participated in the present study is a 'Professor Adjunto' from the research field of Applied Linguistics and has been working in this institution for 14 years.

### 3.4 Instruments

Usually, studies adopting the metacognitive approach to the investigation of beliefs deploy of instruments such as semi-structured interviews, self-reports and open-ended questionnaires for these are considered suitable to infer participants' beliefs (Abrahão, 2006; Barcelos, 2001). According to Abrahão (2006), the use of open-ended questionnaires bring more detailed information about the participants and are good for unveiling their personal opinions, perceptions and beliefs. Concerning semi-structured interviews, Abrahão (2006) states that this type of instrument is characterized by its flexibility as it allows researcher and participants to interact in a more freely way, thus leaving room for the emergence of other unexpected complementary topics. In addition, Barcelos (2001) states that the use of interviews give participants the chance to elaborate and reflect more about their own experiences. Finally, self-reports are good instruments to help the researcher to gain a better understanding of students and professors' behaviour in the classroom by analyzing these subjects' personal written reports about their own teaching and learning experiences. In addition to that, despite being effective instruments to address the second research question this study pursues concerning professors and students' beliefs towards the reported use of ICT tools in the Letras Inglês Programmes, the open-ended questionnaire, the semi-structured interview and the self-report are also helpful instruments to investigate the use of ICT tools by professors in the courses they teach in those programmes, thus addressing the first and last research questions.

For the reasons mentioned above, data for the present study were collected through online open-ended questionnaires, online semi-structured interviews and self-reports from students and professors of Letras Inglês Programmes of UFSC, UFMG and UFRJ in order to answer the research questions presented in section 3.1. All the three

instruments used to collect data were designed in Portuguese, rather than English, to assure participants' comprehension of the questions and to assure language would not be a barrier to their participation in the study in answering the questionnaires, taking part in the interview and writing the self-reports. Therefore, the original full written records of participants' responses to these three instruments are in Portuguese and can be seen in Appendixes K, L, M, N, O, P, Q and R. Translations to English of all the excerpts presented in the chapter of Results and Discussion were made by this researcher.

### **3.4.1 Online Open-Ended Questionnaires**

Two online open-ended questionnaires<sup>16</sup> were designed to collect data for the present study. One questionnaire was addressed to the students and the other was addressed to the professors. The online open-ended questionnaires were two websites<sup>17</sup> built by a system programmer. This professional used HyperText Markup Language (HTML), JavaScript, Cascading Style Sheets (CSS) and Hypertext Preprocessor (PHP) as programming languages and the software Dreamweaver 8.0 and Adobe Photoshop as system developing tools to create the websites. The websites were hosted by the iBox server for the period of data collection and analysis.<sup>18</sup>

The questionnaire designed for the students (Students Questionnaire, see Appendix C) consisted of a reserved space for filling in personal information and of 12 questions. The questions regarding personal information aimed at learning about students' academic situation by asking in which institution they study, which Letras Programme they were taking, in which term they were and what degree they were pursuing. Responses to these questions would avoid me including in the present study

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<sup>16</sup> Online open-ended questionnaire refer to a questionnaire in which students must be connected to the internet to respond to it.

<sup>17</sup> [www.razab.net/questionnaire](http://www.razab.net/questionnaire) and [www.razab.net/questionario](http://www.razab.net/questionario). For financial reasons, the websites are no longer available on the internet.

<sup>18</sup> For further technical explanations contact Gabriel ([fpbiel@hotmail.com](mailto:fpbiel@hotmail.com))

by mistake information of students taking Letras Programmes other than Letras Inglês. Also, by knowing in which term they were and what degree they were pursuing could bring some insights into the understanding of their reported use of ICT tools in the Letras Inglês Programme and their beliefs towards this use. The second part of the questionnaire, consisting of 12 questions, aimed at learning about the use ICT tools in the courses students take in the Letras Inglês Programme as well as their previous experiences in using these tools (Questions 1, 2, 3, 3a, 8, 9 and 12) and unveiling their beliefs towards the use of such tools in the Letras Inglês Programme (Questions 4, 5, 6, 7, 10 and 11).

Similarly, the questionnaire designed for the professors (Professors Questionnaire, see Appendix D) consisted of the same reserved space for personal information and 9 questions. The questions regarding personal information aimed at learning about professors' academic profile by asking in which institution they teach, for how long they have been teaching there, their highest level of education, their research field of expertise and in which terms and the courses (plus objectives) they were teaching at the moment of questionnaire application. Responses to these questions would assist me to avoid including in the present study professors that no longer teach at UFSC, UFMG or UFRJ, even though their names were still in the list of the body of professors that teach in the Letras Inglês Programme as informed by these institutions official websites. Moreover, despite bringing relevant information about the profile of professors who teach in the programmes, knowing which courses they teach and the courses' objectives could bring some insights into the understanding of professors reported use of ICT tools in the Letras Inglês Programmes and their beliefs towards this use. The second part of the questionnaire, consisting of 9 questions, aimed at learning about professors' use of ICT tools in the courses they teach as well as their previous

experiences in using these tools (Questions 1, 2, 4, 7, 8 and 9) and unveiling their beliefs towards the use of such tools in their courses (Questions 3, 5 and 6).

In total, 48 students and 9 professors answered the questionnaire. Both questionnaires were designed based on the literature on beliefs (Barcelos, 2001, 2004, 2007; Abrahão, 2006; Pajares, 1992) and aimed at finding out which ICT tools, if any, were used by professors in their courses, and unfold students and professors' beliefs towards the use of such tools in the undergraduate Letras Inglês Programmes. The choice for the application of an 'online' questionnaire was based purely on practical reasons, since students and professors would have the chance to answer the questionnaire at the time and place that suited them best.

### **3.4.2 Online Semi-Structured Interviews**

Due to time and space constraints, ten participants (7 students and 3 professors) were selected to take part in an online semi-structured interview<sup>19</sup>. Each interview plan (see Appendixes E and F) was personalized and designed based on each selected participants' responses to the online open-ended questionnaire and on the research questions this study pursues. On average, the interview plans consisted of 10 to 13 questions. The aim of the online semi-structured interview was to gain a better understanding of some responses that were unclear to me, to seek for further information that could complement the answers of some questions and, most importantly, to obtain more details and relevant information about the reported use of ICT tools in the undergraduate Letras Inglês Programmes and the participants' beliefs towards the use of such tools in these programmes.

The criteria for the selection of which participant would be required to take part in the interview was purely based on my own evaluation of the participants'

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<sup>19</sup> Online semi-structured interview refer to an interview in which students must be connected to the internet to take part in it.

responses to the questionnaire. That is, after reading all participants' responses to the online questionnaires countless times, I could identify some responses that in some cases lacked important information and in other were so interesting that deserved being further discussed. The choice for holding an online interview in chat rooms rather than a face to face one was based on practical reasons, since it would allow both the participants and I more flexibility in terms of time and place.

### **3.4.3 Self-Reports**

The aim of the self-reports was to gain further understanding of participants' beliefs towards the reported use of ICT tools in the Letras Inglês Programmes by analyzing their personal, individual written reports. Even though all the participants that took part in the interview were invited to participate in the third phase of data collection by writing a self-report, two professors and only one student did so. Participants were asked to reflect upon and then write a self-report based on the question '**A utilização de TICs em cursos de Letras Inglês: um recurso necessário para a formação de futuros professores e pesquisadores?**'. As in the interview, this question was designed after a preliminary analysis of students and professors' responses to the questionnaires and on the research questions the present study pursues. Participants were free to write as much as they wished and take as much time as they needed.

### **3.5 Procedures of Data Collection**

The collection of data took place in three phases during the months of July, August, September, October and November, 2008. In the first phase I collected the data through the online open-ended questionnaires. In the second, some participants were selected to take part in the online semi-structured interview. Finally, in the third phase, the same participants interviewed were invited to write a self-report.

In order to invite professors and students to participate in the present study, I emailed an invitation letter (see Appendixes G and H) to all the professors of the Letras Inglês Programmes of the three institutions investigated and to all the students regularly enrolled in the first term of 2008 academic year (2008/1) of Letras Inglês Programme at UFSC. The emails from all the professors were obtained through each institutions' official websites and the email from the students were obtained in the 'Department of School Administration'<sup>20</sup> (DAE) at UFSC. From the 59 professors (17 from UFSC, 23 from UFMG and 19 from UFRJ) who were invited to participate, 9 (5 from UFSC, 8 from UFMG and 1 from UFRJ) accepted to take part in the study. From all the students invited from UFSC (total of 154), 43 participated. Due to administrative constraints, it was not possible to get a list of emails from the students regularly enrolled in the Letras Inglês Programme from UFMG and UFRJ. After innumerable phone calls to the 'Letras' Department of these respective institutions, the explanation I received from the department employees was that students' email addresses were strictly restricted to administrative domains. Only with the gentle help of a 'Professor Adjunto' from the 'Letras' Department of UFRJ, I had the opportunity to send the invitation letter to a discussion group in which some students from the Letras Inglês Programme of UFRJ participated in. From these students, 5 accepted to participate. In this sense, a total of 48 students (43 from UFSC and 5 from UFRJ) took part in this study.

In the invitation letter emailed to all the participants, I provided (a) a description of the research project, (b) a letter of consent explaining, among other things, that by accepting to participate in the study the participant could be required to take part in a interview and write a self-report in addition to responding the questionnaire and, finally, (c) a link ([www.razab.net/questionario](http://www.razab.net/questionario) to professors, and [www.razab.net/questionnaire](http://www.razab.net/questionnaire)

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<sup>20</sup> My translation for 'Departamento de Administração Escolar (DAE).

to students) for accessing the online questionnaires directly. When participants accessed the link to answer the questionnaire, they would firstly visualize a page where they were required to fill in some personal information (see Appendixes C and D). As soon as the participants finished answering the questionnaire, the responses were sent directly to a database to which only I had access.

After analysing the responses to the questionnaire and designing the interview plan to each one of the participants selected to take part in the second phase of data collection, I sent an email (see Appendix I) to each one of them saying they had been selected to participate in the interview. In this email I explained the interview could be held either on MSN or on SKYPE's chat room, as suited the participant better. From the 11 participants invited, 10 (3 professors from UFSC and 7 students from UFSC) agreed to be interviewed.

The next step was to set a time and date for the interview which was done through exchange of emails between the selected participants and I. The duration of the interview varied from participant to participant. The interviews held with the professors had a duration of approximately 60 and 90 minutes, while with the students they last between 90 and 120 minutes. It is important to mention, though, that the interviews probably took such a long time due to the fact that in chat rooms a lot of time is spent on typing. By the end of each interview I informed the 10 participants I would send to them an email to participate in the last phase of data collection which was to write the self-report. In this email (see Appendix J) I explained they should reflect upon the question **'A utilização de TICs em cursos de Letras Inglês: um recurso necessário para a formação de futuros professores e pesquisadores?'** and react to it by writing whatever crossed their minds. They could write as much as they wanted and e-mail the self-report back to me when they had finished. From the ten participants invited to write

the self-report, 3 (2 professors and 1 student) accepted the invitation and emailed their self-reports back to me.

### **3.6 Analysis**

As previously stated in section 3.4, the present study adopts the metacognitive approach to investigate beliefs and make use of open-ended questionnaires, semi-structured interview and self-reports to collect data. These instruments, besides addressing the beliefs of participants towards the use of ICT tools in Letras Inglês Programmes, are also helpful to address the ICT tools they use in these programmes as well as the relationship between the use of ICT tools and participants beliefs towards this use, thus tackling the research questions the present study pursues. According to Abrahão (2006), the metacognitive approach falls under a qualitative research perspective. For this reason, the general approach to the analysis of data collected for the present study of a qualitative nature is interpretive.

According to Denzin and Lincoln (1994), qualitative researchers “(...) study things in their natural settings, attempting to make sense of, or interpret, phenomena in term of the meanings people bring to them” and are “(...) adept (...) to intensive self-reflection and introspection” (p.2). Allwright and Bailey (1991) state that in a qualitative analysis perspective the analysis o data consists in the constant exercise of carefully reflecting upon and interpreting the data gathered through the instruments (p.65). In the same line of thought, Dörnyei (2007) states that “Qualitative research is fundamentally interpretive, which means that the research outcome is ultimately the product of the researcher’s subjective interpretation of the data” (p.38).

Following the qualitative analysis paradigm, the data analysis for the present study consisted of a long and careful process of reflection, subjective interpretation and

constructions of meanings from the triangulation of data collected through (a) the online open-ended questionnaires, (b) the online semi-structured interviews and (c) the self-reports. The choice for the triangulation of data is due to the fact that “the use of multiple methods, or triangulation, reflects an attempt to secure in-depth understanding of the phenomenon in question” (Denzin & Lincoln, 1994, p.2). Complementing these authors’ words, Mathison (1988) state that,

“The value of triangulation (...) is as a technique which provides more and better evidence from which researchers can construct meaningful proposition about the social world. The value of triangulation lies in providing evidence such that the researcher can construct explanations of the social phenomena from which they arise” (Mathison, 1988, p.15).

### **3.7 Summary of the Chapter**

Along this chapter I presented the methodology used for data collection and analysis. In doing so, I described the context in which the study was carried out, the participants of the study, the instruments and the procedures for data collection and analysis. In the next chapter I discuss the results of the data analysis.

## **CHAPTER IV**

### **RESULTS AND DISCUSSION**

In this chapter I will present and discuss the results of the qualitative analysis of data in order to determine (a) which ICT tools professors use in the courses they teach in the Letras Inglês Programmes; (b) what the beliefs of professors and student from these programmes are concerning the use of ICT tools and (c) the relationship between the use of ICT tools in Letras Inglês Programmes and the professors and students' beliefs towards this use. As previously stated in the Method chapter, the qualitative analysis of data consisted of a long and careful process of reflection, subjective interpretation and constructions of meanings from the triangulation of data collected through the online open-ended questionnaires, the online semi-structured interviews and the self-reports. This chapter is divided into four main subsections: 4.1) Results of the On-line Open-Ended Questionnaires; 4.2) Results of the On-line Semi-structured Interview; 4.3) Results of the Self-reports, and 4.4) Summary of the Results.

#### **4.1 Results of the On-line Questionnaires**

In this subsection I firstly present the results of the qualitative analysis of the students' questionnaire (see Appendix C) and after that I turn the attention to the professors' questionnaire (see Appendix D).

##### **4.1.1 Students' On-line Questionnaires**

The questionnaire designed to collect data from the students aimed at finding out which ICT tools, if any, are used by professors in their courses, as well as at unfolding students' beliefs towards the use of such tools in the Letras Inglês Programmes offered at UFSC and UFRJ. As previously explained, students from the Letras Inglês

Programme at UFMG did not participate in the present study due to administrative constraints. For practical reasons, I firstly report how much of the questionnaire was answered and discuss possible reasons why the six last questions were the ones most frequently left unanswered. Then, I present the results that stemmed from the questionnaire through the qualitative analysis of data. As previously stated in the Method chapter, Questions 1, 2, 3, 3a, 8, 9 and 12 aimed at learning about the use of ICT tools in the courses students take in the Letras Inglês Programmes as well as their previous experiences in using these tools; while Questions 4, 5, 6, 7, 10 and 11 aimed at unveiling students' beliefs towards the use of such tools in the courses they take. The original full written records of students' responses to the questionnaires are in Portuguese and can be seen in Appendixes K and L.

In general, most students answered all the twelve questions asked in the questionnaire. From the 48 participants (43 from UFSC and 5 from UFRJ), thirty-one students answered 100% of the questionnaire, eleven students answered more than half (58% - 92%) of the questionnaire and six students answered half or less than half of it (50% - 25%).

Concerning the questions most frequently left unanswered, most students did not answer the last six questions in the questionnaire. A group of seven students did not answer *Question 7*, and other two groups of ten and eight students did not answer *Questions 9* and *12* respectively. No apparent reason was found in the responses of the rest of the participants who answered these questions that could explain why those students left them in blank. On the other hand, something was found in the responses of a few participants that could be a possible explanation to why some students left *Questions 8, 10* and *11* unanswered, which will be addressed in the next paragraph.

In *Question 8* students were asked about the obstacles they face when trying to use ICT tools in the courses they take in the Letras Inglês Programmes. In total, twelve students did not answer this question. A possible explanation for this is that maybe these students did not face any obstacles, so they did not write anything. This supposition is based on the fact that from the 36 students who answered *Question 8*, five reported not to face any obstacles at all, as exemplified in the answers of some students: “*I, particularly, didn’t have any problems with the tools I used*” (S36), “*I can’t think of an obstacle*” (S7) and, “*I don’t face obstacles, I can deal well with them (the ICT tools)*” (S5). Even though 5 reports are not a very significant number as compared to the 36 students who answered *Question 8* stating the obstacles they face when trying to use ICT tools, which will be discussed later in this chapter, my hypothesis is that maybe the 12 students who did not answer this question shared the same opinion as the 5 students who reported not facing any obstacles at all.

Similarly, in *Questions 10* and *11* students were asked, respectively, about the relevance of the use of ICT tools during the Letras Inglês Programme and about the relevance of having knowledge about ICT for his/her career as future teacher/researcher. In total, ten students left *Question 10* in blank and eleven did not answer *Question 11*. A possible reason for this may be related to the fact that from the students who answered *Questions 10* and *11*, ten (five students referring to question 10 and the other five to question 11) stated having already answered these questions previously in the questionnaire, as illustrated in the following excerpts: “*Extreme relevance when well used, as previously stated*” (S2, referring to *Question 10*), “*Redundant.*” (S32, referring to *Question 10*), “*I think I’ve dealt with this issue in the previous answer (...)*” (S16, referring to *Question 11*) and “*The characteristics are the same mentioned above*” (S19, referring to *Question 11*). Moreover, students’ responses to *Questions 10* and *11*

showed they consider the use of ICT tools and having knowledge about such tools to be very relevant both during the Letras Inglês Programmes and to their careers as future teachers, as ICT tools have the potential to offer students the opportunity to develop the four skills<sup>21</sup>, expose them to authentic language, let the classes more appealing and are more and more becoming part of students' day by day lives. I noticed that these ideas about the use of ICT tools had already been stated in their answers to other questions, as for instance when they express their beliefs towards ICT tools, summarized in Tables 8 and 10. This finding might lend support to my hypothesis that, although 5 reports for each of the questions are not a very significant number as compared to the groups of 38 and 37 students who answered *Question 10* and *11* respectively, maybe the students who did not answer these question shared the same opinion as the 5 students who reported having already answered to them previously in the questionnaire.

In summary, 31 out of 48 students answered 100% of the questionnaire and other 11 answered more than half of it, evidencing the high level of participation. Concerning the questions most frequently left unanswered, I hypothesized that maybe the students who did not answer *Questions 8, 10* and *11* shared the same idea as the ones who gave an explanation for not responding to them.

Concerning the results of the qualitative analysis of data collected through Students' Questionnaire, *Question 1* aimed at finding out which ICT tools were required in the courses students were currently taking at the time of data collection in the Letras Inglês Programmes, therefore addressing the first research questions the present study pursues: Do professors of Letras Inglês Programmes make use of ICT tools in the courses they teach? If so, which ICT tools do they use? Table 5 presents the ICT tools used as reported by the students.

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<sup>21</sup> Writing, Reading , Listening and Speaking.

Table 5

*The ICT tools used in the Letras Inglês Programmes as reported by students*

ICT tools reported by the students													
	e-mail	Discussion Groups	Websites	CD-ROMs	DVDs	CDs	Software	TV	Hi-fi system	Overhead Projectors	Data show	Videotapes/ Players	Lang. Lab.
UFRJ	X	X	X	-	X	-	-	-	-	-	-	X	-
UFSC	X	X	X	X	X	X	X	X	X	X	X	X	X

As can be seen in Table 5, students' answers for this question indicate that e-mail, discussion groups, websites, DVDs and videotapes are used in the Letras Inglês Programme at UFRJ, and e-mail, discussion groups, websites, CD-ROMs, DVDs, CDs, software, television, hi-fi system, data show, overhead projector, video tapes/video players and the voice recording equipment in the Language Lab are used in the same programme at UFSC. In total, 13 different tools were reported to be used in the Letras Inglês Programmes (5 at UFRJ and 13 at UFSC). Amongst them, e-mail seems to be the tool most required in the courses, as 45 students referred to the use of this tool in their answers. In second place come discussion groups and websites, with 18 students reporting the former and other 18 reporting the latter to be used in the courses. In last place come CD-ROMs and DVDs, with 10 students reporting the former and other 10 reporting the latter in their responses. When asked about other ICT tools required in the courses in the Letras Inglês Programmes, devices such as CDs, software (PowerPoint, translation programmes), television and hi-fi system were the most cited ones by a group of about 6 to 4 students, followed by another group of about 3 to 1 students who

reported the use of data show, overhead projector, videotape players /videotapes and the voice recording equipment in Language Lab.

It is interesting to mention that even though the use of the two most required ICT tools (e-mail and discussion groups) in the Letras Inglês Programmes does not take place in the classroom (due to the very nature of interaction these tools offer which is to make the communication of two people physically distant possible), such tools do seem to play an important role in complementing the courses, thus contributing to the students' learning process. This contribution can be noticed in students' responses to Question 2 regarding how they think ICT tools complement the courses they take, which will be discussed in the following paragraph. All the other ICT tools seem to be used in the classroom by the professors, except for websites and software. Students' responses to *Question 1* indicate that the use of websites and software is done both in the classroom and at home, as shown in the excerpts: "*We have visited some websites in class, such as Sintra website. An amazing website about phonetics has also been indicated to us as studying material (...)*" and "*PowerPoint is used in case of paper presentations, although some professors use it quite (and pleurably) frequently in class*" (S12). As a whole, students' answers to *Question 1* showed that a number of ICT tools have been used in the Letras Inglês Programmes. Their answers also suggest that professors are trying to diversify their teaching methods by making use of different tools.

Having addressed the ICT tools students reported to be used in the courses they take in the Letras Inglês Programmes, *Question 2* was asked in order to find out the purposes with which these ICT tools are used. The results of the analysis of students' responses to this question are summarized in Table 6. The sentences followed by an '\*' indicate that the purpose with which that tool was used was reported by students from

UFSC and UFRJ. The sentences followed by ‘#’ indicate the purpose of use was mentioned by students from UFRJ. In all the other sentences, the purpose was reported by students from UFSC only. The numbers that appear in brackets refer to the number of students who reported the ICT tools to serve the same purposes.

Table 6

*Purposes with which ICT tools are used in the courses students take in the Letras Inglês Programmes*

<b>ICT tools reported to be used in the courses</b>	<b>Purposes with which ICT tools are used in the courses</b>
E-mail	<ul style="list-style-type: none"> <li>- out of classroom communication and interaction between professors and students and among students themselves * (32)</li> <li>- out of classroom exchange of information about the course *(9)</li> <li>- solving doubts about the course *(9)</li> <li>- suggestions and posting of material * (20)</li> </ul>
Discussion Groups	<ul style="list-style-type: none"> <li>- out of classroom communication and interaction between professors and students and among students themselves *(11)</li> <li>- out of classroom exchange of ideas/information about the course *(10)</li> <li>- solve doubts about the course *(1)</li> <li>- suggestion and posting of material *(4)</li> </ul>
Web sites	<ul style="list-style-type: none"> <li>- to complement the subjects being taught and assist in research * (6)</li> <li>- to practice grammar, listening and speaking #</li> <li>- to practice pronunciation (3)</li> </ul>
CD-ROMs	<ul style="list-style-type: none"> <li>- to complement the subjects being taught (2)</li> <li>- to complement the didactic book (2)</li> <li>- to practice pronunciation (3)</li> </ul>
DVDs ( movies or subject related)	<ul style="list-style-type: none"> <li>- to complement the subjects being taught (2)</li> <li>- to introduce new topic or source of discussions in class #</li> <li>- used to exemplify aspects of cinematographic narration (1)</li> </ul>
Cds (Cds accompanying the course book, music Cds)	<ul style="list-style-type: none"> <li>- to expose students to authentic language (1)</li> <li>- to practice pronunciation (2)</li> <li>- to practice listening (1)</li> <li>- to contextualize the content being taught (1)</li> </ul>
Software (PowerPoint, translation programmes)	<ul style="list-style-type: none"> <li>- PowerPoint is used to present papers (2)</li> <li>- Wordfast is used to assist in the process of translation (2)</li> </ul>
Videotapes /Videotape Players	<ul style="list-style-type: none"> <li>- used to exemplify aspects of cinematographic narration (1)</li> <li>- introduce new topic or source of discussions in class #</li> </ul>
Television	----
Hi-fi system	----

Overhead Projector	----
Data show	----
Voice Recorders (from the Language Lab)	----

Regarding the purposes with which ICT tools were used, as reported by students from UFSC and UFRJ, it is possible to notice from Table 6 that e-mail and discussion groups were reported to be used with the same purposes in the courses students take. They are both used for out of class communication and interaction between professors and students and among students themselves and exchange of information about the courses. Moreover, these tools are used as an alternative way to solve doubts about the courses as well as suggest and post materials to complement the subject being studied. It is interesting to point that students reported e-mail and discussion groups to be used with the same purposes. A possible explanation for that might be that some students referred to e-mail and discussion groups interchangeably, as evidenced in most students' interview. In addition, the use of e-mails to discuss varied topics in the target language has been reported in the literature about the use of ICT tools for language teaching and learning, as in the studies carried out by González-Bueno (1998) and Handle and Corl (1999).

Concerning websites, besides serving as a complement to the subject being taught and assisting in research, students from UFSC reported that some websites have been indicated by professors to help them practice pronunciation, and a student from UFRJ reported websites are used to practice grammar, listening and speaking.

Concerning purposes with which other ICT tools were used as reported by students from UFSC only, their responses showed that CD-ROMs complement both the subject being taught and the didactic book, as CD-ROMs offer the audio aid. Some students also stated CD-ROMs are used to practice pronunciation. DVDs and

videotapes, in turn, besides complementing the subject being taught, are also used to exemplify aspects of cinematographic narration in the course 'Narrative Studies'. Finally, CDs are mainly used to contextualize the content being taught, to expose them to authentic language and to make them practice linguistic skills such as pronunciation and listening. Finally, in relation to the purposes with which DVDs and videotapes were used as reported by students from UFSC only, their responses show that they are used to introduce new topics or to serve as source of discussions in class.

Students did not report the purposes with which voice recorders, data show, overhead projectors, hi-fi system and television are used. In the case of the two last tools, it is likely that professors do not use them alone, but as a necessary accessory to play audio CDs and display videos.

In conclusion, students' responses to *Question 2* regarding the purposes with which ICT tools are used in the courses they take suggest that these tools not only complement the courses, but also seem to assist them in their learning process. Furthermore, these findings regarding the benefits that the use ICT tools can offer to assist students in their learning of the target language add support to the findings of other studies (González-Bueno, 1998; Handle & Corl, 1999; Lee, 1998; Adair-Hauck, Willingham-McLain and Youngs, 1999) previously discussed in the chapter of the Review of the Literature.

As previously stated in the chapter of Review of the Literature, a previous negative or frustrating experience using ICT tools (either for language teaching and learning or personal purposes) and constraining contextual factors (poor infrastructure and administration support, lack of teacher training) may lead teachers, and I add students, to believe that technology adds more burden than facilitates the teaching and learning process (Ertmer, 2005). Moreover, Horwitz (1987) states that beliefs can be

influenced by students' past experiences as language learners and can as well be shaped by their cultural background. For this reason, the attention is now turned to the discussion of the context in which students use ICT tools and to their previous experiences using them.

In order to gain a better understanding of the context and conditions in which ICT tools are used, *Question 8* aimed at asking students if they face any obstacles when trying to use ICT tools in the courses in the Letras Inglês Programmes. From the 48 participants who answered the questionnaire, 36 (31 from UFSC and all 5 from UFRJ) responded they face obstacles, 5 responded they don't face any obstacle and 7 did not answer the question. After analysing students' responses to this question, I noticed that there were groups of students who expressed similar ideas and for this reason I organized these ideas in five categories, as shown in Table 7.

Table 7  
*Categories regarding the types of obstacles students reported to face*

	UFSC	UFRJ		
<b>Categories</b>	Difficulties in Dealing and Accessing ICTs	13	1	<b>N° of students</b>
	ICT Availability	7	2	
	Unprepared Professors	4	1	
	Reliability and Complexity of Information	4	1	
	Lack of Incentive	1	1	

In total, 14 students (13 from UFSC and 1 from UFRJ) expressed ideas related to 'Difficulties in Dealing and Accessing ICTs', 9 students (7 from UFSC and 2 from UFRJ) related to 'ICT Availability', 5 students (4 from UFSC and 1 from UFRJ) related to 'Unprepared Professors', other 5 (4 from UFSC and 1 from UFRJ) referred to 'Reliability and Complexity of Information' and two (one of each institution) students expressed ideas related to 'Lack of Incentive'.

Regarding the category 'Difficulties in Dealing and Accessing ICTs', some students reported they do not have much affinity and knowledge about certain tools and

find it problematic to deal with them. Also, some students reported that there should be some training on how to take advantage of the resources available, as not all students know how to do this and some of them resist to believe these tools can help. Moreover, other students add that not all of them have daily access to ICT tools, such as the internet, and this can cause problems if students and professors communication take place mainly by email or if students are participating in discussion groups. Still, lack of time to dedicate to the tools and dislike to read on the computer screen for too long also appeared as obstacles. Moving to the category 'ICT Availability', students reported that many times the necessary tools are not available or are not working properly. Also, a few students complained the department do not offer the necessary infrastructure to use ICT tools. In addition, there is also the issue of 'Reliability and Complexity of Information' provided by some ICT tools which, to this respect, students reported not always understand dialogues in movies or what is written in websites because of the high level of English required. Moreover, students cannot always be sure about the reliability of the content offered in some websites. Concerning the category 'Unprepared Professors', some responses pointed out that many times professors waste class time because they do not know how to deal with ICT tools, and they are not prepared to make the best possible use of these tools in their courses. Finally, in the category 'Lack of Incentive', students reported that they must have self-initiative to use ICT tool because their professors do not encourage them much to do so.

In sum, the most recurrent obstacles faced by students when trying to use ICT tools in the courses in the Letras Inglês Programmes refer to difficulties in dealing with and accessing these tools on a daily basis, shortcomings with infra-structure, complexity and reliability of material available on the web, followed by unpreparedness of professors and their lack of incentive towards the use of ICT tools. These findings

corroborate and extend those of Baitaneh and Baniabdelrahman's (2006), whose study pointed out the obstacles students reported to face towards the use of computers only.

Turning the attention to students' previous experiences using ICT tools, results of the qualitative analysis of students' responses to *Questions 3, 3a, 9 and 12* are now presented.

In *Question 3*, students were asked if they had ever used ICT tools to learn English outside university. In case they marked 'yes', they were supposed to answer *Question 3a* which asked if they had liked the experience and to explain their responses with as much details as possible. In total, from the 47 participants who answered *Question 3*, 39 (36 from UFSC and 3 from UFRJ) responded they have used ICT tools for learning English outside university and 8 (6 from UFSC and 2 from UFRJ) students responded they have never used ICT tools for that purpose. This finding indicates that the use of ICT tools to learn English is not new to the students (as most of them have made use of such tools outside university), meaning that they are up to date with the advances in technology. It is important to highlight that the ICT tools used by both students and professors (as pointed in *Question 1*) to learn and teach the courses in the Letras Inglês Programmes (which include the teaching and learning of the English language) were not specifically designed for this purpose. Rather, students and professors created the learning/teaching opportunity from existent, available tools.

From the 39 students who responded 'yes' to *Question 3* and were thus supposed to answer *Question 3a* too, 36 students (33 from UFSC and 3 from UFRJ) did so. During the analysis of data collected through *Question 3a*, I noticed that students expressed positive and optimistic beliefs toward the use of ICT tools to learn English outside university, as exemplified in the excerpts: "*The new technologies are wonderful for language learning because now we can have access to information that before we*

could only access by travelling” (S34), “I don’t just like them (ICT) but I find this type of resource indispensable. Mainly the internet, where there is a world of possibilities and information” (S9) and “I liked it very much. I use chat rooms, orkut, youtube, news websites from many countries (...). The material available on the Web enriches my learning process” (S48). The beliefs identified through their answers to *Question 3a* are presented in Table 8. The sentences followed by an ‘\*’ indicate the belief was expressed by students from both UFSC and UFRJ. In all the other sentences the beliefs were expressed by students from UFSC only. The numbers that appear in brackets refer to the number of students who hold the same belief towards ICT tools.

Table 8

*Students’ beliefs towards out of classroom use of ICT tools*

<b>Students’ beliefs towards general ICT tools</b>	<ol style="list-style-type: none"> <li>1) are appealing and enrich the classes (4);</li> <li>2) nowadays with the internet, this practice (using ICT) should be more intense and indispensable to work in EFL classrooms;</li> <li>3) in this globalized world it’s practically impossible to separate ICT tools from the teaching/learning process;</li> <li>4) help to learn pronunciation (2), vocabulary (2), grammar and listening (2);</li> <li>5) provide good input;</li> <li>6) expose learner to authentic language;</li> <li>7) help improving knowledge about the language;</li> <li>8) can serve as a tool for the democratization of education and propagation of knowledge;</li> <li>9) contextualize the target language (real life situation) and thus facilitates learning;</li> <li>10) offer audio resources to learn and practice pronunciation;</li> <li>11) optimize time and facilitates learning;</li> <li>12) facilitate a straighter contact with the language (2);</li> <li>13) are an endless plethora of possibilities;</li> <li>14) are always exciting and motivate students with possibilities of interaction (2);</li> <li>15) are wonderful for learning due to access to information (2); *</li> <li>16) contribute to learning outside the classroom;</li> <li>17) offer opportunity to practice all the four skills (reading, writing, listening, speaking),</li> <li>18) help offering sources to solve doubts (2).</li> </ol>
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Students' beliefs towards specific ICT tools	<b>Internet</b> → 1) helps to solve doubts; 2) offers a world of possibilities and information; 3) helps giving continuity to the learning process outside the classroom; 4) makes the learning process more interesting; 5) serves as an all in one source of information; 6) fosters language learning; 7) helps with vocabulary and pronunciation.
	<b>DVDs</b> <sup>22</sup> → 1) help to improve listening, vocabulary (2), pronunciation (2) and learn different accents and expressions; 2) make the learning process more interesting, 3) contextualize the target language showing real life situations; 4) foster language learning, 5) help learning different structures, 6) expose students to different accents.
	<b>Websites</b> → 1) help improving knowledge about the language * (2), vocabulary, etc; 2) help solving doubts with grammar, pronunciation *, 3) help learning about pronunciation and producing the sounds (2); 4) help being in contact with authentic language *, 5) offers the opportunity to practice the four skills (writing, reading, listening, speaking *)
	<b>E-mail</b> → 1) offers the opportunity to communicate (write, read, speak and listen) with native speakers.
	<b>Chat rooms</b> → 1) offer the opportunity to communicate (write (2), read (2), speak (2) and listen) with native speakers; 2) are great to exchange ideas between people with common interests.
	<b>Cds</b> <sup>23</sup> → 1) make the learning process more interesting; 2) help with vocabulary and pronunciation (2), 3) help learning different structures, 4) expose students to different accents.
	<b>Software</b> → 1) (translation program) help with translation and improve vocabulary; 2) (dictionary) help with pronunciation.
	<b>CD-ROMs</b> → 1) help improve pronunciation as bring audio with native speaker (20).*
<b>Games</b> → 1) help with vocabulary.	

From Table 8 it is possible to notice that students (from both UFSC and UFRJ) expressed their beliefs towards the use of ICT tools to learn English outside university in mainly two different ways. Some students expressed their beliefs towards general ICT tools, while others expressed their beliefs towards specific ICT tools they use to learn English. There were still a few students who expressed their beliefs in both ways. That is, they first expressed their general opinion about ICT tools and then explained how a specific tool helped them in their learning process.

In general terms, the beliefs of students from UFSC towards the use of general ICT tools to learn English outside university showed that the use of these tools expose

<sup>22</sup> DVDs comprise both movie DVDs and subject related DVDs.

<sup>23</sup> CDs comprise music CD, subject related CD, course book CD.

students to authentic language thus facilitating learning and providing good input, offer the opportunity to practice the four skills as well as vocabulary and pronunciation and extends learning to outside the classroom. Moreover, for these students ICT tools are appealing, motivate learning, optimize time and offer an endless plethora of possibilities and information. Finally, students also expressed more general beliefs towards ICT tools, such as that these tools assist in the democratization of information and propagation of knowledge and that in a globalized world it is practically impossible to separate ICT tools from the teaching and learning process. The belief that ICT tools are ‘wonderful for learning due to access to information’ is also shared by a student from UFRJ.

In relation to the use of specific ICT tools, beliefs held by students from UFSC showed that the use of DVDs, CD-ROMs and CDs help in the learning of linguistic skills and makes the learning process more interesting. DVDs also contextualize the target language by presenting real life situations. The use of e-mail and chat rooms offer the opportunity to communicate and exchange ideas with native speakers. In addition, software (translation program and dictionary) assist to improve vocabulary and pronunciation respectively. Beliefs also showed that the use of games help in acquiring vocabulary and that the internet not only offers a world of possibilities and information, but also helps solving doubts, assisting in the learning of vocabulary and pronunciation and extending the learning process to outside the classroom. Finally, the belief that the use of websites assists improving vocabulary, grammar, pronunciation and allow contact with authentic language is also shared by a student from UFRJ.

The analysis of data collected from *Question 3a* showed that students not only use the ICT tools to learn English outside university but they also believe ICTs can benefit them in a number of ways, as shown in Table 8. All the eighteen beliefs towards

general ICT tools that were identified in the students' responses are very optimistic, indicating that students have had a good, positive experience using the tools. In addition, students' beliefs towards some specific ICT tools to learn English lend support to this statement. In sum, students' out of classroom beliefs towards the use of ICT to learn English can thus help us to gain a better understanding of the beliefs they hold towards the use of ICT tools in the courses in the Letras Inglês Programmes as, according to Horwitz (1987), beliefs can be influenced by students' past experiences as language learners.

In order to seek for further information about students' previous experiences with ICT tools, *Question 9* asked if they were acquainted enough with these tools to use them confidently in the courses they take in the Letras Inglês Programmes. If the answers were positive, students were then supposed to explain how they learned how to use the tools. If the answers were negative, they were supposed to explain what is necessary to learn them. In total, 38 students responded this question. From this number, 30 (27 from UFSC and 3 from UFRJ) reported being acquainted enough with the ICT tools to use them confidently, and 8 (6 from UFSC and 2 from UFRJ) reported not to be acquainted enough to use these tools confidently. Regarding the 30 students who reported to be acquainted, 17 of them (16 from UFSC and 1 from UFRJ) explained they learned how to use the tools by experiencing them along the years, because they were curious to learn about it and because they were born in a generation where computers and the internet already made part of people's life, as exemplified in the excerpts of some students: *"Most of the 'ICT tool' are part of my everyday life since childhood. I learned how to use them, most of the cases, by curiosity... exploring them"* (S24) and *"Yes. With all the technological sources we have nowadays and all the contact we have with them, it is difficult not to know how to use them. For example, I've been using*

*computers since I'm 5 years old (I'm 22 now) (...)*" (S15). From this group of 17 students, 5 of them were more specific and explained that they know how to use at least the ICT tools required in class (in the Letras Inglês Programme) and they learned how to use them by experiencing these tools along the years, but they are not sure if they would know how to use something more sophisticated, as shown in the example: *"It depends on the tools... the ones I used (in class) I know how to deal with, but I don't know how it would be like if I were asked to use a different software, for instance... I acquired that knowledge 'in life', through trial and error (...)"* (S36).

Moreover, a group of 6 students (4 from UFSC and 2 from UFRJ) reported they got acquainted with the ICT tools during the classes in the Letras Inglês Programme, as S10 states *"I think so, you learn how to use the tools as you experience them in class"*. There was a student who showed her concern towards the importance of learning about ICT tools during the Letras Inglês Programme by stating *"I believe it's necessary to learn two things: (a) how ICT tools work and (b) how to use them in the classroom context, for a specific purpose coherent with the class (...) I believe that UFSC is responsible for educating future teachers prepared to use ICT tools in their classes"* (S1). Still, two students reported they got acquainted with ICT tools because they are interested in technology in general.

Finally, the eight students who reported not to have knowledge about ICT tools to use them confidently in the courses explained that they do need to learn more about ICT tools and use them more frequently to get used to them, as shown in the excerpt of S35 *"No. I think I don't know how to use these tools in the best possible manner. Maybe in order to learn more about these tools it's necessary to read about it and find out by myself the best way to take advantages of each of these tools"*. Another student emphasized that it is the Letras Inglês Programme's role to provide digital literacy to

the students, demonstrated in S47 excerpt “(...) *I really don't have knowledge enough to use such tools in class. (...) I think digital literacy should be part of teachers' education*”.

In conclusion, students' responses to *Question 9* indicate that a big portion of them have had experiences using and learning about ICT tools since childhood. Some of them only learned about these tools in the English Language Programme and others are still not acquainted enough with them, but showed to be willing to learn. Similar findings had already been reported in the literature. In Conoles' study (2008), for instance, students showed to be familiarized with ICT tools prior to start using such tools to assist in the learning process of the courses they take.

*Question 12*, in turn, was also asked in order to seek for further information about students' previous experiences using ICT tools. To do so, this question aimed at determining students previous experiences using ICT tools for personal purposes. In total, 40 students answered this question. The results of the analysis to students' responses to *Question 12* are summarized in Table 9.

Table 9  
*Students' utilization of ICT tools for personal purposes*

	Email	Software	Discussion groups	Websites	CD-ROMs	DVD	TV	CD	Hi-Fi	T1
<b>S1</b>	E	E	-	E	-	-	-	-	-	3
<b>S2</b>	E	E	R	E	R	E	E	-	-	7
<b>S3</b>	E	E	S	E	-	-	-	-	-	4
<b>S6</b>	E	-	-	-	-	-	-	-	-	1
<b>S7</b>	E	-	-	E	-	-	-	-	-	2
<b>S8</b>	E	-	-	E	-	E	-	E	-	4
<b>S9</b>	E	E	-	E	-	-	-	-	-	3
<b>S10</b>	E	-	-	E	NI	E	E	-	E	6
<b>S12</b>	E	AE	E	E	-	-	-	-	-	4
<b>S13</b>	E	E	-	E	S	-	-	-	-	4
<b>S14</b>	E	-	-	E	-	-	-	-	-	2
<b>S15</b>	E	-	-	AE	AE	E	E	E	-	6
<b>S16</b>	AE	-	-	-	S	-	-	-	-	1
<b>S17</b>	AE	NI	S	NI	R	-	-	-	-	4
<b>S19</b>	E	-	-	NI	-	-	-	-	-	2
<b>S20</b>	E	-	-	-	S	-	-	-	-	2

S21	E	E	-	E	S	-	-	-	-	4
S22	AE	E	-	S	R	-	-	-	-	3
S23	E	-	-	-	-	-	-	-	-	1
S24	E	E	-	E	-	-	-	-	-	3
S26	E	E	-	AE	-	-	-	-	-	3
S27	E	S	E	AE	S	-	-	-	-	5
S28	E	S	-	S	R	-	-	-	-	4
S29	E	-	-	-	-	-	-	-	-	1
S31	E	E	S	E	R	E	E	-	E	8
S32	E	-	E	E	R	-	-	-	-	6
S33	E	E	S	E	-	-	E	E	-	6
S34	E	E	N	E	-	-	-	-	-	4
S35	AE	-	N	AE	N	AE	AE	-	AE	6
S36	AE	R	-	S	-	-	-	-	-	2
S37	AE	S	S	AE	S	S	-	-	-	5
S38	E	NI	-	E	R	-	-	-	-	4
S40	E	-	-	-	-	-	-	-	-	1
S41	E	E	-	E	R	E	-	E	-	5
S42	E	E	-	E	S	-	-	-	-	4
S44	E	E	R	E	R	-	-	-	-	5
S45	E	-	S	E	R	-	-	-	-	4
S46	E	E	-	E	S	-	-	-	-	4
S47	E	-	-	-	-	S	E	-	-	3
S48	E	-	E	AE	R	-	-	-	-	4
T2	40	23	14	33	22	9	7	4	3	

(E= Every day; AE= Almost Every day (2 or 3 times a week); S= Sometimes (at least once a week); R= Rarely (at least once a month); N= Never; NI= Not Informed; T1= Total of ICT used by student and T2= Total of student that used each ICT)

From Table 9 it is possible to notice that students<sup>24</sup> do make frequent use of a number of ICT tools for personal purposes. In total, all the students reported to use email, 23 reported to use software, 14 students make part of discussion groups, 33 use websites, 22 use CD-ROMs, 9 use DVD, 7 use TV, 4 use CD and, finally, 3 students use the hi-fi system. In terms of the number of ICT tools used by each student, independent of the frequency in which they are used, 24 students use between four and eight ICT tools while 16 students use between one and three.

In terms of frequency of utilization, 36 students out of 40 use email everyday while 4 use it almost every day. Sixteen students out of 23 use software everyday, 3 use

<sup>24</sup> Remember that, as informed in section 3.3.1 in the Method chapter, S42, S44, S45, S47 and S48 are students from the Letras Inglês Programme at UFRJ.

it sometimes, 1 uses it almost every day, another 1 rarely uses it and 2 students did not inform. Concerning discussion groups, 6 students use it sometimes, 4 use it every day, 2 rarely use it and other 2 never use it. About websites, 22 students use it every day, 6 use it almost every day, 2 use it only sometimes and other 2 students did not inform. About CD-ROM, 11 students rarely use it, 8 use it sometimes, 1 uses it almost every day and another 1 never uses it. Regarding DVD, 6 students out of nine use it every day, 2 use it sometimes and 1 uses it almost every day. As for TV, a group of 6 students use it every day while only 1 uses it almost every day. Four students use CD everyday and, finally, 2 use hi-fi system everyday while 1 uses it almost every day.

Results indicate that most students use between two and six different ICT tools for personal purpose. E-mail and website are not only the tools used by most of the students, but are also the most frequently used ones. Software is the second tool used by most of the students and is also frequently used. It is interesting to note that although CD-ROMs are used by many students, most students only rarely use them. On the other hand, not so many students participate in discussion groups, but the ones who do participate everyday or at least once a week. Finally, although DVD, TV, CD and radio are not used by many students, they are used with frequency by the few students who reported to use them.

In conclusion, by analysing students' responses to *Questions 3, 3a, 9 and 12* all together regarding their use of ICT tools to learn English outside university and for personal purposes, I could not find any evidence of bad experiences with the use of these tools that could negatively influence their beliefs towards using such tools in the courses they take in the Letras Inglês Programmes. On the contrary, students' beliefs towards the use of ICT tool to learn English outside university (presented in Table 8)

indicate they have had a positive and fruitful experience using them to assist in their learning process.

Having determined the ICT tools students use in the courses they take in the Letras Inglês Programmes and having gained a better understanding of the context in which they use these tools and of their previous experiences in using them to learn English outside university and for personal purposes, the attention is now turned to unfold the beliefs students hold towards the use of ICT tools in the courses they take in the Letras Inglês Programmes of the institutions participating in the present study. To do so, *Questions 4, 5, 6, 7, 10 and 11* were asked. The results of the analysis of students' responses to these questions address the second research question the present study pursues: What beliefs do students and professors of Letras Inglês Programmes have towards the use and integration of ICT tools in these Programmes?

After analysing students' responses to *Questions 5 and 7*, I realized they expressed their beliefs not only towards the use of ICT tools employed in the courses they take in the Letras Inglês Programmes, but also towards some specific and general ICT tools that they use to get assistance for their learning process of the courses. For instance, in S19 excerpt she states "*They help a lot with pronunciation, with the explanation of unknown terms that can't be found in normal dictionaries, like slangs...*". This student is referring to tools in general (online dictionaries) that she reported in *Question 3a* to use to learn English outside university. Therefore, S19 is not referring to any tool used in the courses she takes. In the case in S14, she states that "*Through films, songs, videos, etc we can improve our comprehension, vocabulary, etc. news websites, for example, like bbc, help us to develop written texts*". This student is referring to specific ICT tools (probably DVDs or videotapes, CDs and bbc.com news website) that she voluntarily used to assist in her learning process, as e-mail and

translation websites were the only tools she reported in *Question 1* to be used in the courses she takes in the Letras Inglês Programmes. For this reason, I decided to firstly discuss students' beliefs towards the use of ICT tools employed in the courses they take and then discuss their beliefs towards the use of ICT tools in general that they make voluntary use of.

From students' responses to *Questions 4, 5, 6 and 7*, I could identify a number of beliefs they hold towards the use of the ICT tools employed in the courses they take. A list of these beliefs is presented in Table 10. The sentences followed by a '\*' indicate the belief was expressed by students from both UFSC and UFRJ. In all the other sentences the beliefs were expressed by students from UFSC only. The numbers that appear in brackets refer to the number of students who hold the same belief towards ICT tools.

Table 10

*Students' beliefs towards the use of the ICT tools employed in the courses they take*

<b>ICT tools used in the courses</b>	<b>Students' beliefs towards the use the ICT tools employed in the courses they take</b>
<b>E-mail</b>	1. contributes with exchange of information between students (4) 2. help with communication (1) 3. favours the use of the target language in real situations (1) 4. facilitates solving doubts with students and professors (2)* 5. it is a practical tool, helps in communication (2), 6. students can send and receive material(1)
<b>Discussion Groups</b>	7. allow for reflective thinking as students have more time to do the activity (1) 8. favour the use of the target language in real situations (1) 9. promote more elaborated discussions and reflective thinking(2) 10. adapt to students with different learning styles (1) 11. allow closer contact between students X students and students X professors (1)*
<b>Web sites</b>	12. provide extra material (1)* 13. assist in the learning process of some courses (5); 14. allow the student to go deeper in the content of the courses(1). 15. provide a lot of information and material(1)
<b>CD-ROMs</b>	16. assist in the perception of sounds and intonation of words(1)
<b>DVDs ( movies or subject related)</b>	17. complement the content and call students interest *, as well as complement grammar classes and Literature classes (comparison film x book) (1) 18. assist in the learning process of students with different learning

	<p>styles (1);</p> <p>19. make students get more interested in the subject being taught (1).</p> <p>20. let the classes more motivating, (1)</p> <p>21. student get more interested and involved in his own learning process(1)</p>
<b>Software (PowerPoint, voice recorders)</b>	<p>22. PowerPoint complements courses as students can organize their presentations and professors can offer expository classes (2);</p> <p>23. it is a practical and sustainable tool (1);</p> <p>24. helps in the comprehension and organization of the content of the courses (3);</p>
<b>CDs/CD players</b>	<p>25. course book CD helps to improve listening, pronunciation and music CD help to contextualize the content and add fun(1)</p> <p>26. assist in the learning process of students with different learning styles (1);</p> <p>27. make the classes more pleasurable (1);</p> <p>28. let the classes more motivating, help in pronunciation, to contextualize the content and add fun(1)</p>
<b>Videotapes /Videotape Players</b>	<p>29. compare a film with the respective book complement Literature classes (1)</p>
<b>Data show</b>	<p>30. allow better visualization and understanding of the content being taught(1)</p>
<b>Television</b>	----
<b>Hi-fi system</b>	----
<b>Overhead Projector</b>	----
<b>Voice recording from LanguageLab</b>	----

From Table 10 it is possible to notice that students hold positive beliefs towards the tools used in the Letras Inglês Programmes. In this case, if beliefs can be influenced by students past experiences, as proposed by Horwitz (1987), then the beliefs identified in the students' responses and presented in Table 10 can be a good indicator that students are in fact benefiting from such tools for their learning of the courses and also suggest that professors are applying these tools successfully in their classes. Furthermore, some students' beliefs expressed related ideas and for this reason they were grouped together in six different categories. So, each category comprises groups of beliefs represented by their numbers (as they are in Table 10), presented in Table 11.

Table 11

*Categories comprising the groups of students' beliefs towards the use of the ICT tools employed in the courses they take*

<b>Categories</b>					
<b>Complement Learning</b>	<b>Contact with Authentic Language</b>	<b>Enhance Linguistic Skills</b>	<b>Interaction</b>	<b>Motivate Learning</b>	<b>Access to Information</b>
4, 7, 9, 10,13,14, 17, 18, 22, 24, 26, 29, 30	3, 8	16,25, 28	1,2,5,6,11	19, 20, 21, 27	12, 15

In the category 'Complement Learning', beliefs held by students from UFSC showed that the exchange of e-mail assists in their learning process of the courses because it facilitates students solving doubts about the subjects being taught with their classmates or their professors. This belief is also held by a student from UFRJ. Moreover, discussion groups offer the possibility for students to spend as much time as they want to do the activity and this allows them to reflect more on the subject being discussed and promote more elaborated discussions. Also, this tool assists in their learning process as adapt to students with different learning styles. Websites assist students in their learning process of the courses they take and allow them to go deeper in the content being studied. DVDs, despite adapting to students' learning styles, also complement grammar classes and call students' interest. Again, this last beliefs is also shared by a student from UFRJ. In addition, DVDs or Videotapes complement Literature classes by making a comparison between the movie and the book. Concerning the use of software, PowerPoint assists in their learning process as information can be organized and professors can offer expositive classes and this helps in the comprehension of the content. Likewise, data show allows a better visualization and understanding of the content being taught. Finally, students state that CDs complement their learning as this tool adapt to their learning styles.

In the category 'Contact with Authentic Language', students' beliefs showed that e-mail and discussion groups favour the use of the target language in real situations. To what concerns 'Enhance Linguistic Skills', they believe that DVDs complement their learning by assisting them in the perception of sounds and intonation of words and that the CD which accompanies the course book assists in oral comprehension, pronunciation, besides contextualizing the content and adding fun to the classes. In the category 'Interaction', students' beliefs showed that e-mails facilitate communication and contribute to the exchange of information between students and professors. Likewise, the belief that discussion groups allow a closer contact among classmates, and the latter with their professors is also shared by a student from UFRJ. In the category 'Motivate Learning', DVDs make classes more motivating and get students more interested in the classes and in their own learning process, whereas CDs make the classes more pleasurable. Finally, in the category 'Access to Information', beliefs held by students from both UFSC and UFRJ showed that websites assist in their learning process as they provide access to information and extra material.

In addition to the beliefs students expressed towards each tool used in the courses they take, some of them also expressed general beliefs towards the tools they reported to be used in the courses. For instance, S28 (UFSC) who reported that e-mail, CD-ROMs, websites, hi-fi system, TV and DVD are used in the courses she takes, expressed her beliefs towards this use stating that *"They bring information, diversity and fun to the classes. They are a good way to complement what it being taught"*. Another student who reported e-mail, discussion groups and websites to be used in the courses she takes, expressed her beliefs stating that these tools *"Facilitate the access to information that are necessary for the learning process"* (S48, UFRJ). Moreover, students' responses to *Questions 10 and 11* of the questionnaire reinforce their views

towards the use of ICT tools, as demonstrated in the excerpts: “*Learning a (foreign) language involves the utilization of the four skills. It’s necessary to practice them, and for this we need tools that assist in the development of these skills. Through ICT tools it’s possible to experience the language as it is, which is very relevant for the learning process*” (S9, UFSC), and “*Knowledge about ICT tools is very relevant for my future as teacher and researcher (...) I observed how varied the use of internet can be for teaching*” (S45, UFRJ).

As previously mentioned, students also expressed their beliefs towards some specific and general ICT tools that they voluntarily use to assist them in their learning process of the courses, which are presented in Table 12. The numbers that appear in brackets refer to the number of students who hold the same belief towards ICT tools.

Table 12

*Students’ beliefs towards their voluntary use of ICT tools to assist in the learning of the courses*

<b>Students’ beliefs towards the use of general ICT tools</b>	1. In language courses, students can have access to authentic material. (1)
	2. Contribute to the classes as offer closer contact to authentic language and culture (11)
	3. Allow contact with the language and extends learning to outside the classroom (8)
	4. Offer opportunities to communicate in the target language(1)
	5. Help to improve pronunciation (8), vocabulary (7), grammar (3), listening (2) and speaking (2)
	6. Material available on the WEB (chat rooms, Orkut, YouTube, websites) enriches the learning process (1)
	7. Motivate student and as consequence improve learning process (5)
	8. Make it possible to search for extra material (6), to have access to information (3) and help as student look for more information about the content being taught (2).
	9. Accelerate the process of picking up information which will be transformed in knowledge (1)
	10. Adapt to students with different learning styles (2)
	11. Help putting into practice what students learn in the classroom (1)
	12. Promote different points of view (1)
	13. Use of different media allow learning about ICT (6)
	14. Allow to establish a connection between what is learned in the classroom and real life (1)
	15. Stimulate students’ autonomy (1)
	16. Avoids producing garbage and saves time in the copy centre queue (1)

<b>Students' beliefs towards the use of specific ICT tools</b>	17. In Applied Linguistic and Linguistic Studies courses the internet is great to search for material (1)
	18. In translation courses, students can use websites and blogs to compare translations of the same text and improve vocabulary skills. (1)
	19. Software have interactive characteristic that assist, facilitate and enthuse learning (1)
	20. Internet, songs and films are more interesting to learn with than attending traditional grammar classes (1)
	21. Films, songs and videos help improve comprehension and vocabulary(1)
	22. Websites are good source of information (3).
	23. Websites (such as news) help develop writing skills (1)
	24. Radio, TV and DVD help developing listening and reading skills (1)
	25. Informative videos help with the subject, expose students to different accents and help with pronunciation (1)
	26. CD-ROM helps solving doubts with pronunciation and vocabulary (1)
	27. Videos can complement grammar classes(1)

From Table 12 it is possible to notice in the number of beliefs identified in the students' responses how versatile these tools are in assisting them in their learning process of the courses they take. It is clear to perceive in the students' beliefs how ICT tools in fact benefit them in their learning process of the courses. By comparing students' beliefs towards their voluntary use of ICT tool in the courses they take (shown in Table 12) with their beliefs towards the use of ICT tools employed by their teachers in the courses of the Letras Inglês Programmes (shown in Table 10), it is possible to perceive their equivalence. This finding may be due the fact that the tools were being used within the same context, which was to complement and assist students' learning process of the courses and, according to Barcelos (2000), beliefs are socially constructed and contextually situated.

After making a close analysis of the beliefs presented in Table 12, I noticed that they also fall within the six aforementioned categories, as Table 13 shows. The beliefs comprised by each category are represented by the numbers (as they are in Table 12).

Table 13

*Categories comprising the groups of students' beliefs towards their voluntary use of ICT tools*

<b>Categories</b>				
<b>Contact with Authentic Language</b>	<b>Enhance Linguistic Skills</b>	<b>Complement Learning</b>	<b>Motivate Learning</b>	<b>Access to Information</b>
1,2	5,18,21,23,24,25,26,27	3,4,6,9,10,11,12,13,14,15	7,19,20	8,17,22

In the category 'Contact with authentic language', beliefs held by some students from UFSC showed that ICT tools assist in their learning process of language courses as they expose students to authentic language and to the culture of English speaking countries. Moreover, students' beliefs comprised by the category 'Enhance Linguistic Skills' showed that ICT tools in general help them improve linguistic skills such as listening, speaking, pronunciation, vocabulary and grammar. Concerning specific ICT tools, some students believe that the use of websites and blogs to compare translation of the same texts help them improve vocabulary skills and that films, songs and videos help them improve listening, vocabulary and reading skills. In addition to that, videos can also help with pronunciation and complement grammar classes, websites assist in developing writing skills and CD-ROMs help students to solve doubts with pronunciation and vocabulary. This last belief is also shared by a student from UFRJ.

In the category 'Complement Learning', some students believe that ICT tools complement and assist in their learning process of the courses they take by allowing contact with the target language, offering opportunities to communicate in English and extending learning to outside the classroom as students can put into practice what they have learned. Moreover, the use of different media allows students learning more about the very ICT tools, promotes different points of view and favours students with different learning styles. Finally, a student from UFRJ expressed the belief that the use of material available on the Web enriches her learning process.

Moving on to the category 'Motivate Learning', some students' beliefs showed that ICT tools motivate students and consequently enhance their learning process of the courses. Regarding specific tools, some software have interactive characteristics that assist, facilitate and add fun to the learning process; and tools such as the internet, songs and videos are much more interesting to learn with than attending traditional grammar classes. Finally, some students' beliefs comprised by the category 'Access to Information' show that ICT tools facilitates access and search for extra material and further information that help them complement the content being studied. Specific websites and the internet are examples of such tools.

Besides all the benefits that the use of ICT tools can bring to students' learning process of the courses they take, some students' beliefs also point to the disadvantages of using such tools in the course. After analysing each belief, I noticed that some of them expressed similar ideas and consequently two main categories were created: 'Management of ICT use' and 'Risks of Using ICTs'.

In the category 'Management of ICT Use', beliefs held by some students from UFSC showed that the employment of such tools in the course can be a waste of time if classes are not well prepared. Moreover, it is time consuming to get the tools ready for the classes, the development of a discussion in discussion groups can get affected by the non-immediacy of participants' interaction and, depending on the tool, it can promote solitary learning. In addition, excessive use of computer can end up getting monotonous and tiring. Concerning 'Risks of Using ICTs', beliefs towards disadvantages also lie on lack of infra-structure at university, technical problems and not all students having access to ICT tools. Moreover, lack of acquaintance with the ICT tools can let students confused, they can present resistance to use and laziness to learn about the tools. Finally, other disadvantage is the fact that the internet is not always reliable. Concerning

the beliefs held by students from UFRJ, they showed that the figure of the professor can become less important, as students can use ICT tools to get the necessary information in case the classes are not good enough. In addition, the lack of incentive for unmotivated students and students' age difference were also reported to be disadvantages of using ICT tools in the courses. These last two beliefs, however, do not fall within any of the two categories discussed.

Moreover, there were other two students who expressed negative beliefs towards the way that e-mail was being employed (mainly for exchange of information) in the courses they take. For instance, S23 argued that *"An e-mail doesn't make you learn anything, it just assists in informing which activities should be done, the activities are what help in the learning process"*. In addition, S5 states that *"It's difficult to consider the advantages and disadvantages once the ICT tools are barely used, and when they are used they don't bring advantages in terms of knowledge"*. Despite that, both students show positive views about the use of ICT tools, as demonstrated in the excerpts *"I use internet and DVDs a lot. The internet helps me whenever I have doubts. I often watch DVDs to improve listening, and learn other accents and new words"* (S5) and *"Technology always come to help"* (S23).

It is possible to notice from the analysis of students' responses concerning disadvantages of using ICT tools in the courses they take that they express beliefs towards the limitations involved in the use of ICT tools rather than disbelief towards the benefits these tools can bring to their learning process. From all the students who answered the questionnaire, only one expressed negative beliefs towards the benefits these tools can bring to his learning process, as shown in the excerpt *"(ICT tools) don't make any difference. What matters, in my opinion, is if the teacher teaches properly"* (S4). The only information in this student's responses to the questionnaire that could

explain his negative beliefs is his lack of experience and initiative to use ICT tools voluntarily to learn English or to assist in his learning process in the courses he takes. S4 responded 'no' to Questions 3 and 5 which asked if he had ever used ICT tools to learn English outside university and if he thought such tools assisted in his learning of the courses he takes in the Letras Inglês Programme. S4 reported that e-mail and discussion groups complement the courses he takes by allowing students and professors to leave messages and set deadlines and the only advantage of this is the speediness in the exchange of information. S4's responses suggest he seems to hold a sceptical view about the use of ICT tools in general.

In sum, it is clear to perceive in most students' beliefs how beneficial the use of ICT tools are to their learning process of the courses they take in the Letras Inglês Programmes. The findings from the discussion of students' beliefs (both towards the use of ICT tools employed in the courses and towards their voluntary use of such tools to assist in their learning process) corroborate the literature on ICT tools, which states that these tools have the potential not only to help students to improve their communication opportunities and language skills (speaking, listening, reading and writing) but also enhance students' autonomy within the learning process, raise motivation and self confidence, while also broadening the chances for active student participation, interaction and verbalization (Ehsani & Knodt, 1998; Meloni et al, 2001; Brandl, 2002; Young, 2003; White, 2003; Samuel & Bakar, 2005; Paiva, 2001). On the other hand, some students' beliefs called attention to the limitations of ICT tools use, such as the risk of being a waste of time, promote solitary learning, affecting students' interaction in asynchronous discussions, besides problems with lack of infrastructure and lack of acquaintance with the tools, which have already been mentioned in the works of Ertmer (1999, 2005) and Baitaneh and Baniabdelrahman (2006).

After having discussed the purposes with which ICT tools are used in the courses students take and about the beliefs they hold towards the use of such tools, it is now possible to make a comparison between the use students say they make of the ICT tools employed in the courses they take and the beliefs they hold towards this use. The findings resulting from this comparison answer the last research question this study pursues - What is the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students towards this use? In order to illustrate this relation I present some excerpts<sup>25</sup> of students' responses from both UFSC (S33, S36 and S16) and UFRJ (S47 and S48) to the questionnaire in which they report the ICT tools used in the courses they take ([ICT tools used]), the purpose with which these tools are used ([Purpose with which is use]) and express their beliefs towards this use ([Beliefs towards use]).

In S36's excerpts, she reported:

*“e-mail, discussion groups, CD, DVD/Video, websites”* [ICT tools used]. *“(e-mail) allow the contact in moments we're not in class (...) we can solve doubts, the professor can clarify something he would investigate after class”* (discussion groups) *(...) classmates posted suggestions of terms that could be translated, others responded agreeing with the suggestion or proposing something different. Sometimes a classmate would find a nice site and pass on to everyone.* (website) *(...) used in the translation course and in the Introduction to Applied Linguistics course. (DVD/Video) we used in the Introduction to Narration course (...) to exemplify types of angles, and (was also used) to watch some works and discuss about them later”* [Purpose with which is use]. *“Students can learn the language and also learn how to use different tools (...). The classes get more diversified and appealing (...) and students with different learning styles can be benefited, as different ways of teaching are being used”* [Beliefs towards use].

In S48's excerpt, she reported:

*“e-mail, discussion groups, websites”* [ICT tools used]. *“(e-mail) allow the exchange of information about supporting sites, extra and classroom tasks, a gibber interaction between students. (discussion groups) allow interaction between professors and students, to do class tasks online, and exchange of information. (website) Lingnet – site to do online grammar, reading, listening and speaking activities”* [Purpose with

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<sup>25</sup> Translations of all the excerpts were made by this researcher. The original full written records of students' responses to the questionnaires are in Portuguese and can be seen in Appendixes K and L.

which is use]. “*Facilitate the access to information that is necessary for the learning process*” [Beliefs towards use].

From these two students’ excerpts it is possible to notice that they do not only say they believe that the ICT tools employed in the courses they take in the Letras Inglês Programmes help them learn the language and facilitate access to information necessary for learning, but they effectively use them, showing a coherent relationship between what they say their beliefs are and the use of the tools. This is an indication that the tools used by these students are benefiting them in their learning process and that professors are reaching their teaching goals, since they are the ones who promote the use of these tools. Moreover, the fact that these students reported to have had positive past experiences using ICT tools and continue to use them in their day-by-day lives for personal purposes might have influenced the beliefs they say they hold towards the utilization of them in the Letras Inglês Programmes.

In S47’s excerpts, she reported:

“*DVDs and videotapes*” [ICT tools used]. “(were used to) *help to introduce a new topic or serve as source for discussions in class*” “*I had a professor who taught preposition with concert and film videos and her classes were very interesting (...) She introduced concepts about prepositional phrases with discussions based in concert videos (...) she used a piece of a comedy film to foster the acquisition of vocabulary*” [Purpose with which is use]. “*There is a bigger interest and involvement in the learning process on the part of the student*” “*Digital literacy should be part of teachers’ education*” [Beliefs towards use].

Similarly to S36 and S48, it is possible to notice from S47’s excerpts that she does not only say she believes that DVDs and videotapes employed in the courses she takes in the Letras Inglês Programme help her improve linguistic skills, but she effectively use these tools, evidencing again a coherent relationship between what she says her beliefs are and the use of the tools. As previously put, this is an indication that the tools used by this student are benefiting her in her learning process and that professors are reaching their teaching goals. However, it is interesting to mention that, differently from S36 and S48, this student’s responses to the questionnaire showed that

she is not acquainted enough to use ICT tools confidently in class and has not had previous experiences using ICT tools to learn English outside university. In this case, it seems reasonable to suggest that the beliefs S47 says to hold towards the use of DVD and videotapes be a consequence of the successful experience she had using them during the courses in the Letras Inglês Programme, also indicating a relation of cause and effect, i.e., the positive experience with DVD and videotaped made her believe they contribute to her learning.

Finally, in S4's excerpts, he reported:

*“e-mail and discussion groups”* [ICT tools used]. *“(E-mail) messages and deadlines. (Discussion groups) messages and deadlines”* [Purpose with which is use]. *““(ICT tools) don't make any difference. What matters, in my opinion, is if the teacher teaches properly”* [Beliefs towards use].

In the case of this student, his beliefs do not maintain a relation of coherence with the reported use of the ICT tools employed in the courses he takes. That is, this student uses e-mail and discussion groups in the courses he takes in the Letras Inglês Programme but he does not believe they complement or assist in his learning process. A possible explanation for this might be related to the purposes with which the tools are being used, as according to S4's responses to the questionnaire. Another possible explanation is his lack of experience using ICT tools, as he reported he had never used them to learn English outside university.

In sum, most students not only say they believe the ICT tools employed in the courses in the Letras Inglês Programmes complement and assist in their learning process but they effectively use them, as exemplified in the analysis of S36, S47 and S48's excerpts. Three students, however, who reported to use e-mail in the courses expressed the belief that the way in which it is being employed does not contribute to their learning process; being that two of them hold positive belief towards the use of

ICT tools in general and the other student expressed disbelief towards the use of such tools.

#### **4.1.2 Professors' Questionnaire**

Professors' questionnaire aimed at finding out which ICT tools professors from the Letras Inglês Programmes of the three institutions participating in the present study use in their courses, as well as at unfolding their beliefs towards the use of such tools. Firstly, I briefly report how much of the questionnaire was answered and then I turn the attention to presenting the results of the qualitative analysis of the data collected through this instrument. As previously stated in the Method chapter, Questions 1, 2, 4, 7, 8 and 9 aimed at learning about professors' use of ICT tools in the courses they teach as well as their previous experiences in using these tools; while Questions 3, 5 and 6 aimed at unveiling their beliefs towards the use of such tools in their courses. It is important to remember that translations of all the excerpts used to exemplify professors' speech were made by this researcher. The original full written records of professors' responses to the questionnaires are in Portuguese and can be seen in Appendixes M and N.

From the nine professors (5 from UFSC, 3 from UFMG and 1 from UFRJ) who answered the questionnaire, eight of them responded the whole of it and only one (P1, UFMG) left two questions unanswered. No evidence was found in this professor's responses that could explain why she left *Questions 3* and *5* in blank.

Concerning the results of the qualitative analysis of data collected through professors' questionnaire, *Question 1* aimed at finding out which ICT tools professors use in the courses they teach, therefore addressing the first research question this study pursues: Do professors of Letras Inglês Programmes make use of ICT tools in the

courses they teach? If so, which ICT tools do they use? A summary of the findings from Question 1 is presented in Table 14.

Table 14

*The ICT tools used in the Letras Inglês Programmes as reported by the professors*

ICT tools reported by the professors												
	e-mail	Discussion Groups	Websites	CD-ROMs	DVDs	CDs	Software	Videotapes /Players	Language Laboratory	Blogs	Virtual Environm.	Forums
UFRJ	X	X	X	X	-	-	-	-	-	-	-	-
UFMG	X	X	X	X	X	-	-	X	-	X	X	X
UFSC	X	X	X	X	X	X	X	-	X	-	-	-

Responses indicate that professors from all the three institutions use ICT tools in their courses. The 5 professors from the Letras Inglês Programme at UFSC reported a total of 8 ICT tools, they are: e-mail, discussion groups, CD-ROM, CDs, DVDs, websites, software (PowerPoint, Windows Media Player and Audacity) and voice recorder from the Language Lab. The three professors from UFMG reported a total of 9 ICT tools, they are: e-mail, discussion groups, CD-ROMs, DVDs, videotapes, websites, blogs, forums, and virtual environments. Finally, the only professor from UFRJ who participated in the present study reported to use e-mail, discussion groups, CD-ROMs and websites. In total, 12 different ICT tools were reported by professors. From this number, nine ICT tools that were mentioned by the professors (e-mail, discussion groups, websites, CD-ROMs, DVDs, CDs, software, videotapes and voice recorders) were also mentioned by the students in their responses to *Question 1* in the Students' Questionnaire, evidencing this way the coherence in their responses. The other three

ICT tools reported in the Professors' Questionnaire (blogs, virtual environments (MOODLE and TELEDUC) and forums), however, were not mentioned by students in their responses. This finding might be related to the fact that these three tools were mentioned by professors from UFMG and no students from this institution answered the questionnaire. In addition to that, there were also some ICT tools (TV, hi-fi system, data show and overhead projector) mentioned by the students which were not reported by professors in the questionnaire. A possible explanation for this might be the considerably low number of professors (9) who answered the questionnaire as compared to the number of students (48).

Having addressed the ICT tools professors use in the courses they teach, *Questions 2 and 4* were asked in order to find out with what purposes professors use ICT in their courses. The results of the analysis regarding the ICT tools reported to be used by professors and the purposes for using them are summarized in Table 15.

Table 15

*ICT tools used by professors in their courses in the Letras Inglês Programmes*

ICT tools used in the courses	Purpose of use	Number of professors who reported using the tools at		
		UFSC	UFMG	UFRJ
<b>1. E-mail</b>	<ul style="list-style-type: none"> <li>- general communication with students (P1,P3,P5,P6,P7,P8,P9)<sup>26</sup></li> <li>- solving doubts about the discipline (P3,P6)</li> <li>- posting of material (P3,P8)</li> <li>- out of class discussion of theoretical issues (P6)</li> <li>- practice writing (P6)</li> <li>- save time and paper (P8)</li> </ul>	5	3	1
<b>2. Web sites</b>	<ul style="list-style-type: none"> <li>- provide extra information (P3)</li> <li>- to advise student in academic writing (P7)</li> <li>- present information about academic writing (P8)</li> <li>- introduce students to academic</li> </ul>	3	2	1

<sup>26</sup> Remember that, as previously informed in section 3.3.2 in the Method chapter, P1, P2 and P3 refer to professors from UFMG; P4 from UFRJ, and P5, P6, P7, P8 and P9 from UFSC.

	papers available online (P8) - teach students to evaluate the trustfulness of websites (P8)			
<b>3. CD-ROMs</b>	- complement what is in the didactic book (P3) - practice listening (P5) - present material in classrooms without internet connection (P8)	2	2	1
<b>4. Discussion Groups</b>	- promote discussions and reflective thinking (P1) - complement the discipline (P4) - general communication with students (P3) - solving doubts about the discipline (P3) - to point important issues to be studied (P9) - discuss the order of presentations and next activities with students (P9)	2	1	1
<b>5. Software (PowerPoint, Windows Media Player/Audacity, HotPotatoes)</b>	- students recordings and practice of perception (P5) - present the subject being taught (P9) - create activities to assist students with conjunctions, transitions, punctuation (P7)	3	-	-
<b>6. DVDs/DVD players</b>	- complement the discussion of literary texts (P2) - illustrate the content of the discipline allowing to make relations (P8)	2	1	-
<b>7. Virtual Environments</b>	Not informed	-	2	-
<b>8. CDs/CD players</b>	- practice listening (P5) - bring poems recorded in it to complement the discussion of literary texts(P2)	2	1	-
<b>9. Blogs</b>	Not informed	-	1	-
<b>10. Forums</b>	Not informed	-	1	-
<b>11. Videotapes /Videotape Players</b>	- complement the discussion of literary texts (P2)	-	1	-
<b>12. Language Lab</b>	- record students' speech in pronunciation tasks (P5)	1	-	-

Similarly to the results found in the students' questionnaire, e-mail, websites, CD-ROMs and discussion groups seem to be the ICT tools used by most professors if compared to the other tools reported by them. Even though some of the tools used by most of professors (e-mail and discussion groups) are not actually used in class, they do

seem to play a role in complementing the classes as evidenced in their purposes for using the tools. According to professors from UFSC and UFMG, the use of e-mail and discussion groups serves as a mean of communication with students and solving their doubts about the course. Moreover, besides being a practical tool to save time and paper, e-mail also complements the classes by allowing posting of extra material, discussion of theoretical issues and practice of writing. Discussion groups, in turn, besides being a practical tool to point important issues to be studied and allowing the discussion of the order of presentations and activities to be carried out in class, also promotes more discussions about the subject being taught and reflective thinking about it. Although it was not clear whether websites are used in class or not, the purposes of professors from UFSC and UFMG for using this tool are mainly to provide extra information about the subjects being taught or about academic writing specifically, advise students in academic writing, introduce them to academic papers available on line as well as teaching them how to evaluate the trustfulness of websites.

From the tools used in class (or in the department facilities), CD-ROM was found to be used by most professors (UFSC, UFMG, UFRJ) participating in the present study. As reported by professors from UFSC and UFMG, the purposes for using this tool vary from practicing listening and complementing the didactic book used in the course to presenting material in classes where the internet is not available. Regarding software, the course 'Phonetics and Phonology' at UFSC required the use of Windows Media Player for students to record the tasks and practice perception. PowerPoint is used by professors from UFSC mainly to prepare the presentation of the subjects being taught and HotPotate enables the creation of activities that assist students in some grammar points. One professor from UFMG used DVD, Videotapes and CD (with poems recorded in it) to complement the discussion of literary texts. In addition to that,

another professor from UFSC used DVD to illustrate the content of and make relations with the subject being taught and CD has been used by still another professor from UFSC to develop students' listening skills. Lastly, P5 (UFSC) takes her students to the Language Lab to record their speech in pronunciation tasks. Professors from UFMG who reported to use virtual environment, forums and blogs did not inform the purposes with which they used these tools.

In conclusion, professors from all three institutions participating in the present study seem to use ICT tools in the courses they teach with well delineated purposes. Moreover, it is possible to notice the similarity of the purposes with which ICT tools are used in the courses as reported by professors and students and presented in Tables 6 and 15. This finding might be an indication that the goals set by professors for using ICT tools in the courses they teach are being reached.

In order to gain a better understanding of the context in which professors use ICT tools, *Question 7* aimed at finding out which are the obstacles professors face when trying to use these tools in the courses they teach. From the nine professors who responded this question, only one (P8, UFSC) reported not to face any obstacles. In general, professors main obstacles when trying to use ICT in their classes were related to shortcomings with infra-structure, technical problems, difficulties with the technical support staff and both student and professor lack of familiarity with some ICT tools. This finding adds support to Castro & Alves' (2007), Samuel & Bakar' (2007) and Mateus' (2004) study previously presented in the chapter of 'Review of Literature'.

Regarding shortcomings with infra-structure, some professors state that “(...) *not always there are microphones and speakers for all machines. Not always there are computers for all students*” (P1, UFMG) and that there is “*lack of equipment available in all classrooms*” (P9, UFSC). Concerning technical problems and difficulties with the

technical support staff, professors state that “*equipments don’t work properly (...)*” (P2, UFMG), “*(...) technical support staff doesn’t know how to solve the problem*” (P3, UFMG) and “*(lack of) technical support to help make the use of tools possible, and errors in the system*” (P6, UFSC). Finally, professors also reported as obstacles “*the matter of professors’ familiarization with such tools*” (P6, UFSC) and the fact that “*students take too long to learn how to deal with the tool*” (P5, USFC). To this respect, P4 (UFSC) adds that “*technologies are still seen by a big portion of the academic community as a complement instead of being effectively integrated in the pedagogical practices*”. Comparing the findings regarding the obstacles that both professors and students claim to face when trying to use ICT tools in the classes, it is possible to notice the similarity amongst them to what concerns infra-structure and familiarity with ICT tools.

According to Ertmer (1999), first order barriers (such as poor access to computer and other ICT tools and lack of time for instructional planning) can negatively affect teachers’ attempts to integrate technology in their classes. In the case of the present study, it is possible to notice that even though professors claimed to face obstacles in their work place, responses to *Question 1* summarized on Table 12 (concerning professors’ use of ICT tools in the courses they teach) suggest that professors are trying to overcome such barriers. This suggestion is reinforced in the professors’ responses to *Question 2* concerning since when, with what goals and the frequency with which ICT tools are used in their classes. Professors’ responses indicate that some of them have been using ICT tools in their courses for over six years, and the frequency of use has been of approximately once a week.

Ertmer (2005) also states that previous bad experiences with technology can negatively influence teachers’ beliefs towards using it in future teaching practices. In

this sense, *Questions 8 and 9* were asked in order to seek for further information about professors' experiences using ICT tools (both for academic or personal purposes) that could influence their beliefs towards using them in their courses.

*Question 8* asked if professors were acquainted enough with ICT tools to confidently use them in their courses. From the 9 professors who answered this question, 4 (1 from UFRJ, 1 from UFMG and 2 from UFSC) reported they have knowledge enough to use ICT tools confidently. From this number, one professor reported to have taken a course, another one reported to have learnt how to use some ICT tools after experiencing a period as distance learning tutor, and two professors reported they learned by themselves (one for self interest and with the help of friends and students and the other for having always used them and loving technology). The other 5 professors (2 from UFMG and 3 from UFSC) reported they only know how to use simple ICT tools and that they need to learn more about them and about other tools, as shown in the excerpt "*I have some knowledge, but many times I could optimize the use of (these tools) if I knew more about computers*" (P3) and "*I think so. Maybe I could invest more to gain knowledge about other tools (...)*" (P8). In addition, professors' response showed that they have been constructing this knowledge for some time by using the tools, as P5's answer to *Question 8* demonstrates "*Yes, because I don't use anything sophisticated. I can't even remember anymore – it was little by little – I learnt usually by using*". In general terms, professors seem to have knowledge about the tools they use in their courses but some of them also express their concern towards gaining deeper knowledge about some of these tools in order to take full advantage of the benefits they offer.

*Question 9*, in turn, asked what ICT tools professors use for personal purposes and with what frequency. Their responses are presented in Table 16.

Table 16

*Professors' utilization of ICT tools for personal purposes*

	<b>Email</b>	<b>Software</b>	<b>Websites</b>	<b>Discussion groups</b>	<b>CD-ROMs</b>	<b>DVDs</b>	<b>VCR</b>	<b>T1</b>
<b>P1</b>	E	E	E	E	NI	-	-	5
<b>P2</b>	E	E	E	-	AE	-	-	4
<b>P3</b>	E	E	E	-	AE	-	-	4
<b>P4</b>	E	E	E	AE	R	-	-	5
<b>P5</b>	E	E	E	S	AE	-	-	5
<b>P6</b>	E	E	E	-	-	-	-	3
<b>P7</b>	E	E	E	AE	-	E	E	6
<b>P8</b>	E	E	E	S	S	-	-	5
<b>P9</b>	E	E	E	NI	NI	-	-	5
<b>T2</b>	9	9	9	6	7	1	1	

(E= Every day; AE= Almost Every day (2 or 3 times a week); S= Sometimes (at least once a week); R= Rarely (at least once a month); NI= Not Informed; T1= Total of ICT used by student and T2= Total of student that used each ICT)

From Table 16 it is possible to notice that professors make frequent use of a number of ICT tools for personal purposes. In general terms, all nine professors use e-mail, websites and software. Regarding this latter, professors responses showed most of them use mainly Microsoft Word, Excell, PowerPoint, Windows Media Player and Internet Explorer. Seven professors reported to use CD-ROMs, six participate in discussion groups and only one use DVDs and videotapes. Concerning the number of tools used by each professor, one professor from UFSC uses six different ICT tools for personal purposes, five professors (1 from UFMG, 1 from UFRJ and 3 from UFSC) use five different ICT tools, other two from UFMG use four different tools and one professor from UFSC use only three. Regarding the frequency of utilization of these tools, all the nine professors use e-mail, software and websites every day. Two professors (1 from UFRJ and 1 from UFSC) use discussion groups almost every day, other two from UFSC only sometimes, another professor from UFMG reported to use it every day and one from UFSC did not inform how frequently he uses this tool. In relation to CD-ROMs, three professors (2 from UFMG and 1 from UFSC) reported to

use it almost every day, two (1 from UFMG and 1 from UFSC) did not inform, one professor from UFSC uses it sometimes and another one from UFRJ uses it only rarely. Finally, one professor from UFSC reported to use DVDs and videos every day. In sum, professors use between 4 and 5 different ICT tools, of which e-mail, software and websites are not only the tools used by all professors but also the most frequently used ones.

By analysing professors' responses to *Questions 8 and 9* all together, I could not find any evidence of bad experiences with the use of ICT tools that could negatively influence professor' beliefs towards using them in their teaching practices. However, it is possible to notice that even though professors have been using ICT tools for some time in the courses they teach, they still express the need to gain further knowledge about some tools. This lack of a deeper knowledge that seems to prevent professors from making the best possible use of some tools' potentialities might be an explanation to why only three professors use software (PowerPoint and Windows Media Player) in their courses while all the nine of them reported to use software every day for personal purposes.

Having gained a better understanding of the ICT tools and purposes with which professors use them in their courses, about the context in which they use these tools and their familiarity with them, the attention is now turned to the beliefs that professors hold towards the use of ICT tools in the courses they teach in the Letras Inglês Programmes, thus addressing the second research question this study pursues: What beliefs do students and professors of Letras Inglês Programmes have towards the use and integration of ICT tools in these Programmes? With that aim in mind, *Questions 3, 5 and 6* were asked in order to unfold professors' beliefs towards the use of ICT tools in their courses. Differently from the students – who expressed their beliefs not only

towards the ICT tools used by their professors but also towards ICT tools in general that assist them in their learning process of the courses – professors expressed their beliefs almost exclusively towards the tools they use for the courses they teach. A list of professors' beliefs towards the use of ICT tools is presented in Table 17. The information in brackets after each belief refers to the professor who expressed it.

Table 17

*Professors' beliefs towards the use of ICT tools in the courses they teach*

<b>ICT tools used in the courses</b>	<b>Professors' beliefs the use ICT tools in the courses they teach</b>
<b>E-mail</b>	1) facilitates communication between professor and students (P7)
<b>Discussion Groups</b>	2) facilitate communication between professor and students(P4) 3) asynchronous interaction between professor and student at best time and place (P1, P4) 4) facilitate collaborative construction of knowledge (P4) 5) facilitates organization and access to information (P4) 6) contribute to students' digital literacy (P4) 7) students learn more with each other and reflect more on their own learning process (P4)
<b>Web sites</b>	8) good source for research (P7) 9) assist to develop study strategies (P3) 10) assist to locate information (P3) 11) complement and allow going deeper in the content (P8) 12) assist students to understand the content being taught goals as offer many different resources (P7) 13) assist professors to reach their goals as offer many different resources (P7) 14) allow professor to reach students with different learning styles (P8) 15) can be motivating for students (P8)
<b>CD-ROMs</b>	16) help with pronunciation (P3) 17) help to improve listening (P5) 18) provides good quality input (P5) 19) promote different points of view of literary texts (P2)
<b>DVDs ( movies or subject related)</b>	20) motivate students (P7) 21) complement the discipline (P7) 22) classes get more interesting (P2) 23) help to improve listening (P2)
<b>Software (PowerPoint, voice recorders)</b>	24) essential to practice pronunciation (Windows Media Player, Audacity Quick Time) (P5) 25) facilitates presentation and discussion of relevant topics (P9) 26) optimize explanation of content with visual aids (P9) 27) students get more concentrated in the classes (P9)
<b>CDs/CD players</b>	28) helps to improve listening (P2) 29) classes get more interesting (P2)

<b>Virtual Environments</b>	----
<b>Television</b>	----
<b>Blogs</b>	----
<b>Forums</b>	----
<b>Videotapes /Videotape Players</b>	30) classes get more interesting (P2) 31) help to improve listening (P2)
<b>Language Lab</b>	----

From Table 17 it is possible to notice how numerous and varied professors' beliefs are towards the use of ICT tools in the courses they teach. Concerning the amount of beliefs per tool, professors seem to hold a higher number of beliefs towards discussion groups and websites. This finding maybe an indication, as I have proposed previously in the analysis of students' beliefs, that some professors have a higher degree of familiarity towards these tools since, once again, beliefs can change as we experience new things and can be guided by our actions (Barcelos, 2000; Barcelos and Kalaja, 2003). In the case of participant P4, for instance, this professor holds all of the beliefs identified towards discussion groups and this perhaps be explained by this professor's intensive use of this tools, as evidenced in her excerpt *"In all the courses I teach there is a discussion group that complements them. (...) In optional courses about language teaching using the internet and about the instrumental approach to language teaching YahooGrupos was created to complement at distance face to face classes in a number of ways, such as to discuss about texts and topics, to elaborate tasks in group, to send summaries of face to face classes written by students as well as general communication, suggestion of complementary websites and texts (...)"*. Concerning the variety of beliefs that stemmed from the questionnaire, this finding maybe related to the low number of professors who responded to it, thus avoiding repetition, as was the case of students' beliefs. Moreover, comparing the beliefs towards the ICT tools used in the courses that stemmed from students' questionnaires (see Table 10) to the ones identified in the

professors' questionnaire (see Table 17), it is possible to notice that many of their beliefs are equivalent. Barcelos (2006) states that beliefs can both influence and be influenced by teachers and students' actions. In this sense, if professors use ICT tools in their courses based on their beliefs towards the benefits these tools can bring, and if professors' beliefs match with that of their students – for instance, they both believe that CD-ROMs help with pronunciation – then it seems reasonable to suggest that the pedagogical goals set by professors for employing those tools are being achieved.

Like students, some professors' beliefs towards the use of ICT tools also expressed related ideas and were thus organized in the categories created for the students' beliefs as discussed in subsection 4.1.1. In addition to this, some beliefs required the creation of two more categories, called 'Complement Teaching' and 'Enhance Linguistic Skills'. Table 18 presents the groups of beliefs (represented by their numbers as they are in Table 17) comprised by each category.

Table 18

*Categories comprising the groups of professors' beliefs towards the use of ICT tools*

<b>Categories</b>					
<b>Interaction</b>	<b>Access to Information</b>	<b>Complement Learning</b>	<b>Complement Teaching</b>	<b>Motivate Learning</b>	<b>Enhance Linguistic Skills</b>
1, 2, 3,	5, 8, 10	4, 6, 7,9, 11, 12, 18, 19, 27	13, 14 , 21, 25, 26	15, 20, 22, 29	16, 17, 23, 24, 28, 31

In the category 'Interaction', professors' beliefs towards the use of ICT tools in their courses showed that e-mail and discussion groups can assist the students' learning process by facilitating the communication and allowing asynchronous interaction between professor and student. Concerning the category 'Access to Information', professors' beliefs showed that discussion groups facilitate the organization of and access to information and websites are a good source for research and a useful tool for locating information. Regarding the category 'Complement Learning', P4's beliefs

indicate that discussion groups facilitate the collaborative construction of knowledge, contribute to students' digital literacy and allow student to learn more with each other and reflect more on their own learning. In addition, some professors believe that websites can assist the students to understand the content being taught as well as assist in their learning process as help them to develop study strategies and can complement what has been seen in class or even go deeper in the content. CD-ROMs, in turn, are believed to help to promote different points of view as students "*discuss the utilization of literature by different media*" (P3) and to provide input of quality, and PowerPoint make students more concentrated in the classes.

In the category 'Complement Teaching', professors believe that the use of DVDs complement the courses and software such as PowerPoint "*makes it possible to better systematize the topics being dealt with (...) and optimize the explanations with the assistance of figures and other semiotics resources*" (P9). Moreover, websites allow them to reach their goals as they offer many different resources as well as reach students with different learning styles. Regarding the category 'Motivate Learning', professors' beliefs showed that the use of websites and DVDs can be motivating for students, and that the classes can get more interesting with the use of DVDs, CDs and videotapes.

Finally, with regard the category "Enhance Linguistic Skills", professors' beliefs indicate that CD-ROMs can contribute to improve students' pronunciation and listening, that software such as Window Media Player and Audacity Quick Time assist students to practice their pronunciation and that CDs and videotapes help students to practice listening. In a few cases some professors expressed general beliefs towards how they think the tools they use in their courses assist their students' learning process, as shown in the excerpts of P4 (who uses email, discussion groups, CD-ROM and websites) "*Students can learn more with each other, reflect more about their own learning*

*process and have easier access (through the internet) to texts in English that they need”* and P6 who stated *“I think that the tools not only enhance the learning process, since they allow a continuous contact with relevant issues about the discipline and this contact goes beyond the classroom, but work as a motivating source, since we are generally dealing with students familiarized with the use of ICTs in a day by day basis”*.

Even though all professors believe that the use ICT tools can complement their courses and assist in their students’ learning process in a number of ways, four of them (2 from UFMG and 2 from UFSC) expressed their beliefs towards some disadvantages of using such tools. P1, for instance, complains about “the time spent in the interactions”, P9 states that “it’s time consuming to prepare slides, increase the chances for plagiarism (...)” and P3 points as disadvantages when the tools do not work. In addition to that, P6 calls the attention to an issue she considers more of a challenge than a disadvantage itself, as she states *“I don’t see as disadvantage, but I see that these tools require a more autonomous student and this is an important issue to be dealt with in class – the education of a student more responsible for and aware of his own learning process”*. These findings indicate that some professors are aware of the weaknesses and challenges (as proposed by P6) that can be involved in the use of ICT tools, despite all the benefits they can bring to their courses and to their students learning process.

After having discussed the purposes with which professors use ICT tools in their courses and about the beliefs they hold towards the use of such tools, it is now possible to make a comparison between the use professors say they make of the ICT tools employed in their courses with the beliefs they hold towards this use. The findings resulting from this comparison answer the last research question this study pursues: What is the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students towards this use? In order to illustrate this relation

I present some excerpts of three professors' responses (one from each university) to the questionnaire in which they state the ICT tools they use ([ICT tools used]), the purpose for using these tools ([Purpose of use]) and express their beliefs towards this use ([Beliefs towards use]).

In P2 (UFMG) excerpts, she states that

*"I use mainly videos or DVDs about authors studied in class or interviews with them, as well as adaptations of literary works to the cinema and recordings of theatrical plays. I also use CDs with poems recorded in it" [ICT tools used]. "Complement discussions about the literary texts, and discuss the utilization of literature by other media" [Purpose of use]. "The classes get more interesting and these resources assist in the discussion of literary texts, especially in the comprehension of the context of foreign authors. Moreover, students are exposed to different English pronunciation which also contributes to improve linguistic skills such as listening" [Belief towards use].*

From P2's excerpts it is possible to notice a relation of coherence between this professor's beliefs towards the use of videos, DVDs and CDs and the purposes she sets for using these tools in the course she teaches. It is possible that professors not only use ICT tools because of their beliefs towards this use, but their beliefs also guide their use of those tools, as has been proposed by Barcelos (2006) that beliefs can both influence and be influenced by teachers and students' actions. It is interesting to mention that even though she does not explicitly report as a purpose to use videos, DVDs and CDs to improve students' listening skills, her beliefs showed that, at least implicitly, she uses those tools for that purpose too.

P4 (UFRJ), in turn, states that

*"I use ICTs in my classes (...) in three ways: a) (...) we went to the Lab or I made a presentation with datashow b) (...) I searched on the internet to find relevant texts; c) (...) discuss in the discussion group a topic studied in class" [ICT tools used]. "As the use of Computer Lab is restricted (...) I only took my graduate students there once. The activity aimed at registering students at YahooGrupos so that they have access to all the facilities offered by this service (...). (...) As source of research for selection of texts for my classes, the internet is always used. (...). So ICTs, even indirectly, make part of my classes (...). (...) YahooGrupos was created to complement at distance face to face classes in a number of ways, such as to discuss about texts and topics, to elaborate tasks in group, to send summaries of face to face classes written by students as well as general communication, suggestion of complementary websites and texts (...)" [Purpose*

of use]. *“Because (the tools) facilitate the communication between professor and students, facilitate the construction of knowledge, facilitate organization of information and the access to them, allow out of class interaction between specialist and students, contributes to the students’ digital literacy”(...)”Students learn more with each other and reflect more about their own learning process”* [Beliefs towards use].

P4 expressed her beliefs mainly towards the use of discussion groups and it is possible to notice the relation of coherence between these beliefs and the purposes with which she uses this tool. In addition to that, even though it is not explicitly stated in her excerpts, her use of other tools such as computers connected to the internet (in the Computer Lab) and data show, in addition to email, CD-ROMs and websites (as cited in her response to *Question 1*) shows her willingness to contribute to students’ digital literacy, thus corroborating her belief ‘contributes to students’ digital literacy’.

Finally, P7 (UFSC) states that

*“Email, software (HotPotato), websites, DVD (...)” “There is a wide range of great materials available on the web, such as websites that assist in the development of writing skills and academic writing”* [ICT tools used]. *“(websites) to advice the development of academic writing skills” (...)* *“(email) contact with students, general orientations, messages (...)” (...)* *“HotPotatoes allows the creation of activities like fill in the gaps, question and answer, that can assist, for example, in the teaching of conjunctions, transitions, punctuations, etc”* [Purpose of use]. *“Professors should use all possible and adequate tools in order to reach their goals. Tools such as DVD illustrated the content of the discipline, allowing me to relate the story with the content of the discipline. Moreover, there is the motivating appeal of movies with which students identify and enjoy. Tools available for my discipline, such as websites, are absolutely rich with information, colourful illustration and graphs that assist (students) to comprehend the content and (teachers) to reach their goals”* [Beliefs towards use].

It is possible to notice in P7’s excerpts that this professor’s use of a number of ICT tools reflects his belief that professors should deploy of resources available to them to reach their teaching goals and assist their students’ learning process. Once more, P7 uses software, website and DVDs in his discipline because of his beliefs towards this use and, likewise, his beliefs towards the use of these tools guides his decision of employing them in his teaching practices.

Summing up, in all three examples professor's use of ICT tools seems to corroborate their beliefs towards this use and, likewise, their beliefs seem to corroborate their utilization of the tools, showing that there is a good degree of coherence between their reported use of ICT tools in the courses they teach in the Letras Inglês Programmes and their beliefs towards this use, therefore responding the last research questions this study pursues.

## **4.2 Results of the On-line Semi-structured Interviews**

As previously stated in the Method chapter, the on-line semi-structured interviews aimed at gaining a better understanding of some participants' responses to the questionnaire that were unclear to me, at seeking for further information that could complement the answers of some questions and, most importantly, at obtaining more details and relevant information about the reported use of ICT tools in the undergraduate Letras Inglês Programmes and the participants' beliefs towards the use of such tools in these programmes. It is important to restate that only 6 students and 3 professors from the programme at UFSC took part in the interviews.

In the following subsection I firstly present the results of the qualitative analysis of the students' interview and after that I turn the attention to the professors' interview. Again, all the excerpts used to exemplify participants' own words on the use of and beliefs towards ICT tools were translated by this researcher. The original full written records of students and professors' responses to the interviews are in Portuguese and can be seen in Appendixes O and P.

### **4.2.1 Students' Interview**

Overall results from the analysis of data collected through the 6 students' interviews<sup>27</sup> corroborate the findings from the analysis of data collected through the questionnaires. When asked about which ICT tools are used in the courses they take in the Letras Inglês Programme, they confirmed to use the tools they had reported in the questionnaires. Moreover, when asked about how they think the use of those tools assist them in their learning process of the courses and what the advantages of using them were, their responses added support to the beliefs they had expressed towards the use of such tools as identified in their answers to the questionnaire. In order to demonstrate this confirmation of findings, I present some excerpts from the interview with a student concerning the use of ICT tools in the courses of the Letras Inglês Programme:

**Researcher:** *You said that e-mail, discussion groups, websites and software are used in the courses of Letras Inglês. What courses are these?*

**S12:** *Well, we had five courses last term and all the professors asked me to create and manage an e-mail group for each course. (...) Introduction to Translation Studies used a lot the internet in general, and taught us how to use the (software) Wordfast, besides having many classes taught with PowerPoint.*

**Researcher:** *The internet was used in class?*

**S12:** *We had two or three classes and a test in CCE's<sup>28</sup> Computer Lab.*

Concerning this student's beliefs about how these tools complement the course or assist in her learning process, excerpts showed:

**Researcher:** *How e-mail/discussion groups contributed to the learning of the courses that used them?*

**S12:** *Translation (course) used a lot e-mail group to make things clearer, solve doubts, and send reading material and similar stuff. (...) In Narrative (course) (...) the interns (mostly MA students) used e-mail group very well.*

**Researcher:** *Why?*

**S12:** *(...) sending files for reading and solved students' doubts and issues through it.*

**Researcher:** *Right, so it contributed to your learning because you could solve doubts out of class?*

**S12:** *Yes, a lot.*

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<sup>27</sup> See Appendixes E, F, G, H, I and J for the six students' personalized interview plans.

<sup>28</sup> CCE- Centro de Comunicação e Expressão is the building where the Letras Inglês Programme takes place at UFSC.

**Researcher:** *When asked about the relevance of the use of ICT tools in the Letras Inglês Programme, you said you find it very relevant. Why then?*

**S12:** *(...) they are extremely important to make learning more efficient. (...) When you go to a restaurant, you go again to the one where the food arrives in 15 min in your table or to the one you wait 45 min to order the food? You like, and thus remember the one (restaurant) that was easier, which (the food) arrived with less problems, less difficulties, and more quickly to you. ICT tools eliminate the barriers and practically abolish time.*

In the excerpts just presented it is possible to notice that S12 refers to the tools used for the courses she took which are exactly the same she reported to use in the questionnaire. During the interview, however, I learned this student was referring to the use of e-mail as an e-mail group, which she considered to be the same as a discussion group. It is interesting to mention that there were two other students (S2 and S36) who were interviewed that reported the use of e-mail in their responses to the questionnaire but in the interview they explained they were actually referring to e-mail groups or discussion groups. If these three students referred to e-mail as a discussion group, it is possible that other students did the same. In this case this finding might help to understand why students reported e-mail and discussion groups to serve the same purposes for the courses, as can be noticed in Table 6. Furthermore, it is also possible to notice in the excerpts of the interview that S12 expressed positive beliefs towards the use of those tools in the courses she takes, which, again, are very similar to the beliefs she expressed in her responses to the questionnaire. Besides, the excerpts shows that the beliefs this student says to hold about the use of ICT tools in the courses coherently relate to the use she said she is making of them.

In addition, there were three students (S2, S22 and S31) who reported in the interviews other ICT tools to be used in the courses besides the ones they had already reported in the questionnaire. For instance, S2 reported e-mail to be the only tool used in the courses she took in the Letras Inglês Programme. In the interview, however, she reported the use of CDs, voice recording equipment from the Language Lab, DVDs and

data show. S31, on the other hand, who had reported discussion groups (among other tools) to be used, in the interview she corrected herself saying that this tool had never been used in any of the courses she had taken so far in the programme.

Moreover, there was a student whose responses to the interview showed disapproval to the way some ICT tools have been employed by professors, as the excerpts show:

**Researcher:** *Do you think that going to the computer lab to search on the internet helped in your learning of the course?*

**S38:** *In Psychology (course) we used it to complete a paper, that was like a website. I think I could have done that at home. I prefer to do it and e-mail it to the professor.*

**Researcher:** *Ok, so in this specific case going to the computer lab didn't add much (to your learning of the course)?*

**S38:** *I think it didn't.*

(...)

**Researcher:** *And when you solve doubts, doesn't it (e-mail) help in your learning process?*

**S38:** *Yes, but normally the doubts are like: when I should hand in, should I write about this or that?*

(...)

**Researcher:** *But do you think it (data show) helps in comprehension (of the subject being taught), that it (the subject) gets more organized to understand, and things like that?*

**S38:** *Well, a class to organize the subject or to present the content is good, but more than that you don't understand things anymore, and then as you don't do anything and only the professor speaks, you get sleepy.*

The excerpts show that S38 seem not to benefit much from the way the tools are being employed in the courses to assist in her learning process. This finding complements this student's responses to the questionnaire by bringing important, new information that helps us to have a better understanding of her experience using ICT tools in the Letras Inglês Programme. In her responses to the questionnaire it was not possible to infer she did not benefit from some of the tools used in the courses, even though she reported to have the impression that students and professors did not know how to use the tools very well or did not know how to use them in the best way. In the

interview, then, we learn that she actually did not benefit from some tools because of the way they were being employed, but that she holds positive beliefs towards the use of ICT tools in the courses (and in general) when well employed. This finding corroborate that of participants S5 and S23 who also disapproved the way some tools were being employed in the course, as discussed in the students' responses to the questionnaire.

An aspect of the use of ICT tools in the courses that I had noticed in the students' responses to the questionnaire, and that became clearer to me after the interviews, was the fact that, to what concerns the teaching of linguistic skills, professors seem to use only simpler tools, such as CDs (both music and course book CD) and DVDs (films) and the voice recording equipment in the Language Lab. From the students interviewed, S22, S31 and S38 reported to have improved listening, speaking and pronunciation by using those tools. S38, however, argues that “(...) *professors should receive, I don't know, some kind of education to use these tools. There should be a specific didactic (approach) to work with these tools*”. Moreover, S36 stated “*I think it (ICT tools) should be taught in the programme. As I said, I've never done a big research, but there might be more interesting things (tools) that are not being explored (at least not by me)*”. The other three participants interviewed have not taken any language courses as they were levelled up to more advanced terms of the Letras Inglês Programme.

In sum, results from the analysis of students' responses to the interview corroborate what was found in the analysis of their responses to the questionnaire. In addition to that, the interviews brought complementary information, such as the fact that some students were not benefiting from the use of some tools, the use of other ICT tools which had not been mentioned before and the use of only simpler tools for the teaching

of linguistic skills. This information, therefore, helped to gain a better understanding of the use of ICT tools in the courses students take as well as their beliefs towards this use.

#### **4.2.2 Professors' Interview**

Similarly to the results of students' interview, overall results from the analysis of data collected through the 3 professors' interviews corroborate the findings from the analysis of data collected through the questionnaires.

Concerning the use of ICT tools, when asked about the tools that they reported in the questionnaire to use in the courses they teach in the Letras Inglês Programme, two of the professors confirmed in the interview to use those tools, and reported to use other ones in addition to them. P6, for instance, who in the questionnaire reported to use e-mail, CDs and DVDs, in the interview she added blog, data show and overhead projector to the list of ICT tools employed. P8, in turn, reported in the interview to use data show or overhead projector (depending on availability) in addition to e-mail, websites and CD-ROMs. Finally, P5 did not report to use any other tools apart from the ones she mentioned in the questionnaire, which were e-mail, CDs, software and the voice recording equipment from the Language Lab.

Regarding their beliefs towards the use of such tools, when asked about how they think the ICT tools they use in the courses they teach could assist the students in their learning process, professors' responses added support to the beliefs they had expressed towards the use of such tools as identified in their answers to the questionnaire. In order to demonstrate this corroboration of findings, I present some excerpts from the interview with the professors.

**Researcher:** *How do you think e-mail assisted your students in the learning of the course?*

**P5:** *It didn't assist directly. Well, yes, but only in the same way that a written evaluation assists, with the advantage that they could keep that in their computer to check.*

**Researcher:** *Did students choose what software to use or you indicated one?*

**P5:** *They chose, but some asked me. Actually, they ended up doing (sending the recordings) all by e-mail because they found it to be easier.*

**Researcher:** *The goal was that students recorded their speech, saved in extension .wav and then e-mailed to you for the evaluation, right?*

**P5:** *Right.*

**Researcher:** *And how did the software assist in their learning process?*

**P5:** *Actually, I believe it was the same thing as recording in tapes (...) Basically what they learned was pronunciation and new vocabulary. (...)*

**Researcher:** *How did it (CD) assist in their learning?*

**P5:** *Listening, vocabulary and pronunciation.*

**Researcher:** *From the tools we talked about, only CD is used in class?*

**P5:** *Yes. I know there other resources in videos and everything, but there is no time because of curriculum constraints (...).*

In the interview, P5 argued that the use of e-mail and software served more as practical tools for students to make and send the recordings and receive the evaluative feedback, which P5 stated that assisted them for being practical and allowing them to learn some linguistic skills. In addition, CDs assist them with pronunciation, listening and vocabulary. These findings corroborate what was found in this professor's responses to the questionnaire. During the interview, however, I could learn that she is aware of other resources that could assist her students in their learning process, but constraints with the course's curriculum leaves no time to integrate extra ICT tools.

P8's responses to the interview also brought complementary information about her use of ICT tools in the courses she teaches, as the excerpts show:

**Researcher:** *How do you think that e-mail assist in the students' learning process? (...)*

**P8:** *For the undergraduate programme, it's used more for communication and to make the material I use in class available in electronic format.*

**Researcher:** *Do you use discussion groups in the courses you teach?*

**P8:** *(...) I need to implement it in the undergraduate programme.*

**Researcher:** *And how do you think that this tool (discussion group) will assist the students in the learning of the course?*

**P8:** *I think that on-line discussions between students is a way to make those who don't participate in class for some reason, do it.*

**Researcher:** *You said you use websites. How do they assist in the learning of the course?*

**P8:** *(...) complementing what I say in class, bringing opportunities for them to go deeper in the subject and showing the same subject in different ways, e.g., visual, audio etc, thus trying to reach students' different learning styles.*

**Researcher:** *You said that maybe you could invest more time in learning other tools. Do you do that?*

**P8:** *Actually, time is something that counts a lot in the choice of the tool, in how much time you have to spend to learn this tool.(...) if I spend 4h a day looking for/learning new tools, I'll have to find a way to read everything I have to read, correct everything I have to correct, etc.*

From P8's excerpts it is possible to notice that she uses e-mail to keep contact with her students and send material to them. Moreover, websites are used to complement the classes, offer the student the opportunity to go deeper in the content being taught while at the same time adapting to students' learning styles. These findings corroborate P8's responses to the questionnaire. In addition to that, in the interview I learned about this professor's willingness to integrate discussion groups in her courses, as she believes this tool can give the opportunity to all students to effectively express their thoughts about the subject being discussed. I also learned from the interview that the heavy workload this teacher argues to have does not allow her to spend time learning new tools.

As different tools were reported to be used by professors, beliefs towards how these tools assist in the students' learning process also stemmed from professors' responses to the interviews. P8, for instance, reported in the interview to also use data show or overhead projector (depending on availability) and she argued that these tools assist in the students' learning process by offering visual aid and serving as a guide. In this sense, it is possible to notice coherence between the use she makes of the tool and how she believes the tools assist or contribute in the students' learning process.

Regarding P6, her responses to the interview brought a lot of complementary information to her answers to the questionnaire. In the interview, P6 clarified that she

actually makes use of an e-mail group in the course she teaches, instead of simply e-mail. She argued that e-mail groups not only facilitate and narrow students and professors' out of class communication, but also offer the opportunity for students to practice their writing skills, thus corroborating her responses to the questionnaire. Concerning the use of movies and songs, she argued in the interview that she loves using the former to introduce subjects for discussion, teach grammatical points and even discuss about genre types. In addition, she thinks it is great to use songs to practice listening, improve vocabulary and explore grammatical points, such as adverbs and adjectives. P6 not only believes in the many ways songs and films can assist in her students learning process, but she effectively uses them in her teaching practice and reports having got positive feedback from this practice, as the excerpt show: *"From a movie, I explored the characteristics of narration as a genre and also worked the issue of lexical choices... It was a very interesting experience and the students loved it"*.

As previously stated, P6 also reported in the interview to use other tools in addition to the ones she had reported in the questionnaire. One of these tools was the creation of blogs. According to P6, each student would create his/her own blog (including the professor) to post their thoughts and impressions in relation to their own process of second language acquisition (SLA). The idea was to make students reflect about their process of learning a second language based on the texts about SLA that they read for the classes. In addition to blog, P6 also encouraged students to use PowerPoint to help them prepare their oral presentations and to use data show to present them. The goal was to work academic skills with them when making presentations while also using the target language.

According to P6, *"They made beautiful presentations, using a number of resources"*. From P6's reported experiences using ICT tools in class, it is possible to

notice that besides offering the opportunity for students to learn in action what they read in theory, she seems also to be contributing to their digital literacy, as she states “*I realized that there were some students who had very little intimacy with PowerPoint, and with the experience they also learned how to deal with this tool*”. Moreover, it is also possible to notice that the beliefs clearly expressed in P6’s response to Question 5 of the questionnaire “*I think the ICT tools not only enhance the teaching and learning process (...) but also work as a motivational source*” is reflected in her use of the tools in the courses she teaches.

In sum, all three professors’ responses to the interview corroborated the findings from the analysis of their responses to the questionnaire. Moreover, their responses also brought rich, new, complementary information, such as the use of other ICT tools which had not been mentioned before, the fact that tight schedule and heavy workload leaves no time for professors to integrate ICT tools in their classes and professors’ willingness to learn about and employ other tools in the courses they teach. This information, therefore, helped to shed light to a better understanding of the use of ICT tools in their teaching practice and their beliefs towards this use.

### **4.3 Results of the Self-reports**

As stated in the Method chapter, participants were asked to reflect upon and write a self-report on the question ‘**A utilização de TICs em cursos de Letras Inglês: um recurso necessário para a formação de futuros professores e pesquisadores?**’ The aim was to gain further understanding of participants’ beliefs towards the use of ICT tools in the Letras Inglês Programmes by analyzing their personal, individual written reports. It is important to restate that 1 student and 2 professors from the programme at UFSC, only, wrote the self-reports. The excerpts

taken from the self-reports to add support to my discussion of the results were translated by this researcher and the original full written records written in Portuguese can be seen in Appendixes Q and R.

In this subsection I firstly present the results of the qualitative analysis of the student's self-report and after that I turn the attention to the professors' self-report.

#### **4.3.1 Student's Self-report**

Results from the analysis of S36's self-report indicate that this student considers the use of ICT tools necessary in the Letras Inglês Programme, as demonstrated in the excerpts:

*“Yes. ICT tools are a necessary resource for the education of prospective teachers and researchers. It's the university's role to offer full understanding about these tools for those who don't have it”. (...) we can't take for granted that all the students who manage to enter a university know how to deal with ICT tools. What's necessary is to provide ALL the students with the knowledge that later will be crucial for them to exert their function as teachers or researchers to the largest extent”.*

It is possible to notice from the excerpts of S36 that this student seems to consider knowing how to deal with ICT tools as a necessary and indispensable feature for the full exercise of the profession, being the Letras Inglês Programme responsible for providing prospective teachers or researchers with this knowledge. By comparing S36's responses to the three instruments used to collect data, I could notice that the findings that stemmed from the analysis to each instrument add support to each other, as in her answers to these instruments she stated she used ICT tools to assist in her learning process of the courses, she expressed positive beliefs about such tools and argued that the Letras Inglês Programme should better prepare prospective language teachers to integrate ICT tools effectively in their pedagogical practices. Moreover, S36's beliefs towards the use of ICT tools in the Letras Inglês Programme corroborate overall findings regarding students' beliefs towards this use.

### 4.3.2 Professors' Self-report

Similarly to the students', overall results from the analysis to P5 and P8's self-reports add support to what had already been found in the professors' responses to the questionnaire and interview. That is, overall, professors seem to hold positive beliefs towards the use of ICT tools in the Letras Inglês Programme. In P8's case, she repeated in the self-report some beliefs she had already mentioned in the questionnaire and interview, as shown in the excerpts:

*“In my view, ICT tools act as a support in the process of teaching/learning in the sense of assisting the professor in making the content being taught explicit (...) and allowing the student to have access to ways of deepening their knowledge about the content I believe ICT tools also work as a motivating factor for both professors and students, since they allow the class to become more dynamic and diversified”*

In addition to that, P8 also expressed new beliefs, as shown in the excerpts:

*“For second language learning, specifically, tools that allow the students to practice diverse skills (...) become fundamental (...). ICTs also work as scaffolds, assisting students to acquire autonomy for their own learning process (...)”.*

P5, in turn, states that *“I, in fact, have been using very little technology for teaching, except to facilitate the tasks”*. This statement corroborates the use she reported to make of ICT tools in her classes. As a teaching tool, she reported to use only CD to assist students developing listening skills and the Language Lab to teach pronunciation. E-mail and software were used more as practical tools to facilitate students doing the pronunciation tasks, emailing to the professor and receiving evaluative feedback. It is interesting to notice in this professor's use of ICT tools that these do not always need to be used for teaching and, still, they play a very important role in the course. In this case, specifically, students saved time and money as they used the computer to do the recording and email it to the professors, instead of buying a tape recorder or waiting for the availability of the language lab to do the recordings.

#### **4.4 Summary of Results**

As previously mentioned in the Method chapter, the objectives of the present study are to investigate (a) the use of ICT tools by both professors and students in Letras Inglês Programmes; (b) the beliefs of these professors and students concerning the use of ICT tools in these undergraduate programmes and (c) the relationship between the use of ICT tools in Letras Inglês Programmes and the professors and students' beliefs towards this use. In order to reach these objectives, the present study pursued the following research questions, which are now answered.

##### **1. Do professors of Letras Inglês Programmes make use of ICT tools in the courses they teach? If so, which ICT tools do they use?**

The results of the analysis of data collected through the on-line open-ended questionnaire applied to 48 students (43 from UFSC and 5 from UFRJ) and 9 professors (5 from UFSC, 3 from UFMG and 1 from UFRJ); and the through the on-line semi-structured interviews conducted with 6 students and 3 professors from UFSC show that both students and professors reported a number of ICT tools to be used in the courses of the Letras Inglês Programmes of the three institutions participating in this study. As previously explained, I could not contact the students from UFMG due administrative constraints, and for this reason the findings related to the Letras Inglês Programme at this institution come only from the professors' responses to the application of the questionnaire.

Regarding the use of ICT tools in the Letras Inglês Programme at UFRJ, the tools reported to be used according to the 5 students and the only one professor's responses to the questionnaire are: e-mail, discussion groups, websites, DVDs and videotapes. In relation to the use of ICT tools in the Letras Inglês Programme at UFMG, the tools reported to be used according to the 3 professors' responses to the

questionnaire are: e-mail, discussion groups, CD-ROMs, DVDs, videotapes, websites, blogs, forums, and virtual environments.

Finally, concerning the use of ICT tools in the Letras Inglês Programme at UFSC, results from the analysis of the 43 students and 5 professors' responses to the questionnaire and the 6 students and 3 professors' responses to the interview, show that they reported a number of tools to be used. These tools are: e-mail/e-mail groups, discussion groups, websites, blogs, CD-ROMs, DVDs/DVD player, television, CDs (course book CD and music CD)/CD player, software (PowerPoint, Windows Media Player, Audacity, Wordfast, HotPotatoes), videos from YouTube, data show, overhead projector and the voice recording equipment from the Language Lab.

## **2. What beliefs do students and professors of Letras Inglês Programmes have towards the use of ICT tools in these Programmes?**

Overall results from the analysis of participants' responses to the on-line open-ended questionnaire, the on-line semi-structured interviews and the self-reports indicate that students hold a number of beliefs towards how the ICT tools used in the courses they take in the Letras Inglês Programmes can assist in their learning process, as Table 19 shows.

Table 19

*Students' overall beliefs towards the use of ICT tools in the courses they take*

<b>Students' overall beliefs towards the use of ICT tools in the courses they take</b>	
<b>E-mail</b>	<ol style="list-style-type: none"> <li>1. favours the use of the target language in real situations</li> <li>2. facilitates solving doubts with students and professors *</li> <li>3. it is a practical tool, helps in communication</li> <li>4. students can send and receive material</li> <li>5. does not make any difference in the learning process</li> </ol>
<b>Discussion Groups</b>	<ol style="list-style-type: none"> <li>6. allow for reflective thinking as students have more time to do the activity</li> <li>7. favour the use of the target language in real situations</li> <li>8. adapt to students with different learning styles</li> <li>9. allow closer contact between students and professors *</li> <li>10. can negatively the discussions because of the non-immediacy in the interaction</li> </ol>

<b>Web sites</b>	11. provide extra information and material * 12. assist in the learning process of some courses 13. allow the student to go deeper in the content of the courses
<b>CD-ROMs</b>	14. assist in the perception of sounds and intonation of words
<b>DVDs/ DVD player</b>	15. complement the content and call students interest *, as well as complement grammar classes and Literature classes 16. assist in the learning process of students with different learning styles 17. make students get more interested in the subject being taught and in his/her own learning process 18. let the classes more motivating
<b>Software</b>	19. PowerPoint complements courses as students can organize their presentations and professors can offer expositive classes, helps in the comprehension and organization of the content of the courses and it is a practical and sustainable tool
<b>CDs/ CD players</b>	20. course book CD helps to improve listening, pronunciation and music CD help to contextualize the content and add fun 21. assist in the learning process of students with different learning styles 22. make the classes more pleasurable, motivating, add fun and help to contextualize the content
<b>VCR</b>	23. compare a film with the respective book complement Literature classes
<b>Data show</b>	24. allow better visualization and understanding of the content being taught 25. can become tiring if used too often

All the 25 beliefs presented in Table 19 were expressed by students from the Letras Inglês Programme at UFSC in their responses to the three instruments applied to collect data. The beliefs that are followed by an ‘\*’ (numbers 2, 9, 10 and 14) were also expressed by the students from the same programme at UFRJ in their responses to the questionnaire. As discussed throughout the chapter, students’ positive beliefs suggest that these tools are contributing and assisting in their learning process in a number of ways, be it by facilitating communication with classmates and professors, providing extra material and information, enhancing linguistic skills or by adding fun and motivation to the classes. A few students, however, reported not to be benefiting from e-mail the way it has been employed by professors and discussion groups can be negatively affected by the non-immediacy of students’ participation. Still, when referring to ICT tools in general, some students’ beliefs showed that it can be a waste of time if ICT tools are not used with well-delineated objectives, it can promote solitary

learning and get monotonous and tiring if used too much. Moreover, little acquaintance with the tools by both students and professors, problems with infra-structures and lack of technical support are also factors that inhibit the use of ICTs.

Likewise students, professors also expressed a number of beliefs towards how the tools they use in the courses they teach assist in their students' learning process and in their own pedagogical practice, as presented in Table 20.

Table 20

*Professors' overall beliefs towards the use of ICT tools in the courses they teach*

<b>Professors' overall beliefs towards the use ICT tools in the courses they teach</b>	
<b>E-mail/ group</b>	1. facilitates communication between professor and students (P1, P5, P7, P8, P9) 2. offer the opportunity for student to use the target language and practice writing (P6)
<b>Discussion Groups</b>	3. asynchronous interaction between professor and student at best time and place (P1, P4) 4. good tools for discussion and reflection (P1) 5. facilitate communication between professor and students (P4, P9) 6. facilitate collaborative construction of knowledge, facilitates organization and access to information, contribute to students' digital literacy and students learn more with each other and reflect more on their own learning process (P4)
<b>Web sites</b>	7. good source for research and assist students to understand the content being taught goals as offer many different resources (P7) 8. assist to develop study strategies and to locate information(P3) 9. complement and allow going deeper in the content (P8) 10. assist professors to reach their goals as offer many different resources (P7) 11. allow professor to reach students with different learning styles and can be motivating for students (P8)
<b>CD- ROMs</b>	12. help with pronunciation (P3) 13. provides good quality input and help to improve listening (P5) 14. promote different points of view of literary texts (P2)
<b>DVDs</b>	15. motivate students and complement the discipline (P7) 16. help to improve listening and classes let more interesting (P2) 17. assist to introduce the topic of discussion and help teaching linguistic skills such as grammar (P6)
<b>Software</b>	18. assist to practice pronunciation (Windows Media Player, Audacity Quick Time) (P5) 19. PowerPoint facilitates presentation and discussion of relevant topics, optimize explanation of content with visual aids and students get more concentrated in the classes (P9) 20. contribute to students digital literacy (P6)

<b>CDs</b>	21. helps to improve listening (P2, P5, P6) 22. classes get more interesting (P2) 23. songs can assist in the teaching of grammar functions (P6)
<b>Blogs</b>	24. students have the opportunity to practice writing in the target language (P6) 25. complement the classes as offer the students a tools for self-reflection regarding the subject being taught (P6)
<b>VCR</b>	26. classes get more interesting and help to improve listening(P2)
<b>Lang. Lab</b>	27. assist to practice pronunciation (P5)
<b>Data show</b>	28. offer more visual aid, and assist in the learning process working as a guide for both professors and students (P8)

Table 20 presents the overall beliefs identified in the professors' responses to the three instruments used to collect data for the present study. As explained, P1, P2 and P3 refer to the professors from the Letras Inglês Programme at UFMG, P4 refer to the professor at UFRJ and P5, P6, P7, P8 and P9 refer to the professors at UFSC. In this sense, the beliefs presented in Table 20 are followed by the identification of the professors who expressed them. Similarly to the students, professors' responses show that their use of ICT tools in the courses they teach can contribute and assist their students learning process in a number of ways, such as offering the opportunity for students to use the target language, facilitating access to information, enhancing linguistic skills, contributing to their digital literacy and serving as a motivational source for the classes. Apart from that, some professors claimed that the amount of time spent in learning how to use the tools, course curriculum constraints and heavy workload are reasons why they do not use more diversified ICT tools in their classes.

### **3. What is the relationship between the use of ICT tools in Letras Inglês Programmes and the beliefs of professors and students towards this use?**

Results from the analysis of the triangulation of data indicate that professors' beliefs towards the use of ICT tools in the courses they teach are coherent with the use they reported to make of such tools, as was demonstrated with examples in the end of

subsection 4.1.2. So, according to the results, some professors do not only believe that CDs, for instance, assist students to enhance listening, but they reported to effectively use them in their pedagogical practices.

Likewise, the analysis of data from the majority of students indicate that their beliefs towards the use of ICT tools employed in the courses they take are coherent with the use they reported to make of those tools, as exemplified in the end of subsection 4.1.1. In other words, some students not only believe that PowerPoint, for instance, facilitates the comprehension of the content but they also reported to be benefited by the use of this software for their learning process. There was one student (S5), however, who argued that ICT tools do not make any difference in his learning of the courses he takes. That is, this student uses e-mail and discussion groups in the courses he takes in the Letras Inglês Programme but he does not believe they complement or assist in his learning process.

#### **4.5 Summary of the Chapter**

In this chapter, I presented the analysis of data collected for the present study, illustrating it with excerpts from the on-line open-ended questionnaire, on-line semi-structured interview and self-reports from both students and professors from the Letras Inglês Programme at UFSC, and excerpts from the on-line open-ended questionnaire from professors of the same programme at UFMG and UFRJ and students from UFRJ.

In the next chapter I present a summary of the main findings of this study as well as some pedagogical implications of it. I also point out its limitations and offer suggestions for further research.

## CHAPTER V

### FINAL REMARKS

In this chapter, I will first summarize the main findings of the present study. Then, I will point out its limitations and offer suggestions for further research. Finally, I will present some pedagogical implications of the findings.

#### 5.1 Summary

The objectives of the present study were to investigate a) which ICT tools are used by professors in the courses they teach in the Letras Inglês Programmes; b) the beliefs of professors and student from these programmes concerning the use of such tools and c) the relationship between the use of these tools and professors' and students' beliefs towards this use.

Participants were 48 students (43 from UFSC and 5 from UFRJ) and 9 professors (3 from UFMG, 4 from UFSC and 1 from UFRJ) from Letras Inglês Programmes offered by three different institutions. Data collection consisted of the application of three instruments. The first instrument applied to all participants was the on-line open-ended questionnaire which aimed at finding out which ICT tools, if any, are used by professors in their courses, as well as unfold participants' beliefs towards the use of such tools in the Letras Inglês Programmes. The second instrument was the on-line semi-structured interview, applied to 6 students and 3 professors from UFSC. The aim was to gain a better understanding of some responses that were unclear to me, to seek for further information that could complement the answers given to some of the questions and, most importantly, to obtain more details and relevant information about the reported use of ICT tools and the participants' beliefs towards the use of such tools

in the Letras Inglês Programmes. Finally, self-report was the last instrument used to collect data from 1 student and 2 professors from UFSC, the aim of which was to gain further understanding of participants' beliefs towards the use of ICT tools in those programmes.

Having provided an overview of the instruments used to collect data for the present study, I will now present the conclusions drawn from the findings obtained through the analysis of data.

## **5.2 Findings**

Analysis of the overall results reveals that professors from the Letras Inglês Programmes of all three universities participating in this study reported to use ICT tools to complement the courses they teach, thus facilitating the teaching process itself, and assisting their students in their learning process. Altogether, the ICT tools reported both by students and professors as being used in the courses they take/teach in the Letras Inglês Programmes are: e-mail/e-mail groups, discussion groups, websites, blogs, videos from YouTube, virtual environments, forums, software (PowerPoint, Windows Media Player, Audacity, Wordfast, HotPotatoes), CD-ROMs, DVDs/DVD player, CDs (course book CD and music CD)/CD player, videotapes (VCR), television, data show, overhead projector and the voice recording equipment from the Language Lab. As has been exemplified in the excerpts of some professors in subsection 4.2.2, I found that some professors show more enthusiasm than others when it comes to the use of ICT tools in the courses they teach. There seems to be a relation between the increase of enthusiasm to use ICT tools and the familiarity with these tools, as well as between a decrease of this enthusiasm and the tight schedules that professors have to follow which consequently leave them very little spare time to dedicate to the learning of new

tools. In addition, students claim that it is the Letras Inglês Programme's responsibility to educate prospective teachers on the use of ICT tools so that they can make full use of this knowledge to benefit his/her teaching practice and contribute to the students' learning process and digital literacy. Similarly, many professors expressed the wish that courses or workshops be offered by the department so that they could learn ways of making better use of the ICT tools they already employ, and also learn about new ones.

In relation to the beliefs identified in the participants' responses, the analysis of the results revealed that both students and professors hold predominantly positive beliefs towards the use of the ICT tools reported to be utilized in the courses they take/teach in the Letras Inglês Programmes, as can be seen in Tables 19 and 20 in subsection 4.4 of chapter IV. The large majority of students' beliefs referred to how the tools complement the classes, to their influence on the content taught, and to how these tools can be of assistance within the learning process. The negative beliefs identified had to do with the way in which the tools were being employed, with the limitations involved when trying to integrate the tools in the classes and with infrastructure.

Similarly, professors' beliefs also referred to how the ICT tools they use in their courses complement the content taught, and their potential to assist in the students' learning process. The negative belief expressed by some professors was related to the amount of time spent in preparing classes that include the use of ICT tools, since professors are not always well-acquainted with the tools. Moreover, by contrasting students' beliefs with those of professors, I found that most of them are congruent. This might be an indication that professors' pedagogical goals set for employing ICT tools in their courses to assist in the students' learning process are being achieved.

Finally, concerning the relationship between the participants' use of the ICT tools reported to be employed in the courses they take/teach and the beliefs they hold

towards this use, analysis of the results shows that, overall, what participants say they believe about the use of ICT tools is coherent with the use they claim to make of these tools. In other words, professors not only believe that the ICT tools they reported to use can benefit their students in a number of ways (as Table 20 shows), but they reported to effectively use these tools in their pedagogical practices. Likewise, the large majority of students not only believe that the ICT tools used in the courses assist in their learning process in a number of ways (as Table 19 shows), but they reported to effectively use these tools in the courses they take. There were two students, however, who reported to believe that ICT tools can assist in their learning process, but that they were not benefiting from these tools due to the way some of them were currently being employed. In addition, another student reported not to believe ICT tools can assist in his learning process, and claimed that the two tools (e-mail and discussion groups) used in the course did not make any difference.

### **5.3 Limitations of the Study and Suggestions for Further Research**

The first limitation of the present study regards the very low number of participants from the Letras Inglês Programmes at UFRJ and UFMG. As previously stated, administrative constraints prevented me from contacting the students from UFRJ and UFMG, and for this reason the results here presented may not account for the state of affairs in the programmes at those two institutions. Future studies, therefore, should avoid this limitation by contacting the Letras Inglês Department's chair far in advance in order to learn what procedures must be followed to reach the students enrolled in the Letras Inglês Programmes.

The second limitation refers to time constraints which kept me from running a pilot test on the questionnaire. Some participants reported to find this instrument

somewhat repetitive. I also noticed after collecting the data that some of the questions appear to have sounded ambiguous to some participants, as they responded about ICT tools in general when I was actually looking for information about the ICT tools used in the courses specifically. In this regard, future studies might consider running a pilot test on questionnaires to avoid repetitions and ambiguities.

Moreover, as the 'Metacognitive Approach' was the one adopted to investigate beliefs in the present study, such beliefs were only inferred from participants' verbal declarations and not from what they actually do. Even though I considered this approach appropriate for the purposes of this study - since I was dealing with a large sample of participants -, future research projects may want to explore the beliefs held by students and professors from Letras Ingles Programmes towards the use of ICT tools from a 'Contextual Approach'<sup>29</sup> point of view.

In addition, findings showed that one student reported not to believe that ICT tools can assist in his learning process of the courses he takes in the Letras Inglês Programme. Other students might share the same opinion. Therefore, future studies might wish to focus on the reasons that lead students and/or professors to develop such beliefs since, according to Ertmer (1999), negative beliefs can be a barrier to the use of ICT tools.

Finally, the present study did not inquire into which ICT tools professors use in which courses or subjects. According to Sutherland et al (2004), some subjects may, by their nature, be more suitable for the use of ICT tools than others. In the face of this, further research focusing on which tools are used in which courses in Letras Inglês Programmes could contribute to a better understanding of why some professors use more ICT tools than others, as has been noticed in the findings of this study.

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<sup>29</sup> As previously put in the chapter of Review of the Literature, in the Contextual Approach the relationship between beliefs and actions are directly addressed, as investigations are done in the precise context and moment of students' interactions.

#### **5.4 Pedagogical Implications**

I hope that the findings of the present research project regarding the positive beliefs students hold towards the in-class use of ICT tools and their reports of effectively benefiting from these tools serve as an inspiration for those professors who, for whatever reason do not use ICT tools to, from now on, consider integrating them in their pedagogical practices. In using certain tools, however, professors should take into consideration students' linguistic level, so that the experience using the tools does not become a frustrating one.

Moreover, students claimed that professors use only the more simple tools (DVDs, CDs, CD-ROMs and recording equipment from the language lab) to help students develop their linguistic skills. The same students also stated that the internet is an endless plethora of possibilities and that they use it all the time to practice pronunciation and improve vocabulary, listening, reading, writing, and speaking skills. In the face of this, professors may wish to learn more about their students' out of class use of ICT tools and try to bring those experiences to the language classroom.

Results also showed that a few students reported not to benefit from the way that some professors were using certain ICT tools in their courses, and that it seemed that some professors did not know very well how to deal with ICT tools. This finding could instigate professors to reflect whether the goals set for using the ICT tools in their courses are in fact being reached and to, based on this reflection, take the necessary measures to achieve them. It is also important that professors motivate students to use the ICT tools offered in class and show them how these tools can effectively help them in their learning process.

As some professors argued, their lack of familiarity with the great number of ICT tools to choose from and the lack of time to learn about them (due to heavy workload and tight schedules) keep them from effectively integrating such tools in their classes. In this sense, the present study hopes to provide police-makers at institutions offering Letras Inglês Programmes with useful information and evidence of the need for development of ICT training courses to enable professors to make the best possible use of ICT tools in their classes.

Moreover, as previously put, students claimed that it is the Letras Inglês Programmes' responsibility to educate prospective teachers on the use of ICT tools in order to allow them to make full use of these tools' potentialities, benefiting their teaching practice and contributing to the students' learning process and digital literacy. In this sense, future reforms on Letras Inglês Programmes' curricula might consider to integrate a course on the use of ICT tools for foreign language teaching and learning to better prepare future teachers for this new trend in education.

In the same vein, future changes in Letras Inglês Programmes' curricula should include both professors and students' points of view about the use of ICT tools for teaching and learning, since they will be the end-users and therefore alone responsible for any effective integration of these tools in the curriculum. Altogether, the present study brings valuable information about professors and students' beliefs towards the use of ICT tools in courses of Letras Inglês Programmes which could serve as a starting point to guide future curricular reforms.

As long as the reform is not yet carried out and training courses are not offered, professors - based on their own need to gain further knowledge about ICT tools, as findings of the present study indicated - could engage in a closer dialogue with professors from other institutions who have been researching about the use of ICT tools

in education and, more specifically, for language teaching and learning, in order to promote events such as workshops or conferences that aim at bringing valuable information and fresh ideas on how to make the best possible use of ICT tools. Such events and workshops should also count with the participation of Letras Inglês Programmes students who, for having grown up in the digital age (as claimed by many participants in the present study), are bound to have many experiences to share, as far as the use of diverse ICT tools for language learning is concerned.

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