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Autonomia na Aprendizagem da Língua Inglesa. Estudo de um Caso

Autonomy in English Language Learning. A Case Study

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Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Doutor em Didática, realizada sob a orientação científica da Doutora Gillian Grace Owen Moreira, Professora Auxiliar do Departamento de Línguas e Culturas da Universidade de Aveiro.

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resumo

O presente estudo teve como objectivo a elaboração e análise de uma pedagogia para a autonomia que se ajustasse ao momento presente do Ensino Superior, i.e., à implementação do Processo de Bolonha nas instituições de ensino superior na Europa, e em particular, na Escola Superior Agrária do Instituto Politécnico de Coimbra. Para tal, foram criadas novas unidades curriculares, novos programas, novos descritores, novos materiais e novas metodologias. Todos os procedimentos utilizados tiveram por alvo os alunos de primeiro ano do curso de licenciatura em Biotecnologia de 2007/08, nomeadamente a aplicação de uma bateria de testes, entre eles, testes de nível de língua, testes de nível metacognitivo, testes de conceitos, etc. Assim como elementos de estudo etnográfico, que pudessem deste modo trazer à luz resultados da mudança que se estava a operacionalizar a nível institucional.

Como pano de fundo do estudo estão ferramentas orientadoras como o Quadro Europeu de Referência para as Línguas e o Portfólio Europeu de Línguas onde o estudo vai buscar orientação. A principal ferramenta usada para medir a autonomia nos alunos foi o portfólio elaborado pelos aprendentes, em casa, simultaneamente biográfico e descritivo, onde se incentivou a mostra do trabalho independente. No estudo, a componente etnográfica tem um peso significativo com as histórias de aprendizagem dos alunos e com a recolha das reflexões, onde se procurou conhecer o que pensavam os alunos sobre a sua experiência de aprendizagem durante as 20 semanas em que o estudo se desenrolou.

Em linhas gerais, da análise dos dados constata-se uma melhoria muito significativa na autoconfiança dos alunos no que respeita ao desenvolvimento das múltiplas tarefas. A nível da progressão da sua proficiência há uma melhoria menos significativa, mas os resultados finais de sucesso educativo são de grande relevância.

keywords

The Bologna Process, autonomy in language learning, pedagogy for autonomy, language portfolio, case study

abstract

The main goal of this study was to analyse the development of a pedagogy for autonomy tuned to the current situation in which Higher Education finds itself, namely of implementation of the Bologna Process in Europe, and in particular at the Escola Superior Agrária of the Polytechnic School at Coimbra. For this purpose new course units were created, new descriptors written, new materials developed and new methodologies tried. A case study was undertaken to observe and analyse the changes the institution was undergoing and to assess the impact of the new methodologies, particularly regarding the development of student autonomy. The target population for this study were the first year students on the Biotechnology degree in the year 2007/2008, to whom a battery of tests were applied, namely proficiency tests, belief tests, metacognitive tests, as well as methods of ethnographic research.

The study relied on the European Framework of Reference for Languages and the European Language Portfolio to establish recognised levels and competences, and employed the portfolio as its main tool for measuring student autonomy. This portfolio was simultaneously biographical and descriptive and was organised by the students in their own time. Great incentive was given to this independent work. The ethnographic component of the study was of significant importance being given to students learning histories and to the collection of students' reflections. This component aimed in particular to allow students the opportunity to express their thoughts on the experience they underwent during 20 weeks.

From the analysis of the data, a significant improvement in self-confidence and motivation for lifelong learning is observable in the development of multiple tasks. Regarding the students' progression towards proficiency, this improvement is less clear, but the final results of educational success were generally of great relevance.

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Introduction

"Against a tendency towards academisation and concomitant over-privileging of 'universalist' theoretical perspectives... [we should] highlight the need for ethnographies of autonomy – descriptions of autonomy and autonomy-oriented practice in particular settings – as a counterbalance to over-abstract perspectives."

(Smith & Ushioda, 2009)

This study aims at describing an autonomy-oriented action research practice in English language learning in a particular setting, which reflects on the momentum we are living in higher education in the world at the beginning of the XXI century, and in particular in Europe, where the Bologna Process has acted as a catalyst for change in 47 European countries, and made its influence felt worldwide. Our age is also characterised by what has been called our liquid modernity (Bauman, 2000), in which the constant mobility and inconsistency of the present contrasts with the solidity and reliability of the past, when the world seemed more predictable and therefore more manageable. It is hoped that this study will bear witness to this moment of change by observing and attempting to understand a small sliver of reality. The case study described here will present the changes felt in a higher education institution in Portugal, in the students and in the teachers. The implementation of the Bologna Process in this case is taken to be something imposed but welcomed - the spark for the possibility of experimentation at various levels, i.e. the country's education policy, the institution's internal regulations, the teacher's autonomy to try new methodologies and critically face the process of learning-teaching, the students' capacity to deal with classroom challenges throughout an academic year. With a view to trying to make solid what apparently was fluid, the study has attempted to understand change and grasp the nature of the present, to learn to distinguish important from accessory; what really mattered was to implement a pedagogy for autonomy in harmony with the political, educational and institutional framework. Discussion of the role and importance of English language teaching and learning

in a decade of great challenges and demands, particularly in an institution where it has always suffered from minor status, was also central to this study.

The English language is the lingua franca in the field of science, therefore the need for proficiency in this language felt by engineering students seems consensual, particularly at the Escola Superior Agrária de Coimbra (ESAC), the institution where this case study was carried out, where these students are expected to read from a vast bibliography in English. Their prospective desired careers will be also determined by their international professional success. Proficiency in the English language has become a prerequisite for any individual willing to partake in decision-making in his/her field of study and benefit from the resulting opportunities, both at personal and professional level (Trebbi, 2003). And yet, the need of proficiency in English worldwide clashes with the neglect it has been suffering at ESAC where the reduction of contact hours before and with the implementation of the Bologna Process has been constant. From this antagonism of interests arises an additional problem for the English Language teacher: to prepare engineering, and other science students, for an ever-increasing competitive world in less time with less contact hours.

Why autonomy? A Rationale

Over the years, the course units of English at the ESAC have seen their workload reduced every time there was an internal reformulation, as if they were a hindrance, taking time away from what was really important (Bárbara, 2006). Meanwhile the proficiency of the students remained almost the same, despite the teachers' efforts; many were totally dependent on the teacher and only spoke Portuguese, the majority could pass the course unit with hard work and dedication; and there was an élite few that were very well prepared and should

have a different study programme altogether. With this heterogeneity, as teachers, we always felt the need to have different groups in class in order to be able to meet the needs of the students in a differentiated manner. During the Bologna restructuring, other course units underwent a reduction in workload; in this study, I address only what happened in the language learning sector.

Thus, autonomy, one of the two main pillars for my bipartite research seemed the perfect theme for adapting the reduction of contact hours to the development of independent work capacities in students and allowing them to build bridges for lifelong learning. On the other hand, the use of autonomy-oriented methodologies would try to reduce the above-mentioned heterogeneity. As an alternative approach to teaching and learning, autonomy seemed to be in harmony with the general rules of the Bologna Process, and would later be underlined. Moreover, the legislation released by the Portuguese Ministry of Science Technology and Higher Education by the Education Act of 2006¹, highlighted the desired autonomous profile of the new bachelor. All these elements were eye-openers in the process of choosing my theme for research.

As an alternative to the traditional method of acquiring and transmitting competences (Vieira, 1996), autonomy can be perceived as a comprehensive philosophical concept encompassing experimentation, peer-collaboration, collaboration across different fields of knowledge, for example, as will be discussed in Chapter 2. More than a method and a goal, this relatively new and exciting concept also provides a grounding for the development of self-reflective citizens, and good citizenship, another of the aims of the Bologna Process. Autonomous citizens are citizens who usually reflect on their choices, who create paths to have choices. Dworkin (1988) questions whether it is always a good thing to have a wider rather than narrower range of options from which to choose. I will present choice as one of the cornerstones of the concept of

¹ Decreto-Lei nº 60/2006 do Diário da República - I Série-A de 24 de Março pp. 2245-2257.

autonomy as a path to empowerment, to greater knowledge acquisition, to the development of creativity and greater awareness, therefore bringing also more individual responsibility.

In a rationale for autonomy, accountability for one's actions has always to be at the core of any attempt at definition, as Dworkin, pointed out:

Autonomy is conceived of as a second-order capacity of persons to reflect critically upon their first-order preferences, desires, wishes, and so forth and the capacity to accept or attempt to change these in light of higher-order preferences and values. By exercising such a capacity, persons define their nature, give meaning and coherence to their lives, and take responsibility for the kind of person they are. (1988:20)

Accountability is thus another cornerstone in the concept of autonomy, philosophically presented here by Dworkin as a capacity that can change the individual's first order preferences, changing the personality of the person, redefining their nature, thus its inescapable importance in education systems where our values take shape.

Objectives and structure of the study

The study carried out on the teaching and learning of the English language for specific purposes, namely on the BSc degree in Biotechnology, took the Bologna Process as its framework of reference as well as a new paradigm for learning in which autonomy is a *desideratum*. Whenever possible, in the presentation of the study, there will be confrontations between my expectations and the reality grounding the study. The Europeanisation and internationalisation of education in a society marked by globalisation and its impact on English language teaching and learning provide the background to this research.

In addition, this study intends to be part of a reform in the praxis of higher education, in which pedagogical competence is often of less importance (Bárbara, 2006a), thus choosing the classroom as the locus of research for the implementation of change of its agents and curriculum.

The objectives of this study were to design, implement and assess a methodology for the teaching and learning of the English language at ESAC within the scope of the Bologna Process, and the curricular re-structuring that it brought. Within this context, the study was structured according to the following two main research questions:

- 1. How to realise the objective of developing competences in the English language learners in a variety of contexts, regarding comprehension, oral production and writing in less contact hours?
- 2. How to develop a pedagogy for autonomy as an answer to this new reality and what are the implications of the Bologna Process for the learners of the English language at Escola Superior Agrária de Coimbra?

Resulting from these mains questions, several sub-questions emerged, namely:

What strategies for promoting autonomy in English language learners are going to be chosen?

How to operationalise an autonomy resource centre for independent selflearning at ESAC?

In what way can the new curricular design be elaborated in collaboration with other fields of study of the institution?

The concept of autonomy in language learning organised in accordance with the Bologna Process is therefore at the heart of the research which forms the body of this thesis. The thesis itself is organised in three main chapters as outlined below:

The first chapter consists in a non-authorised biography² of the Bologna Process, where I highlight only some events and which aims to understand its inception, identify principal milestones and review the main documents produced as well as the resolutions that marked the last 13 years. The discussion which took place in Portugal and the complex implementation of this Process in the country, and particularly at ESAC, is analysed. This chapter provides the historical background against which the study of autonomy will gain shape. As all non-authorised biographies, and with the Bologna Process still ongoing, this chapter is bound to be somewhat incomplete and always in need of constant updating.

The main thrust of this study was given to the question of autonomy particularly in relation to language learning issues, in which provide the focus of my second chapter. The many definitions that attempt to 'define the field' will be the point of departure for the overview on the study of autonomy from Henri Holec's experiments at the C.R.A.P.E.L.³ to today's cutting-edge experiments using Web 2.0., especially in the Anglo-American world of studies. In addition, several processes and theories of learning (Kolb, 1984; Kohonen, 1992; Biggs, 2003) will be examined for the developments they brought to the study of languages, and, the contributions of other fields of knowledge, which flow into the body of theory of autonomy and help to shape it will be analysed, namely those of sociolinguistics (Lantolf, 2000), developmental psychology (Vygostky, 1978), and constructivism (Dewey, 2007; Bruner, 1977; Piaget, 1979). Finally, the prolific theorists of autonomy (Benson: 2001, 2002, 2003, 2006, 2007, 2009; Cotterall: 1998, 2000, 2003, 2008, 2009a, 2009b; Dam: 1995, 2009; Dickinson: 1987, 1992, 1995; Gardner: 2007; Holec: 1981, 1996, 1997, 2008; Hurd: 2008;

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² By using the expression 'non-authorised' I would like to underline the personal, the unofficial version. Moreover, a compromise between the facts, the documents and my perception of them, as well as the whole process, being too comprehensive to be fully understood at the moment.

³ Centre de Recherches et d'Applications Pedagogiques en Langues at the University of Nancy founded in 1962.

Little: 1991, 1999, 2000, 2002, 2003, 2007, 2009; Oxford: 1990, 1996, 2002, 2003; Pemberton: 1996, 2009; Sinclair: 2000, 2009; Trebbi: 2003, 2008; van Esch: 2003; Vieira, 1998, 1999a, 1999b, 1999c, 2002a, 2002b, 2003, 2004, 2005, 2006, 2007a, 2007b, 2009; Voller: 1997; Wenden: 1991, 1999, 2001) will be highlighted, paying great attention to the effort they have put into allying practice with theory and disseminating what is currently a widely renowned field.

Thus Chapter Two is concerned with the definition of the field over the last 30 to 40 years, and many of the seminal ideas that have helped to build the field of studies as it is today. I have used many of the contributions of researchers, especially Holec, 1979; Kenny, 1993; Benson, 2000, 2007; Sinclair, 2000, to build my own definition of autonomy. While focusing on autonomy it is almost impossible to dissociate it from language learning theories, thus it will be approached in the light of different theories from positivists to constructionists, bearing in mind the psychology of social development of Vygostsky, as well as the influence of different learning studies (Felder, 1973; Oxford, 2000). It will also present meta-cognitition as a privileged path to autonomy (Flavell, 1979; Coterall & Murray 2009). Regardless of their opposite fields of research, the scope of the overview will range from the world of affects and ethnography (Naoki, 2002; Hurd, 2008) to the world of technology with CALL and Web2.0 given the same importance in the corpus of studies in autonomy.

Chapter three describes how theories on autonomy can take form and become a classroom practice when adapting to a Bologna study programme model. Using an action research methodology, the case study presented here will involve a detailed description and analysis of the implementation of the Bologna Process at ESAC. The case study's database will be made up of proficiency tests, several questionnaires, a European Portfolio questionnaire, personal histories and reflections. It can be described as an intensive, holistic description of a single phenomenon that is heavily descriptive and heuristic and relies on inductive reasoning, handling multiple data sources (Merriman, quoted in Nunan, 1992:77). The aim of this case study will be to probe deeply into the

multifarious case with a view to establishing generalisations about the wider population to which its unit belongs (Nunan, 1992). In this chapter the aims of the study are outlined as well as the participants and the strategies used to obtain a pedagogy for autonomy that made possible change to happen through a multilevel programmed articulation of instruments.

It was expected that with a pedagogy for autonomy the bringing of a new methodology, the harmonisation of contact hours with tutorials and the self-access practise would meet the needs of the learners and decrease the failure rates in English language learning and, on the other hand, foster greater motivation. The contribution of cross-curricular collaboration to the principles of Bologna and the objectives of the English curriculum were also observed. Unfortunately, it was not possible to put into action all the predicted instruments for autonomy, nor did the concrete project match its proposal; reality came in between.

In the third chapter of the thesis then, attention will be given to the background of ESAC, the institution in which the study was undertaken, the changes brought by the Bologna Process to the disciplines of English and the methodology used in this research by the researcher to implement a pedagogy of autonomy in order to achieve attitudinal changes. These changes intended a dual focus, namely at a meta-cognitive level and at a proficiency level. Using action research as the method where all the research is anchored, I had to be flexible enough to change the plan and the materials in face of reality and adapt the capacity to carry out my objectives. The study was conducted in a natural environment and quantitative and qualitative data were collected using a range of instruments, including, as mentioned above, questionnaires, student proficiency tests, students reflections, and others, in order to try to make sense of the complexity of the situation being studied.

In the conclusions, it was possible to place the study in its wider institutional context by looking at what had happened in the institution through

available data on the implementation of the Bologna Process. This magnified the scope of this study taking it to a deeper level of understanding. In addition, conclusions are reached regarding the results of the study for the students and teachers involved.

Chapter 1

The Bologna Process – An Unauthorised Biography⁴

"Changing societies need to educate for change."

(Somekh, B. & Davies, R., 1991)

1.1 Introduction

Europe today is the battlefield for the process of building and re-building the institutions of Higher Education. Few Europeans are aware of the dramatic restructuring European universities are undergoing which unfolded after the Bologna Declaration of 1999. How a two-page document challenged the existing structures while laying the foundations for the European academia in the 21st century and started the overwhelming and still on-going process towards reform, conventionally known as the Bologna Process, will be depicted in this chapter.

The aim of the chapter is to explore the Bologna Process, what it is and how it came about and discuss its importance in the reshaping of Higher Education in Europe, and in Portugal in particular. More specifically, it aspires to clarify the background to this research into autonomy and innovation in language learning, which has been marked by great and rapid change, globalisation, internationalisation, market forces, and policy making in a knowledge-based economy. This is a personal narrative in which the opportunities and breakthroughs brought by this process are highlighted, as well as its weaknesses and threats, set against a historical background rich in 'carefully and diplomatically worded' official documents (Harberer, 2002).

⁴ This title was inspired in Richard Fortey's book *Life: An Unauthorized Biography. A Natural History of the First Four Thousand Million Years of Life on Earth. Flamingo:* HarperCollins Publisher, 2008.

A historical perspective may help us to understand the present rates of change compared to the nineteenth century when the university, and the higher education systems as we understand them, took shape. A century ago student numbers were small, an élite few, the strategic relevance of higher education was not noticeable, academic lives were centred on the institutions and outside social status was more important than professional distinction (Rothblath, 2000). Academic institutions were not models of tolerance, and class, religious, gender, and ethnic biases were evident. Portugal was no exception, and in fact, Portuguese universities tended to be crystallised in tradition, out of tune with modern scientific advances and only by political reforms were changes introduced (Miller Guerra & Sedas Nunes, 1970; Carvalho, 1985; Arroteia, 1996; Veiga Simão, 1998; Vasconcelos Costa, 2001; Amaral, et al., 2002; Sousa Santos, 2002; Teodoro, 2005).

After World War II, the concept of university started to change, the élite few gave place to spreading numbers of students from all classes, religions, genders and ethnicities that gradually started to change the face and the *modus operandi* of higher education, especially in the United States. A research ethic started to take hold of institutions and with it a differentiation between graduate and post-graduate syllabuses and institutions. The stimulus of post-graduation also allowed for generations of better prepared academics to teach to their specialties and for the differentiation by function and mission of institutes, research centres, colleges, universities and professional schools.

With the phenomenon of mass education, a problem became evident: how to make relatively cheap access to higher education compatible with high quality conceptions of university education? The United States solved the problem by accepting multiple standards of quality, but for European institutions, all innovations in assessing worth or in curriculum development from the other side of the Atlantic were rejected. Great criticism arose towards the American modular and credit unit in what was called the 'supermarket curriculum', the continuous assessment system carried out by the teacher, being both instructor and examiner, with no independent external

examining system to check on either the quality of the student or the institution. These modular curriculum features and the variable standards were combined with a system of student transfer which allowed for ambitious students of less 'competitive' institutions to move to the premier league institutions where competition was high. From the 1970s to the 1990s, great debate took place in American universities over the entrance of minorities and the establishment of quotas in order that the access of the masses into higher education be guaranteed.

Very early the question of financing mass higher education systems and funding research started to transform the nature of higher education institutions in the United States (Bok, 2003). Seeking alternatives to pay for the costs of higher education institutions became inevitable when faced with financial cutbacks, a trend to be spread later throughout the world. From searching for patrons and philanthropists, to introducing student fees or creating science parks, creativity was put to use in a number of expedients to find more income to counterbalance the tendency of central governments to offload their financial responsibility.

With the "commercialization of higher education", to use Bok's (2003) phrase, a wave of entrepreneurial behaviour emerged and new ways were found to market specialised knowledge at the hand of enterprising professors coming from business schools and applying to universities the laws of the market. University consultancy, patent licensing, and general scientific discoveries, often subsidised by private companies, helped to change the nature of the university. North American universities were entrepreneurial and customer-oriented, doing business in a pragmatic world of public relations and money-making that was alien to their European counterparts. In continental Europe, the ministries very much controlled universities' destinies, and the rigidities of century-old traditions were difficult to loosen. A little more than a decade ago the Atlantic Ocean represented a formidable distance between European and North American education (Green, 2002). In North America, the simple merchandising of the university's name on sweatshirts or the more technological sophisticated products such as internet courses or adult

education, were enhancing the opportunities of rapid money making at universities and this model of success started to be imported by European governments as a model of efficiency to what some have termed the Americanisation of higher education (Robertson, 2000; Rothblath, 2000). By 2001, the differences between continents had blurred and higher education had become a global enterprise facing the same fundamental challenges created by technological environment, globalisation, and competition (Green, 2002).

From enclaves with a monopoly on knowledge in the 19th century, universities became competitors with institutions that generate highly technical knowledge outside the academy, such as laboratories within large corporations employing thousands of scientists. From a relationship in which higher education determined what knowledge to output into society, the reverse is happening now; it is society that determines what knowledge is to be demanded of universities according to its current needs (Barnett, 1994, 2000a, 2003). The opening up of universities to hosts of new students with a more diversified profile coming from different social backgrounds has challenged the old foundations of universities and pushed them to face the needs of knowledge production in society (Toohey, 1999; Barnett, 2000a; Laurillard, 2002; Biggs, 2003).

Globalisation, ushering an age of high uncertainty for individuals, since jobs, communities and working places can be transformed instantaneously by anonymous and unstable technological and economic forces (Friedman, 1999), seems to be a tantalizing concept in the moment we live in. Driven by this flow of change, higher education institutions need to have a quick answer to global alterations on political, social, economical and cultural levels (Correia & Mesquita, 2006) in a 'risk society'⁵

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⁵ Risk society is an amply diffused social theory developed by the German sociologist Ulrich Beck, implying that society is organised in response to risks. Risk can be defined in the risk society as 'a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself '(Beck 1992: 21). It is because this politically reflexive society is so concerned with its future, and safety in general, that generates the notion of risk explored by Beck and replicated in many other contemporary sociologists.

where uncertainty and risk are the major features (Beck, 1992). Beck conceives education as an individual's expectation of upward mobility, or in other words, "a protection against downward mobility" (1992: 94). As soon as the individual enters the labour market he or she faces mobility and competition having as a guarantee qualifications and accomplishments, usually acquired in higher education institutions.

Therefore, there is an irreversible increase of people looking forward to upward mobility and to competing in the labour market. According to Blight, Davis, and Olsen, "the international growth in demand for higher education will be the principal driver in changes in the nature of universities in the new millennium" (2000: 95). Blight developed models for world, regional, and country demand for university places and these models have been the basis for top-down forecasts of student numbers on a global scale. In accordance with his 1995 study, the access rate varies with change in per capita income, so, as income rises, the demand for higher education places grows, independently of the impact of population growth. To quote from his study:

Global demand of university places will grow at 3.5 per cent per year in the first 25 years of the new millennium. By 2010, the global access rate will be up from 16 to 20 per cent, with 97 million students at universities throughout the world including 45 million from Asia. By 2050, the global access rate will be 31 per cent with 159 million students at universities throughout the world including 87 million from Asia (Blight, 1995: 22, quoted in Blight, Davis & Olsen, 2000: 97).

In the last decade, the rise of India and China as two new giants in the marketplace has changed the global economy. Of the 87 million Asian students anticipated by Blight's model, many will go to universities in their home countries, but there will be a great flow of students looking for prestigious foreign higher education institutions to initiate their movement towards upward mobility. The demand for university places in Asia will continue to outstrip supply and many students will seek their degrees overseas (Blight, Davis & Olsen, 2000: 99).

The internationalisation of higher education institutions can be perceived as an active response to the impact of globalisation (Knight, 1997:6), where a country affirms the uniqueness of its history, culture, and resources in an enticing way to attract foreign students. The coveted market of borderless higher education has originated twinning programmes, franchising of virtual universities, consortia and strategic alliances to face the challenges of the ongoing growth in demand. Globalisation and its impact on the internationalisation of higher education are specially linked to the global market powered by information and communication technologies. Since universities, and in particular research universities, are the ones that produce much of the fundamental science and advanced technology on which this global knowledge economy depends, they perceive themselves as key players in the knowledge business. But universities are also key mediators in promoting international understanding, embedding global perspectives in the curriculum as well as local agendas, particularly those concerned with ethnic, religious and cultural diversity within nations (Scott, 2005: 3-4).

The internationalisation strategy, as an attempt to avoid parochialism and value cultural diversity definitively positions education as an export asset. Based on the 1997 UNESCO Statistical Yearbook , Reinalda and Kulesza (2005) present the leading exporters of educational services – the United States, France, Germany and the United Kingdom - and how the United States face increasing competition from Australia and New Zealand for Asian students. In terms of educational commodities, the top exporters have different market orientations, i.e., the United States are oriented towards Asia, and the three European countries are more oriented towards their former colonies or specific trade partners (Reinalda & Kulesza, 2005: 14-15).

In the mid-1990s the European Union was seen as a weak player in the international education market, especially when regarding the promising Asian market. There was absolute necessity of European universities to become competitive in the global market, notwithstanding the fact that some EU members were relatively large players, there was great need of a profound makeover and this

was a determining factor for universities to be motivated to embrace change. Europe, the centre of knowledge, the cradle of the 'University' was out of date with the new technology-driven world. According to Reinalda & Kulesza (2005) the Bologna Process appeared both as a solution for domestic problems in European education systems and the possibility of enhancement of European universities international position:

Countries wanting a larger market share needed international oriented universities. And if Europe wanted an equal share in the global market, it had to develop a common approach. Against the background of this window of opportunity, the Bologna Process seemed to offer a way to enhance the international character of European universities and to change domestic higher education structures. (2005: 15)

Europe needed to react to what movements and consortia existed in the world before it was too late. In fact, a timid start towards cooperation had been made in September 1988 when the rectors of some European universities gathered in Bologna and produced the Magna Charta Universitatum⁶ to celebrate the ninth centenary of the oldest University in Europe. Although the role of the university was perceived as changing, little was done after 1988 to seriously undertake the transformation it was so desperately in need of in the new knowledge-driven age. Embryonic commitment towards continuing education can be found in the preamble of the Magna Charta as well as vague humanistic statements in appraisal of the autonomy of universities vis à vis society, freedom of research, and universal knowledge. Among the means stated to attain the four fundamental principles outlined in this document, namely: university autonomy and independence from economic power, inseparable domains of teaching and research, freedom of research, and the maintenance of the humanistic tradition in European universities, stress was laid on mutual exchange of information and documentation, in an attempt to stay in tune with the early days of European universities when mobility among

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⁶ http://www.aic.lv/bolona/Bologna/maindoc/magna_carta_univ_.pdf.

teachers and students was encouraged. It was to be considered general policy to give equivalence to titles and examinations without causing prejudice to national diplomas, and award scholarships for the joint projects and the advancement of learning to be carried out.

The Magna Charta Universitatum can be perceived as an anticipation of the 1992 constitution of the Single Market of the European Union when the economic boundaries between the countries of the European Community would be abolished. As a forerunner of declarations to come, the 1988 Magna Charta Universitatum had a core idea, that would reverberate in the decade to come, about the cross-border exchange of knowledge though the mobility of students and teachers, a "novel" medieval concept of abolishing frontiers for exchange of knowledge. This core idea would give origin to the setting up of ERASMUS and other community mobility exchange programmes in 1987.

It is frequently repeated that Jean Monnet, after all his work towards the building of a European Union (EU) used to say that if he had to start all over, instead of starting with the Europe of the economy he would choose the Europe of culture. Paraphrasing his words, Miquel Siguan suggested that the real route for the future of Europe should be the one offered by education (Miquel Siguan, 1996: 264). Considering the massive adoption of the ideals stated in the Bologna Declaration and the support of the Bologna Process by 47 countries – both EU and non EU countries – in an unparalleled process in modern European history, his words may be a foretelling preamble for the following subchapters.

1.2 The European Union and Higher Education

It is clear that the early European community builders focused on restricted spheres of pragmatic, economic integration rather than far-reaching schemes for political or cultural cooperation (Moreira, 2001). However, there has been a gradual emergence of an identity project within the European Community, later the European

Union (EU). Through the institutionalisation of a European citizenship, the encouragement to mobility and the commitment to the Single Currency, slowly the bureaucratic machine of the EU established the framework for the building of a European identity periodically re-shaped by its enlargement.

The building of a European identity is far more complex than the building of the infrastructures for the Common Market or the Single Currency. Being a mosaic of peoples, each with a different cultural identity, anchored in their regionalisms, there is great complexity and conflict in the utopia of creating a community of states where in their diversity all share the 'something' that makes up Europeanness (Moreira, 2001). This complexity is deepened by the permanent antagonism of forces at its core; on the one hand Europe is trying to promote unity in diversity as an ideal upheld as a safeguard against cultural homogenisation, but on the other hand, the homogenisation of policies, economy and law erode national specificities.

Set against this background, the building of a space for higher education mirrors some of the difficulties of the creation of a European Union, as recognised by the OECD document of November 2003. On the one hand there is an increased diversification in institutions, programmes, qualifications, delivery modes, and teaching and learning settings; on the other hand, there is a process of convergence and standardisation going on in the same aspects of educational systems. Although there is recognised diversity, this divergence does not intrinsically affect the comparability of outcomes (OECD, 2003:17).

The Bologna Process was born from the confrontation of these two antagonistic forces: harmonisation in a space of increased diversification. A third element has contributed to its emergence: internationalisation. Scott places the internationalisation of higher education in the wider social context strongly influenced by mass tourism and the mass media, together with large-scale immigration, bringing great diversity to once more homogeneous national societies and an increasing taste for international experience and mobility (Scott, 2005:5). This taste for

internationalisation allowed institutions to initiate dialogues and partnerships that would lead to regional alliances and international policy-making.

An example of this institutional dialogue is the document that lies at the genesis of the Bologna Process - the Sorbonne Declaration of 1998 - in which the Ministers of Education of the UK, Germany and Italy, having accepted the invitation of the French Minister of Education to participate in the celebration of the 800th anniversary of the University of Sorbonne, debated the problems in their education systems and looked for international means to reform higher education in their countries (Vasconcelos Costa, 2001, 2005; Harberer, 2002; Reinalda & Kulesza, 2005).

Realising the potential role of universities in a context of intensifying globalisation as a need for economic integration, the four ministers declared the following:

The European process has very recently moved some extremely important steps ahead. Relevant as they are, they should not make one forget that Europe is not only that of the Euro, of the banks and the economy, it must be a Europe of knowledge as well. We must strengthen and build upon the intellectual, cultural social and technical dimensions of our continent. These have to a large extent been shaped by its universities which continue to play a pivotal role for their development. (The Sorbonne Declaration 1998)⁷

A decade after the release of the *Magna Charta Universitatum*, reflecting perhaps on how they had been entangled in bureaucratic networks that delayed the modernisation of higher education, the four EU members reiterated some of the principles of the 1988 Bologna document and agreed on the "harmonisation of the architecture of the European higher education system", the very title of the declaration. The main objectives of the Sorbonne Declaration were to encourage student exchange programmes, cooperation, and the recognition that the internal and external readabilities of the degrees would enhance the attractive potential of their

⁷ As stated in the Sorbonne Declaration. http://www.bologna-bergen2005.no/Docs/00-Main_doc/980525SORBONNE_DECLARATION.PDF

higher education systems. Much of the originality and flexibility of this system is asserted through the use of credits (such as in the ECTS scheme) and semesters. Three cycles of study were already envisaged: the undergraduate cycle, the master cycle and the doctoral cycle. The aim was to facilitate student mobility as well as employability and external recognition of the degrees to offer.

The rapid consensus achieved by the four ministers on course duration, 3-5-8 years, (considering the course duration of each cycle from the moment a student enters university) was not a mere coincidence; the UK had been using this education scheme for a long time. Germany was using it experimentally and Italy and France were submitting studies for its adoption. All wanted a share in the global market of education by having shorter education cycles that could bring a new impetus to their economies (Vasconcelos Costa, 2001; Reinalda & Kulesza, 2005; Corbett, 2005).

The follow-up activities of the Sorbonne Declaration attracted support for their initiative and gathered stakeholders of many countries who met in 1999 in a Bologna Forum where a Steering Committee presented a draft of a declaration to be discussed by all involved in the year's symposia. It was clearly perceived that higher education cannot escape the laws of economics and the increase of widespread competition brought by globalisation. Europe was seeking ways to compete in the new global economy relying on the progress of knowledge and its transformation into new products, processes, and services since it could not compete on the basis of natural resources, or cheap labour (Commission of the European Communities, 2005). The wish to turn the Union into a strong global partner and invest in knowledge was, and is, seen as the best way for fostering economic growth and creating more and better jobs (Bárbara, Ferreira, Morais, Lopes 2005; Bárbara, 2007).

Considerations on the international role and influence of European higher education were abundant in pre-Bologna contexts (Zgaga, 2006: 6) and the Sorbonne Declaration stressed "the international recognition and attractive potential of our systems" to which the Bologna Declaration would add "a world-wide degree of attraction". According to Corbett, the aims of fostering attraction were dual: both to

attract foreign students and scholars from the rest of the world and to boost quality within Europe itself, as a way of making universities more effective within the knowledge-based economy which the world's richest nations regarded as the *sine qua non* of economic growth (2005:4).

In the building of a European identity for the continent, through what some have called 'Europeanisation', many are the voices of assent and dissent, but the rhetoric which invades Europe cannot blot out the reality of the 'Americanisation' and the 'Asianisation' of the world. If on the political stage, Europe is second to the United States and plays an important role in the world affairs, in higher education, it is relegated to a much lower ranking. Although Europe is commonly referred to as a continent of culture and of highly educated people, only 21% of the EU active population has a higher education degree, much lower than the U.S.A. (38%), than Canada (43%), than Japan (36%) or even South Korea (26%) (Corbett, 2005; Reinalda & Kulesza, 2005; Veiga Simão, Machado dos Santos, Almeida Costa 2005; Correia & Mesquita, 2006).

1.3 The Bologna Declaration

Within this framework of reference where there is, on the one hand, great rhetoric towards the shaping of a European identity and political unity, and on the other hand, the consolidation of the Common Market and the Single Currency, education finds its place to give a new impetus to the European economy. The single European market is made up of people, goods, services and capital, but it is particularly a market of citizens and of workers, many of whom are highly qualified by universities. Given the fact that the Common Market can only function properly if there is harmonisation in the legislation of its member states in order to ensure the quality of goods, the supervision of capital, etc, the same principle applies to higher education qualifications. It is however important to reinforce that almost half of the

countries involved in the ratification of the Bologna Declaration were non-European Union members working for a pan-European solution for their educational systems.

The quest for harmonisation of degrees and cooperation within European institutions had already been present in the 1998 Sorbonne Declaration, where it was acknowledged that the international recognition and potential attractiveness of the higher education systems in Europe were directly related to their external and internal readability. At a time when American universities had consolidated their status of leading exporters of educational services with an aggressive strategy as world distance learning providers, a convergence and harmonisation of the degrees offered in Europe could boost the potential of attractiveness of its higher education degrees. By laying the emphasis on the transparency of the system and the quality bestowed upon it, European universities could aspire to a share of the global market of education by having shorter education cycles whilst solving the problem of the huge diversity of the degrees offered⁸.

After a two-day forum in Bologna, on 19th June 1999, the Ministers of Education of 29 European states (15 EU and 14 non-EU members) became signatories of a joint declaration, which became generally known as the Bologna Declaration. In its text the importance of the European process was reiterated while the component of knowledge in Europe as a factor for social and human growth was now greatly highlighted.

One of the major goals of the Bologna Declaration is to uphold international competitiveness:

We must in particular look at the objective of increasing the international competitiveness of the European system of higher education. The vitality and efficiency of any civilisation can be measured by the appeal that its culture has for other countries. We need to ensure that the European higher education

⁸ By accessing the link http://europa.eu.int/comm/education/socrates/erasmus/guide/default.html one has the description of all the higher education gualification degrees in Europe.

system acquires a world-wide degree of attraction equal to our extraordinary cultural and scientific traditions⁹.

Betting on the appeal of its culture and its history of scientific predominance, Europe wanted to attract students from other continents in direct competition with the major shareholder of higher education, the United States. Trying to counterbalance the loss of vitality of an ageing continent and the brain drain from university ranks, the document emphasises the creation of the European Higher Education Area (EHEA) has the key to promote mobility and employability, the other two major goals in ensuring the overall development of the continent. The EHEA had been taking steps towards its establishment through student mobility programmes, such ERASMUS/SOCRATES 1987, bringing forth drive towards the internationalisation of degrees in higher education and collaborating to the free circulation of part of the European citizens: its students. The EHEA was to build on these already established foundations.

What the declaration aims is to establish an action programme where there is a clearly defined common goal - the creation of a shared space for higher education while increasing the international competitiveness of European higher education. Furthermore, it has a clearly defined deadline – the European space for higher education should be completed in 2010. And finally, it ascertains a set of specific objectives to operationalise its goals:

- 1. adoption of a system of easily readable and comparable degrees;
- 2. adoption of a system based on two cycles undergraduate and graduate;
- 3. establishment of a system of credits (such as ECTS);
- 4. promotion of mobility by overcoming obstacles;
- 5. promotion of European cooperation in quality assurance;

⁹ The Bologna Declaration can be found in the Bologna Process updated site: http://www.ond.vlaanderen.be/hogeronderwijs/bologna/.

6. promotion of the European dimensions in higher education.

The first instrumental objective is clearly linked with the strategy drawn by Europe in its quest for laying out a new framework where it could compete as a 'confederation' of countries, confronting other clusters of the planet (Azevedo, 2005) offering higher education degrees that, although non-uniform, are highly intelligible because easy to compare amongst themselves, and therefore transparent. To implement the mobility of students an instrument was created in order to recognise the 'transparency of qualifications' (Lourtie, 2001) - the Diploma Supplement, which acting together with the European Credit Transfer System - ECTS - strives for a reduction of a potentially chaotic diversity .

The ECTS system is envisaged as a means of promoting widespread student mobility due to its use for a decade as a tested experiment in the ERASMUS/SOCRATES exchange programmes. Its success as a tool to recognise periods of study abroad and the transfer of credits in higher education was later to lead to its generalised acceptance as the best system of credits to assess learning outcomes and guarantee the convergence of different credit systems (Vasconcelos Costa, 2001; Veiga Simão, Machado dos Santos, Almeida Costa 2002, 2005). The Bologna Declaration specifies that these credits could also be acquired in non-higher education contexts, including lifelong learning situations, if the concerned institutions decide upon their transfer and accumulation i.e., their recognition (Tuning, 2003; Gonzalez & Wagenaar, 2003).

Prior to Bologna, some countries, such as Portugal, based their credits on the time allocated to teach a discipline, e.g. 15 lecture hours corresponded to 1 credit, and the same 1 credit could be obtained either through 40 tutorial hours, 22 lectures/tutorials or 30 hours of seminar work. With the ECTS, the measuring system is altogether different. Instead of measuring the teaching hours, it calculates the student's working hours, i.e., the total workload the student will have in order to successfully complete a module or course unit, considering class attendance, research, self-study, etc. Hence the ECTS system does not have an arithmetic

formula linked to front-faced teaching but relates to workload and competence achievement and its widespread use in the signatory countries could represent represent a revolution in the whole concept of education or a shift in the knowledge paradigm, as will be discussed further on ¹⁰.

Another revolution, of no lesser degree, presented by the declaration is linked to the establishment of two main cycles of studies – undergraduate and graduate – having the first cycle the minimum duration of three years. There is a qualitative difference in the two cycles, i.e., after the first cycle the generality of graduates will enter the labour market whereas the graduates who decide to undertake the second cycle will embrace careers which require greater scientific aptitude and specialisation. In a heterogeneous space where many countries only had one cycle of five years, this could represent a substantial reduction in the number of years spent at university, and government student support. Der Wende (2000) puts forward the hypothetical idea that, as cycles are shortened, there would be an equivalent fall in drop out rates since the shorter period might work as an incentive to study harder and not to give up. Compared to the 4-year bachelor degree cycle offered in the United States and in the Asian-Pacific region, it could also represent a motivating factor to foreign students who could be offered shorter degree programmes in Europe (*idem*).

Some believe that the purpose of this adoption is the earlier placement of young adults in the marketplace, urging them to participate from an earlier age in a pre-bankrupt social welfare system (Vasconcelos Costa, 2005), or even a mischievous plan to decrease diversity in higher education degrees by having not only convergence in the duration of cycles but also curricula centrally established by ministerial bureaucrats (Amaral, 2004). More often than not, the shorter duration of courses is perceived as a global strategy for the reform of higher education systems in Europe as a concerted attempt to bring forth change in the education models. To

¹⁰ A detailed description of the ECTS features can be found in the ECTS User's Guide available on http://europa.eu.int/comm/education/socrates/ects.html.

put it more specifically, this entails exchanging a continental, Napoleonic model of 'studying few years to work all life' for an Anglo-Saxon and Nordic model of 'studying all life to work all life' where the initial short cycle of studies is complemented by a lifelong process of learning (Suarez, 2003).

Underpinning the declaration, especially with the general implementation of the ECTS system and the decrease of the duration of courses within a two-cycle structure, lies the need for a profound reform in mentalities and a revision of the role of teachers, of students, and a re-structuring of higher education institutions and their rapport with the job market.

Another very important aspect of the Bologna Declaration is that it is not just a political statement, as the *Magna Charta Universitatum* of 1988, but a binding commitment to an action programme. A decade of general paralysis regarding the consensual idealistic values of the Magna Charta gave way to a whole new dynamics and a calendar for action. If universities indeed lie in the heart of the knowledge society it is up to them to establish the agenda. And the agenda was set with follow up structures and activities as well as the establishment of groups of specialists to assess the progress achieved and agree on further steps.

Although the document issued in 2000 by the Confederation of European Union Rectors, as an explanation to the Bologna Declaration, often criticised as vague, made apparent that the Declaration is a commitment freely taken by each signatory country and not a reform imposed upon higher education institutions, it became clear that those who decided to ignore it would stay outside the mainstream of change. Refuting labels of standardisation or uniformity, the rectors drew attention to the importance of the Declaration as a common European answer to common European problems, namely diversification of higher education, shortage of employability and of skills in key areas, and the expansion of private and transnational education. The declaration is consequently presented as a key document marking a turning point in the development of higher education by

recognising the value of coordinated reforms, compatible systems and common action¹¹.

And common action is the key feature of the so-called Bologna Process. In the very same year the Declaration emerged, the EU Education Ministers met in Finland to establish two groups: a consultative group (made up of the representatives of all signatory countries' representatives from the European Commission and the Confederation of European Union Rectors' Conference and the Association of European Universities) and a steering group or follow-up group (made up of the member states holding the EU presidency until the meeting in Prague in 2001). The actions of the two groups were manifold and allowed for the planning of seminars, the acceptance of other stakeholders and the preparation of a specific report to be presented by a general rapporteur before the meeting. Henceforth there would be regular ministerial meetings every two years with similar objectives and *modus operandi*.

Given the fragmentary nature of Europe, it is easy to draw a parallel between the permanent construction and reinvention of European identity, its single currency, single market and the singularity of the EHEA being permanently enlarged (far beyond its European members), upgrading and expanding the significance of its many communiqués and like the Bologna Process itself: a work in progress.

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¹¹ *cf.* Confederation of European Union Rectors' Conferences and the Association of European Universities, *The Bologna Declaration on the European Space for Higher Education: An Explanation*, 20th February 2000 In http://www.bologna-berlin2003.de.

1.4 The Bologna Process

Since the goals established by the Bologna Declaration were high, the set of associations and actions undertaken thereafter can be described as a web of recommendations, communiqués, conferences, workshops, meetings, all aiming at the continuous enlargement of the signatory countries, the enhancement of the first objectives and a clarification of the vacuity in some concepts.

The Bologna Process addresses not only national governments but the higher education sector, the individual universities, their associations and networks. Many universities anticipated their governments and started preparing reforms in their institutions before having governmental laws for their action. In fact, in March 2001 over 300 European higher institutions and their representative organisations gathered in Salamanca to prepare their input for the Prague ministerial meeting. In Salamanca the two university associations which were organising the meeting: the Confederation of European Union Rectors' Conference and the Association of European Universities merged into the European University Association (EUA). The institutions there assembled saw the establishment of the EUA as a means to "convey their voice more effectively to governments and society and thus to support them in shaping their own future in the European Higher Education Area" (Salamanca, 2001). The text of the Salamanca convention is divided into two parts: principles and key issues. The former assert their adhesion to the principles of the Magna Charta Universitatum while recognising that autonomy and accountability should be the cornerstones of higher education institutions. Nevertheless, there is a call of attention to the question of fair financing and managerial freedom in order not be placed at a disadvantage when facing competition and cooperation from other institutions.

While the Prague ministerial meeting released more utopian declarations, the European institutions were more pragmatic, focusing on financial aid, on the defence of diversity as an asset in the building of convergence, and on creating regulatory instruments to ensure a level of cohesion. Another important emphasis was laid on quality as a fundamental corner stone of the European Higher Education Area:

"inherent quality does not suffice, it needs to be demonstrated and guaranteed in order to be acknowledged and trusted by students, partners and society at home, in Europe and in the world" (Salamanca, 2001)¹². Indeed, to 'attract talent from all over the world', quality had to be demonstrated as "the basic underlying condition for trust, relevance, mobility, compatibility and attractiveness" (*idem*) in the new emergent area for higher education. Pinpointed as key issues were the adoption of specific measures to guarantee the adoption of curricula and of degrees readable inside and outside Europe, credible quality assurance measures, programmes taught in major world languages, adequate information and marketing, services to welcome foreign students, and scholars, and strategic networking.

Non-governmental Higher European institutions, such as the European University association (EUA) and the National Unions of Students in Europe (ESIB), brought a fresh perspective to some of the problems to be tackled in order to implement the Bologna Declaration. They were sensitive to the question of releasing clear information of the product being created and to having marketing strategies for delivering the message of this network.

The response of universities to the implementation of the actions lines of the Bologna Declaration would be furthered through the Tuning Project, in May 2001, as a pilot project designed to harmonise, or tune, the educational structures in Europe (Tuning, 2003). Aiming at operationalising the action lines of the Bologna Declaration, namely the adoption of a system of easily readable and comparable degrees, the adoption of a system based on two cycles and the establishment of a system of credits, the Tuning Project established itself as paramount in demonstrating how the implementation could come about. Basically the Project's aims were to "identify points of reference for generic and subject-specific competences of first and second cycle graduates in a series of subject areas: Business Administration, Education

¹² The Salamanca document of 2001 was created by the Confederation of European Union Rectors' Conferences and Association of European Universities. It became formally known as the Salamanca Convention of European Higher Education Institutions.

Sciences, Geology, History, Mathematics, Physics and Chemistry" (*idem*). Competences, i.e., the description of learning outcomes – "what a learner knows or is able to demonstrate after the completion of the learning process – are described as points of reference for curriculum design and evaluation, not as straightjackets (...) allow flexibility and autonomy in the construction of the curricula (...) they provide a common language for describing what curricula are aiming at" (*ibidem*).

The attempt to have common understanding, or convergence, in European curricula by providing descriptive examples of learning outcomes, educational activities, estimated student work and assessment for some modules would be later followed by the Joint Quality Initiative Group in providing descriptors of competences for short cycle, first cycle, second cycle and third cycle awards, later to be known as the Dublin descriptors¹³ that would found the basis for the description of awards of many Education Acts throughout Europe.

An important non-governmental player in the Bologna Process was the National Unions of Students in Europe, the ESIB, which contributed to the process by issuing the Student Gőteborg Declaration commenting on all issues covered by the Bologna Declaration with great criticism and giving emphasis to the social dimension as a counterbalance to the economic dimension of the process¹⁴. Delving into central questions, such as access to higher education or student participation in decision-making at all levels, the ESIB saw its work recognised and was accepted after Prague as an observer in the follow-up process.

While reviewing the progress achieved and setting directions and priorities for the coming years of the process, what the Prague communiqué attempts is the clarification of the six objectives previously established in the Bologna Declaration, and particularly, to draw three new action lines with the purpose of establishing the

¹³ In http:// www.jointquality.org/content/ireland/Shared%20descriptors20Ba%20Ma.doc.

¹⁴The Student Gőteborg Declaration is included in the 'Lourtie Report' *Furthering the Bologna Process*, available in http://:ww.bologna-berlin2003.de/pdf/lourtie report.pdf.

European Higher Education Area by 2010 (Prague, 2001)¹⁵. One of the particularities of the Prague communiqué lies in the recognition of the need of conferring an academic perspective to lifelong learning in higher education encompassing the different designations it has in different countries, namely 'continuing education', 'adult education', and 'continuing professional development' (Correia & Mesquita, 2006: 46). Thus lifelong learning widens the social participation in the process and becomes a line of action in the Bologna Process *per se*:

Lifelong learning is an essential element of the European Higher Education Area. In the future Europe, built upon a knowledge society and economy, lifelong learning strategies are necessary to face the challenges of competitiveness and the use of new technologies and to improve social cohesion, equal opportunities and the quality of life. (Prague, 2001)

Another line of action is linked with the involvement of other higher education institutions and students as "competent, active and constructive partners in the establishment and shaping of a European Higher Education Area" (*idem*). A corollary of the participation of the many agents in the furthering of the Bologna Process, as has been mentioned above, is that these players saw their claims accepted and their very words included in the text of the Communiqué. For example, part of the Salamanca Convention and the Gőteborg Declaration are embedded in Prague's final text.

The last new line of action concerns the promotion of the attractiveness of the European Higher Education Area. Building on the statement of marketing necessities from the Salamanca Convention the "Ministers agreed on the importance of enhancing attractiveness of European higher education to students from Europe and other parts of the world" (*ibidem*). This could be achieved by the development of a framework of qualifications to ensure the readability and comparability of higher

¹⁵ In *Towards the European Higher Education Area.* Communiqué of the Meeting of European Ministers in charge of Higher Education in Prague on 19th of May 2001. http://www.bolognaberlin2003.de/pdf/Prague_comuniquTheta.pdf.

education degrees as well as provide coherent quality assurance and accreditation and certification mechanisms. Attention was called to quality as the determining factor for international attractiveness and competitiveness. These would be enhanced by having institutions with different programmes and profiles and by the collaboration of higher education institutions at a transnational level.

After the Prague meeting the number of signatory countries rose to 32 and the European Commission received the status of additional full member while the possibility of enlargement continued to be assessed. Great participation came from the EUA, ESIB, and the European Association of Institutions of Higher Education (EURASHE), comprising colleges, polytechnics and universities of professional higher education, which helped to monitor the Bologna Process and to discuss the possible directions for further development. During this period and thanks to two dynamic groups, the European Council and the EU Education Councils, the Bologna Declaration gained a new dimension being altered from 'a voluntary action to a set of commitments' (Zgaga, 2003)16 in the framework of the EU decisions on higher education. According to the general rapporteur at this time, Pavel Zgaga, the European Commission became a full member of the Bologna Process and guaranteed financial contributions because the Bologna action lines coincided with EU policy in higher education (2003:18). Between 2001-2003 eight new countries expressed readiness to join the Bologna Process, demonstrating its growing impetus, and the network was enlarged to 40 member states at the Berlin Summit (2003). During this period, signatory countries engaged in a "more substantial commitment to the process (...) preparing and implementing substantial reforms in their higher education systems" (Zgaga, 2003). It became clear that the marketing of the Bologna product was working, as testified by Zgaga:

¹⁶ In *Bologna Process between Prague and Berlin. Report to the Ministers of Education of the signatory countries*" by General Rapporteur Pavel Zgaga, Berlin, September 2003. http://:www.bolognaberlin2003.de/pdf/zgaga.pdfo.

Bologna has become a new European higher education brand, today easily recognised in governmental policies, academic activities, international organisations, networks and media (...) the 'Bologna Club' and the European Union are not of the same composition but most of these principles are applicable in both cases. The 'Club' has not been founded on out-voting each other but on jointly exploring the most important issues and searching for consensus (...) our advantages can be mutually and fully enjoyed only if we create solid 'common roads' among us. Richness is the end; 'common roads' are the necessary means. (Zgaga, 2003)

However, the Bologna network seemed to be turning into a club of countries in the pursuit of some educational goals for economic reasons only. In order to offset this economical partiality, the Berlin Communiqué, entitled *Realising the European Higher Education Area*, laid great relevance on the social dimension of the Bologna Process. In its preamble the ministers underlined:

- the importance of the social dimension of the process "the need to increase competitiveness must be balanced with the objective of improving the social characteristics of the European Higher Education Area, aiming at strengthening social cohesion and reducing social and gender inequalities;
- 2. that higher education is a public good and a public responsibility;
- the conclusions of the European Councils in Lisbon (2000) and Barcelona (2002) aimed at making Europe "the most competitive and knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion";
- 4. the support of the European Commission and the Council of Europe;
- 5. the fundamental role of Higher Education institutions and student organisations in the development of the European Higher Education Area, namely through the contributions of EUA, EURASHE and ESIB;
- 6. the presence of the Follow-up Committee of the European Union, the Latin America and Caribbean Common Space for Higher Education (EULAC) as well as representatives of members to be as guest to the summit.

Another important outcome of the Berlin summit concerns the creation of a third cycle of studies – the doctoral level – to "emphasise the importance of research and research training and the promotion of interdisciplinarity in maintaining and improving the quality of higher education. (...) Networks at doctoral level should be given support to stimulate development of excellence and to become one of the hallmarks of the European Higher Education Area" (Berlin, 2003). This would become the tenth line of action of the Bologna Process: doctoral studies and the synergy between higher education and research, to be further developed in the next meeting in Bergen 2005.

Falling midway between the launching of the process and its deadline for completion, the Bergen summit was the time to take stock and review the goals and priorities towards 2010. Realising that the Bologna Process could only be possible with a revolution in mentalities, the ministers acknowledged the importance of the institution's staff and the students in the achievement of this goal. On the other hand, it became clear that it was necessary to optimise the impact of the structural change the Process implies on curricula so as "to ensure the introduction of the innovative teaching and learning process that Europe needs" (Bergen, 2005)¹⁷.

In Bergen, five new members were welcomed which meant that 45 countries¹⁸ were now signatories of the Bologna Declaration, but it also meant that the implementation of the 10 actions lines was bound to have different rhythms of implementation. No wonder the three intermediate priorities established were stocktaking in the fields of the degree system, quality assurance and recognition of

¹⁷The European Higher Education Area – Achieving the Goals. Communiqué of the Conference of European Ministers Responsible for Higher Education, Bergen, 19-20 May 2005. http://www.bolognabergen2005.no/.

¹⁸ Albania, Andorra, Armenia, **Austria**, Azerbaijan, **Belgium**, Bosnia-Herzegovina, **Bulgaria**, Croatia, **Cyprus**, **Czech Republic**, **Denmark**, **Estonia**, **Finland**, **France**, Georgia, **Germany**, **Greece**, Holy See, **Hungary**, Iceland, **Ireland**, **Italy**, **Latvia**, Liechtenstein, **Lithuania**, **Luxembourg**, Macedonia, **Malta**, Moldova, Montenegro Republic, **Netherlands**, Norway, **Poland**, **Portugal**, **Romania**, Russian Federation, Serbia, **Slovak Republic**, **Slovenia**, **Spain**, **Sweden**, Swiss Confederation, Turkey, Ukraine, **United Kingdom**. (European Union countries in bold).

degrees and study periods (*idem*). In order to have an overview of progress in implementing the Bologna Process, a Working Group had been established in 2004 to monitor these priorities and develop a scoreboard for each country based on 10 criteria and 5 colour codes (Working Group Report, 2005)¹⁹. This revealed the implementation of the process at five different paces and commitments.

The London 2007 meeting clarified the goal of the Bologna Process, in the very title of the Communiqué – *Towards the European Higher Education Area:* responding to challenges in a globalised world. Looking towards 2010 which was to mark the passage from the Bologna Process to the realisation of the European Higher Education Area (EHEA), the ministers stated the importance of continually adapting higher education systems to a changing world to ensure that the EHEA will remain competitive and can respond effectively to the challenges of globalisation. Besides reaffirming the principles foregrounded in other declarations, there are two new aspects that should be underlined. The first is linked to the pedagogical aspect of the implementation of the process, and the second to the echoes of the Bologna Process in the world, in other words, the EHEA in a global context. Based on a number of stocktaking reports, it is stated that:

There is an increasing awareness that a significant outcome of the process will be a move towards student-centred higher education and away from teacher driven provision". (London, 2007)²⁰

Moving beyond the changes implemented through internal reforms, which will be dealt with later in this chapter, the discussion about the globalisation of the process receives considerable prominence: "we acknowledge that efforts have been made in some countries in other parts of the world to bring their higher education systems more closely in line with the Bologna framework" (*idem*). The Zgaga's report

 $^{20} http://www.dfes.gov.uk/londonbologna/uploads/documents/LondonCommuniquefinalwithLondonlogo.pdf.\\$

¹⁹ Working Group Report in http://www.bologna-bergen2005.no/

of 2006 - Looking Out: The Bologna Process in a Global Setting — provides an extended view on the external dimension of the process and the attractiveness other continents see in it, developing policies and action plans to build cooperation. The cases of the lusophone and francophone networks are amply discussed in their attempts to bring elements of convergence with the Bologna Process.

Of indisputable importance is the initiative launched by Australia in Brisbane where delegates of 53 countries of the Asian-Pacific region met and signed the Brisbane Communiqué agreeing on "greater student and academic mobility and transferability of qualifications, and greater integration of exchangeability of educational frameworks" (Brisbane Communiqué, 2006). Following closely the wording of the documents of the Bologna Process, Australia identified the opportunities presented by the process and aligns with it to gather the benefits of 'Bologna compatibility'. Predicting the threat from the EHEA in 2010 that "may offer a very attractive package for many foreign students, particularly those in traditionally strong markets for Australia", pilot reforms and the introduction of shorter cycles were some of the actions taken in order to engage with the process and not to remain 'outside the Bologna tent' (Department of Education of Australia, 2006).

It is important to remember that besides the 46 countries - the London meeting welcomed the Republic of Montenegro - that are members of the Bologna Process, and the European Commission as voting member, the consultative members of the Follow-Up Group are the Council of Europe, the ESIB, the Education International's Pan-European Structure, the European Association for Quality Assurance in Higher Education, the European University Association, the European Association of Institutions in Higher Education, the European Centre for Higher Education and the Union of Industrial and Employers' Confederation of Europe (Reinalda & Kulesza, 2005; Corbett, 2005). With every meeting the number of consultative members increases and with it the complexity of the process and its implementation but also its importance and extension. With the multiplication of reports issued by different members and working groups, at the same time that they

seem to be monitoring the success of the implementation of the process they also 'flood' higher education institutions with recommendations, studies, latest findings reports. Although always ensuring that the national institutions should have autonomy in implementing the agreed reforms.

In 2009, the Ministers met in Leuven/Louvain-la-Neuve and issued a Communiqué taking stock of the accomplishments of the Bologna Process while offering a glimpse on how the process will continue to evolve in the next decade by setting the priorities until 2020. In the preamble, attention is called to the economic crisis hampering the implementation of reforms, an echo of the action of governments justifying the transfer of more costs to higher education institutions and students, to which the communiqué endorses "public investment in higher education as an utmost priority" and defines de EHEA as an entity in which "higher education is public responsibility" (Leuven/Louvain-la-Neuve Communiqué, 2009). It was important to name the many accomplishments, especially ten years after the Bologna Declaration: the systems of higher education have become more comparable and compatible; students have become more mobile and institutions more competitive in attracting students and scholars from other continents; higher education has become more streamlined through the adoption of a three-cycle structure; it has become more accountable through the adoption of European standards and guidelines for quality assurance; transparency and recognition of academic credentials have been enhanced through use of the diploma supplement and increased reliance on the ECTS.

The priorities set for the new decade focus on the social dimension of the process, which has not been quite successful if the aim is having a wider representation, especially by providing access to underrepresented groups, removing all barriers to study, and offering the appropriate economic conditions for students to be able to benefit from study opportunities at all levels. A wider representation could also be achieved through lifelong learning, the second priority. Access should be further enhanced by the value placed on prior learning, whether academic or

experiential, and by having greater consistency in the evaluation throughout Europe of academic credit. With this purpose, the ministers call for implementation by 2012 of qualification frameworks prepared for self-certification. Among the other priorities were reiterated the principles of employability, student-centredness and the teaching mission of higher education, research and innovation, internationalisation, mobility and accountability. Regarding mobility, it is expected that by 2020, at least 20% of those graduating in the EHEA should have a study or training period abroad. Funding is the last priority to be mentioned, probably emphasising its importance in a time of economic crisis, and how new and diversified sources and methods of funding should be tapped to guarantee equitable access to the sustainable development of higher education institutions.

In March 2010, the Ministers met in Budapest and Vienna to launch the EHEA as envisaged in the Bologna Declaration of 1999. A new member, Kazakhstan, was welcomed into the EHEA. The 2010 Declaration draws attention to the achievements of a decade which succeeded in establishing regional, cross-border cooperation in higher education that raised considerable interest in other parts of the world and made European higher education more visible in the global map. Taking stock of the achievements did not blur the immense criticism this political vision has met from the teaching staff and the students as it is stated: "Recent protests in some countries, partly directed against developments and measures not related to the Bologna Process, have reminded us that some of the Bologna aims and reforms have not been properly implemented and explained" (2010 EHEA Establishment Declaration). Indeed, one of the priorities set for the next decade is to improve the communication on and understanding of what is the Bologna Process, together with keeping with the Leuven/Louvain-la-Neuve 2009 agenda for the new decade. While recognising the key role of the academic community in establishing the EHEA, the ministers also acknowledge that a more supportive environment is necessary for staff to fulfil their tasks and particularly, teaching staff and students should participate in decisionmaking structures at European, national and institutional levels. Suggestions are

offered by the Ministers to facilitate the implementation of the Bologna principles and action lines by developing additional working methods, such as peer learning, study visits, and other information sharing activities. As Table 1 shows, the milestones in the Bologna Progress have been progressive and the Process has gathered signatories as diffusion spread.

The establishment of the EHEA in the midst of great economic crisis has reflected the negative outcomes of a political vision and decisions which did not have the necessary participation of all its stakeholders in the past decade, evidencing its fragilities and the huge ambition of its goals for the 2010 deadline. Therefore, a new deadline was set forth – 2020 – and a renovated agenda was established, reaffirming the main action lines but trying to learn from past mistakes. It is expected that the expressed concerns will be overcome and the achievements outweigh the criticisms so that reforms will be fully implemented due to a true shift in paradigm, in the teaching and learning methods that are pointed out as the key to the implementation of the Bologna principles. It is a more democratic way of sharing information that is expected, a new way of teaching and learning that is still to be implemented if Bologna is to be understood and is still amiss.

To put it differently, by now the vision of a single higher-education space across Europe was supposed to be a reality, but achieving that goal is taking longer than expected. According to Professor Martin Paul, President of Maastricht University, we have tried for 12 years to create a European higher education area on a macro level with mixed results. "This big machine approach is not working. A smaller, more focused model, would increase our chances of success." (The Guardian, 9/11/2011). He suggests creating "a kind of pilot scheme bringing a sub group of universities that have been working in an international context for some time and are at the vanguard of creating the EHEA to stimulate the Bologna Process and respond to the dire economic crisis in time" (*idem*)²¹. Will this be our near future

²¹ "Moving beyond the Bologna Process" "http://www.guardian.co.uk/higher-education-network/blog/2011/nov/09/europe-higher-education-bologna-process?newsfeed=true

currently drafted at European most prestigious universities? Or is this just part of the great diversity of opinions beyond the mainstream and contrary to the official policy?

Table 1. Milestones in the Bologna Process

Year	Milestones	Action lines	Signatories:
1999	Bologna Declaration	1) Adoption of easily readable & comparable degrees 2) System of two-cycle of degrees (undergraduate & graduate degree) 3) System of credits ECTS 4) Promotion of mobility 5) Promotion of quality assurance 6) Promotion of the European Dimensions of Higher Education	Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Swiss Confederation, United Kingdom
2001	Prague Declaration	7) Lifelong learning8) Involvement of students in HEI9) Attractiveness & competitiveness of European HEI	Croatia, Cyprus, Liechtenstein, Turkey
2003	Berlin Summit	10) Third-cycle (doctoral studies)	Albania, Andorra, Bosnia and Herzegovina, the Holy See, Russia, Serbia and Montenegro, Republic of Macedonia
2005	Bergen Summit		Armenia, Azerbaijan, Georgis, Moldova and Ukraine
2007	London Summit		Montenegro
2009	Leuven/Louvain- la-Neuve Summit		
2010	Establishment of the EHEA		Kazakhstan

1.5 The Bologna Process in Portugal

For over 800 pages Rómulo de Carvalho (1986) depicts the history of teaching in Portugal since the foundation of its nationality to the end of the Salazar-Caetano regime. It can be read as a long history of unremitting failure. During the Renaissance, the Portuguese were active dynamos in propelling history from the ancient to the modern world, and it would be expected that in education they would achieve the same success as with their discoveries. However, this was not the case (Carvalho, 1986: 162). From so-called reform to so-called reform all efforts missed the objective of the Europeanisation of Portuguese thought during the Renaissance and the enduring pedagogy of the middle ages prevailed (*idem*) in the schools and culture of the country.

Suffering from an endemic lack of progress and consistent reforms, Portugal has presented recurrent problems over the centuries: lack of teachers at universities, continuous resorting to foreign masters who were unable either to reform mentalities or provide updated information, or even to allow new ideas to circulate in what has always been a hermetic and excessively conservative world. A few exceptions emerge, such as the Marquis de Pombal or Fontes Pereira de Melo who defied the fatalism of accepting outspread illiteracy, insufficient number of schools or the poor scientific and pedagogic preparation of teachers at all levels of teaching. After the fall of the monarchy a new concept of citizenship allowed for utopian projects of reform. By 1911 many of the foreseen reforms were expressed in remarkable documents in which the diagnosis of necessities was well anchored in the knowledge of reality, but these reforms were never to leave paper format and all attempts to implement the ideas failed sometime or another. The deathblow to the dream-like projects on education came on 28th May 1926 with the military coup that would bring a dictatorship for over four decades. Under Salazar's regime, university education would be the monopoly of an élite few and illiteracy would be celebrated as a national virtue. In fact, many are the accounts in which education, when social mobility was involved, was presented as synonymous to criminality and as an attempt to outsmart the laws of the country (Carvalho, 1986: 765). According to this logic, the majority of people should only aspire to do their primary studies and comply with a life of meekness.

The first university in Portugal dates from the 13th century and was moved between Lisbon and Coimbra several times before it was finally established in Coimbra. In the mid 19th century, university studies were created in Lisbon and Oporto and the 4th of the oldest universities was created in Lisbon in 1930. In 1973 a new legal framework for higher education was put in place to create new universities and polytechnics giving great importance to the democratisation of education. In fact, as Minister of Education, Veiga Simão defended that all Portuguese should have access to education as a way of harmonising class differences and having access to equal opportunities. He defended the future of the nation based on the education of the masses, unlike the elite system the Salazar/Caetano had promoted for decades (Carvalho, 1986; Arroteia, 1996; Eurydice, 2000). The political turmoil of the 1974 Revolution would question the Veiga Simão reform²² of 1973 and several new transformations were introduced. Finally, in 1979/1980 a new polytechnic system was created but the present binary system would only be established in 1986 (Arroteia, 1996; Veiga Simão & Almeida Costa, 2000). In 1995 there were 16 public universities, 16 public polytechnic institutions, 6 private universities and 20 private polytechnic schools to cater for the needs of 250,700 students, one third of whom attended private institutions (Arroteia, 1996).

Unfortunately, after the Revolution and the erratic policies over the next 30 years, Portugal had not made enough progress as an EU member regarding the education of its 10 million citizens. According to the 2006 OECD data on tertiary education in Portugal in 2001, only 13% of the population concluded higher

²² The Veiga Simão reform is explained in detail by Stephen R. Stoer in "A Reforma de Veiga Simão no Ensino: Projecto de Desenvolvimento Social ou Disfarce Humanista?" in *Educação Sociedade e Culturas*, n.º26, 2008.

education, 11% concluded upper secondary, 11% had no academic qualifications and as much as 15% had only 6 years of schooling or less (2006: 24), (see Table 2).

Table 2. Academic qualification level 2001

No academic qualification	11%
4 years of schooling	36%
6 years of schooling	15%
9 years of schooling	13%
Upper secondary	11%
Tertiary education	13%
Others	1%

Source: INE, 2001 Population Census

However, the evolution of higher education in Portugal since the Revolution can be described by the increase in numbers of institutions and, last but not least, the ongoing rise of qualifications of the teaching staff (Veiga Simão, Machado dos Santos, Almeida Costa 2002: 11). By 2006, the data presented by the OEDC report presents around 160 higher education institutions ranging in size from five multifaculty universities graduating around 3,000 students each per year to 29 private institutions with an enrolment of less than 200 students each. Overall enrolments in 2004 were 209,000 university students and 165,000 polytechnic students (OECD, 2006/26: 15) (in Table 3).

Table 3. Number of university and polytechnic institutions, 2006

	University		Polytechnic	
	Universities	Other Schools	Polytechnic	Other Schools
		(not integrated)	Institutes	(not integrated)
Public	14	5	15	16
Private	13	35	2	60
TOTAL	27	40	17	76

Source: OECD Background Report 2006

One of the parameters that shows great evolution in the Portuguese higher education panorama concerns the number of doctorates and the expansion of research units. From a mere 100 PhDs recognised until 1974, Portugal boosted its number of doctorate professors to 8,324 in 2003 and 473 research units. Although the figures are considered low when compared to international standards (OECD, 2006/26: 140), this is an irreversible trend in post-graduate education. Table 4 quantifies the evolution in number of PhDs granted and research units in Portuguese universities.

Table 4. Evolution of PhDs and Research Units in 1996, 1999 and 2003

Indicators	1996	1999	2003	1996-2003
Numbers of PhDs	3,575	5,823	8,324	133%
Number of units	270	352	473	75%

Source: FCT Evaluation of Research units 2002-2004

The above mentioned success is specially related to the increase in demand from a population which was disrupting the system built for a privileged few, with cultural, social and political ambitions, and massively applying to higher education institutions. The increase in demand and the limitations of the available facilities and academic staff led the government to impose *numeri clausi* as a way of preventing loss of quality in teaching at the same time that the number of students in higher education was under control (Arroteia, 1996; Conceição, Durão, Heitor, Santos, 1998; Vasconcelos Costa, 2001; Crespo, 2002). Despite the existence of polytechnics and the growth in number of new private institutions, alongside the rapid expansion of public universities, demand outstripped offer for two decades. In 1996 for the first time there was a reversal in demand in which the number of places offered both by public and private institutions surpassed the number of applicants (Eurydice, 2000: 444).

The debate over higher education had been centred since the 1980s on three basic topics: institutional autonomy, costs and funding, and quality assurance (Veiga

Simão, Machado dos Santos, Almeida Costa, 2002:12). With the Bologna Process, multiple issues were under consideration but the debate would be centred on the duration of cycles, the titles that would correspond to them, and the funding of these cycles, instead of the redefinition of the goals of higher education.

A statement by Professor Miller Guerra in the 70's affirming that Portuguese universities are incapable of self-reform (Veiga Simão & António Costa, 2000) became fashionable in Portuguese academia and was recovered in the height of the Bologna debate. In fact, the Bologna Process seemed the confirmation that change had to be either imposed from governments or imported from abroad as the ultimate external mandate for reflection and the subsequent change in universities (Teodoro, 2005). However, because there was great resistance to change, there was also great resistance to debate the issues that would promote reform. Thus, the debate on the Bologna Process was diverted to questions of detail.

The duration of learning cycles became a central issue because of the Portuguese divide between polytechnics and universities. The binary system allowed for polytechnics to have 3 year degrees – *bachalerato* (bachelor degree) – plus a complement of 2 years to complete the *licenciatura*, whereas universities offered longer degrees of 4 or 5 years - *licenciaturas*. As universities always belittled shorter degrees they would not easily conform to a system where its rigid system of degrees would have to allow flexibility, downsizing the number of years and disciplines to be taught, to what some called the "degradation" of the degree (Morgado, 2003: 13). Whilst most of Europe approved a first cycle of 3 years followed by 2 years for a master's degree, Portugal was inclined to have a 4 + 1 format, and while the debate continued the country lagged behind the adoption of measures (Bárbara, 2006a). The slow adoption of measures was perceived by some as a strategy to change the least, join at the last minute, and consider change just because we were told to by *Europe* (Neves, 2005:5).

If courses were to have a shorter duration, the members of a profession would see their careers shortened and therefore would lose prestige and so the

professional societies and associations of that profession, to whom the government has given tutelage over the practice of the profession and the accreditation of courses, clearly opposed the loss of power (Morgado, 2003; Teodoro, 2005). Corporative power lobbies, inertia from universities, and political instability all contributed to the delay in the debate, in the adoption of measures and in legislation that would meet the needs of such a profound reform.

The other over-debated issue was the problem of funding of universities. Currently, the funding of universities results from a formula that privileges the number of students enrolled and the student/teacher ratio (Conceição, Durão, Heitor, Santos, 1998) therefore, any decrease in this number due to a shorter duration of courses has immediate consequences in the overall financing of the institution which receives cuts both from the government and from the students tuition fees (Teodoro, 2005; Vasconcelos Costa, 2005; Amaral, 2002). The more attractive or famous universities will largely benefit from this model, becoming more efficient and increasingly more attractive, therefore receiving more funds. The persistence of this model also presupposes the increase in competition for private funds, EU funds, fees and the aggressive marketing for students, among other effects.

As the Portuguese government has never emitted an official statement on how the financing of the two cycles would be carried out, much speculation occurred on whether the government would also finance the second cycle of studies or not. Alberto Amaral (2005) has often defended that the Bologna Process had more to do with economic than with academic issues. In his perspective, the right to employment was replaced by the concept of employability; the former being traditionally understood as a responsibility of the state and the latter as the responsibility of the individual. Thus the Bologna Process would modify the work paradigm by ensuring only the funding of the first cycle and leaving it up to the individual to use his/her income to support his/her continuing learning in order to preserve his/her employability.

On the one hand, some accuse the process of being an attempt to save money in funding higher education, others perceive the opportunity to reform as costly. Considering that what is at stake is the capacity to respond to the challenge of competitiveness and ensuring the quality of teaching and learning with a new studentcentred paradigm, surely this will involve expenses for the institutions. According to Vasconcelos Costa, quality assurance requires institutional expenses, particularly because the underlying principle of self-learning of the new model implies more books in the library stock, more internet expenses, more meeting rooms, the purchase of elearning software, more human resources with full time teachers available to constantly advise and assess, for constant meetings with small groups of students, for tutorials, and to integrate students in research teams (Vasconcelos Costa, 2005: 45). I fully agree with this perspective: the new paradigm should bring new infrastructures and a better use of the available human resources. However, living in an age of constant budget cuts, incompatible with the challenges institutions are facing, I have become sceptical about the depth of reform and I am at one with the criticism that most new courses will be 'old wine in new bottles'. Moreover, if higher education teachers do not grasp the moment and promote change in their practice, bottom-up, the Bologna opportunity will be lost.

Although everyone seemed to have an opinion on how the Bologna Process would affect Portugal and the media printed many opinion articles, there was at the same time to be great lack of information in making public the goals of the process, especially to the students. Students, like universities, seem to live their daily life closed in an academic routine that discourages change or any strategic thought for the anticipation of change. The defenders of shorter cycles argue that students are very immature at 18 when they choose their courses, hence a cycle of only 3 years would allow for a subsequent change in the 2nd cycle based on the success or failure of the previous experience and would present large benefits. The majority of student unions showed great immaturity during years of debate and reacted too late to the reform of higher education and often refused to abide to a process which was already

in its final implementation stage, and of which they were supposed to have been an active party since its inception.

Internationalisation was an aspect of the reforms which received general acceptance and acclaim. It is a goal encouraged in the three cycles of studies that Bologna suggests as a means of developing new fields of knowledge and promoting quality, namely through the mobility of students and teachers and the adaptation of curricula when involving cooperation between institutions. However, in the Portuguese case while striving to be part of the European Higher Education Area in order to attract foreign students, we are also trying to attract students from former Portuguese colonies (a well-known market) who may thus enter an increasingly appealing higher education space. According to the OECD report, almost 60% of our incoming students in 2001 are from former Portuguese colonies in Africa and Asia and 16% from Latin America, the vast majority from Brazil. Only ca 3,000 of the total 18,000 foreign students come from Europe (2006/25:75). Consequently, the implementation of the Bologna Process is articulated with the creation of a Portuguese Speaking Higher Education Area – Espaço Lusófono de Ensino Superior - which officially took form in Luanda in 2002 and gained a new boost in Brazil in 2004, with the generally known Fortaleza Declaration (Neves, 2005; Zagaga, 2006). While confirming the route to internationalisation within the EU, Portugal never ceased to acknowledge either its 'Atlantic liaison' or its Iberian genesis by establishing close cooperation both with former colonies and with Spain and its Iberian-American Higher Education Area (Teodoro, 2005).

A peculiarity of the Portuguese adaptation to Bologna and the constant delay in its adoption is rooted in the ambiguous relationship between the state and higher education institutions. The reform of higher education would imply a reformulation in the legislation concerning these institutions in terms of the management of funds and the management of the creation of courses and degrees. If in the case of fund management the state has always had ultimate control, in the case of course creation by universities there has been total laxity which has led to an unparalleled

proliferation of courses (Moreira, 2006; Crespo, 2003; Amaral *et al*, 2002). This proliferation of courses also led to blurring of the distinction between polytechnics and universities with both offering the same. Dragged into a competition for public financing by attracting a different public, many universities began to teach courses with a strong professional component, with a clear polytechnic orientation (Crespo, 2003: 48). Instead of contributing to the enrichment and diversification of higher education, competition disfigured it: polytechnics and universities invaded each others' spheres of action leading to replication, that is, lack of differentiation of the two sub-systems by mutually copying each other's success.

Another illustration of the laxity of the state towards higher education institutions is related to the creation of these institutions. If we consider the number of universities per 10,000 inhabitants, Portugal has more higher education institutions than the United States, Spain, France, Italy and Holland (Crespo, 2003: 52), a situation stimulated by the state in the late 80s. The leniency of the state towards the multiplication of new institutions also comprehends tolerance towards institutional isomorphism (Amaral *et al*, 2002), i.e., the cannibalization of successful courses which leads to the multiplication of the courses that attract students until the market is flooded and the success turns to failure. The proliferation of course names and content helped to deepen the mayhem in higher education and was a corollary of the uncontrolled course multiplication. The strategy of development by the multiplication of courses was doomed to failure (Crespo, 2003: 33) and has intensified the crisis in higher education institutions.

To further problematise the Bologna Process in Portugal there were a series of other issues affecting higher education in this period, namely the problem of demographic decline which led to a recession in higher education, the lack of attractiveness to learners of many higher education courses, especially in the arts and humanities, and the lack of credibility in higher education degrees often equated with unemployment (Bárbara, 2005). There was also an imbalance between the number of graduates and the demands of the world of work. Besides the mismatch

between employers' needs and graduate training²³, there is another variable to consider: lack of bridging between research, teaching and industry, which may give a bleak perspective on the preparation of the Portuguese institutions, in general, for the Bologna Process (*idem*).

In the age of discoveries, the Portuguese were great players in the first phase of globalisation of the world. With the Lisbon strategy in 2000, committed to the building of the most competitive economy of the world by 2010, a new window of opportunity arose for sharing with the key players the second *momentum* of globalisation. However, great transformations in the economy, in society, and in higher education had to occur *immediately* or the opportunity would be irretrievably lost.

The European Council had declared in Lisbon 2000, that its strategic goal was to make the EU "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion," fact that has contributed to giving more visibility to European policies on education and training, on science and technology, and on innovation. The Lisbon Strategy has privileged a triangular relationship between a sustainable economy, knowledge/competitiveness, and social cohesion (Veiga Simão, Machado dos Santos, Almeida Costa, 2005: 40).

The Lisbon Strategy pinpointed the essential vectors that would transform a classic economy into a knowledge-based economy. All European economies featuring low cost labour, low education levels and high level of school drop outs would be doomed to failure in a knowledge-based economy, Portugal was no exception. The Bologna Process highlights the role of higher education in the building

²³ According to the OECD report of 2006, Portugal faces daunting challenges with the "declining enrolments [and] in recent years have created real or potential excess capacity in some instances or a mismatch of supply of places with current patterns of demands" (2006/25:95).

²⁴ European Parliament (2000) *European Council of Lisbon 23,24 March. Conclusions of the* Presidency. http://www.europarl.eu.int/summit/lis1 pt.htm

of the new economy, and the success of the former is clearly interlinked with the success of the latter.

After years of waiting for the new legislation, in January 2006 the government made public the project of the future law regarding the adoption of the Bologna Process to the legal framework of Portuguese higher education. Finally, on 24 March 2006 the long awaited law that would henceforth regulate the diplomas and degrees of higher education and harmonise them with other European countries was approved in Parliament. The Portuguese Higher Education Act of 2006²⁵ defines the cycles established within the framework of the Bologna Process, and outlines the model of higher education to be adopted, envisaging the replacement of a system of teaching and learning based on the transmission of knowledge with a system based on student learning. The emphasis is laid on student work and the effective gaining of competences. To this end, the Act defines the objectives of each cycle through the competences to be obtained and clarifies the different objectives of polytechnics and universities. Lastly, the question of funding is approached, stating that the tuition fees for the second cycle - master degrees - should be the same as for the first cycle in the cases where the two are integrated or when they are indispensable for professional practice; all other cases will be decided by the institutions where they take place. Among the innovative features presented in the Act are the possibility of using foreign languages in the teaching of the three cycles and in the writing and defence of master and PhD theses; meetings of juries by videoconference, and the presentation of theses also in electronic format.

In terms of terminology for the designation of the first cycle, the Portuguese term *licenciatura* was favoured over the more international *bacharelato*, or bachelor, to avoid the downgrading into a degree that previously only polytechnics awarded.

²⁵ Decreto-Lei nº 60/2006 do Diário da República - I Série-A de 24 de Março pp. 2245-2257.

The preference for *bacharelato*, besides being closer to Bologna might have helped in decreasing the social importance of titles and favouring competences, but as is usually recognised, southern European countries attribute an excessive value to titles and the cultural tradition prevailed.

The Act lists the competences the *licenciado* must demonstrate and among the desired skills are the competences that will allow them to communicate information, ideas, problems and solutions both to specialist and non-specialist publics. The last competence mentioned in the desired exit profile has to do with attitude towards the pursuit of employability: to have the competence to learn in a lifelong process with a high degree of autonomy. The new paradigm that Bologna tries to bring to higher education institutions is clearly stated in the law: the desired student attitudes should be different and aimed at continuous self-directed learning and autonomy (Bárbara, 2006a).

Great criticism ensued the passing of the law, especially from trade unions that condemned not the contents but the tight schedule given to universities to prepare the presentation of the dossiers to the Ministry. Indeed, only a week after the law was passed, all documents that higher institutions had prepared had to be adapted to the demands of the recent legislation in order to be studied in the Ministry for future adoption in the academic year 2006/07. The institutions that had been discussing the adoption for years were able to meet the deadline, the remainder had a longer deadline – 15th of November - to have their processes analysed and the new courses approved, or not, for the academic year of 2007/08.

Besides the criticism regarding the irrationality of the deadline, great criticism also fell on the omissions in the legislation. Trade union representatives, namely from the National Federation of Teaching and Investigation (FENEI) and from the National Union of Higher Education (SneSup), called attention to the fact that at the heart of the Bologna Process lay the diffusion of a new model of learning based on less formal teaching hours but more supervision of students' work by teachers, and yet no legislation on the student/teacher ratio was put forward, necessarily less than in

traditional teaching, nor any indication for further bye-laws for the creation of the facilities for more autonomous study as the law established. Consequently, the implementation of Bologna and the application of legislation were about to be carried out without the necessary conditions or inventory of the country's needs²⁶. implementation of Bologna and the application of legislation were about to be carried

Schlaeger (2002) wittily sums up three alternatives for the implementation of this process in the wider European context: the first applies to the set of countries already doing what the several declarations want and so they have just to carry on and wait for the others to catch up. The second alternative comprises the set of countries whose educational system is completely different and who have to give up their own traditions, radically restructure their course system and try hard to implement what is now considered the benchmark of high quality. The final alternative is to pay lip-service to the noble European ideals, adapt superficially with a bit of clever window dressing, and use them for one's own purposes (2002: 6). Like Schlaeger, I suspect many universities, and many national systems, the Portuguese system included, opted for this third alternative while pretending to be fully in line with the Bologna principles.

To clarify my view, I will sum up some of the errors which can be identified in the paving of the way to the implementation of the process. First, there was great lack of democratic participation between institutions and the government, with committees of sages discussing dossiers in a closed circle and shutting out teachers and students (Teixeira Lopes, 2005: 77). This was later solved by the organisation of debates inside the institutions to demystify some of the circulating misinformation. Second, the

²⁶ Some of the ideas summed up in this paragraph are part of a piece of news - "Professores Temem que a Pressa Leve a um Ensino sem Qualidade" ("Professors afraid haste might lead to no quality teaching") printed in Lusa – The Portuguese News Agency, SIR - News - 7866633 in 30/03/06.

Portuguese 'insular university system' (OECD, 2006/25:72) has put little effort into offering international joint degrees or twinning programmes. By not opening up to foreign participation it seemed not to remain abreast of the international developments. Third, the maintenance of the long duration of degrees that Bologna was trying to reform. That is, in reality the former *licenciaturas* of 5 years were in many cases replaced by a bachelor course of 3 years followed by a master's degree of 2, with no real investment in offering short degrees of 3 years that would send students to the marketplace earlier. Finally, with the focus of discussion on the "hidden agenda", or in other words, on the discussion of the whole process as a justification for financial cuts in educational budgets, the reflection of the process was distorted and centred around questions of detail (the Black Book of the Bologna Process, 2005: 31), missing out on the opportunity of debating how the implementation should be brought about. Clearly, the lack of straightforward information from successive governments greatly contributed to a general lack of preparation and to opting for Schlaegar's last alternative as the easiest.

In order to take stock of the issues raised by the Bologna Process in Portugal and examined throughout this sub-chapter I have carried out a S.W.O.T. analysis presented in Figure 1. Although strengths and weaknesses run parallel, it became obvious to me that the opportunities presented outweigh all the other aspects, therefore the Bologna Process can be recognised as what it should have been in the first place: an opportunity.

STRENGTHS

Harmonisation of degrees with EHEA

- Uniform degree structures
- Recognition of qualifications
- . Alignment of national quality assurance agencies
- . Adoption of ECTS and diploma supplement
- . Student-centred approach in learning/teaching system
 - Implementing a deeper approach mode to learning
 - . Generic descriptors for each cycle based on learner outcomes & competences

WEAKNESSES

- . Poor management and governance of institutions
- . Decline in student enrolment
- . Unplanned expansion of higher education institutions
- . Low qualifications of population especially employers
- . Little attraction on European students
- . Material resources for student-centred pedagogy
- .Mismatch between employers' needs & graduate training

OPPORTUNITIES

- . Redefining of goals of higher education
- / . Implementation of changes through appropriate curricula reform
- . Improvement of teaching quality
- . Improvement of research performance international networks
- . Better use of existing capacity
- . Transformation into a knowledge-based economy
- . Widespread use of IT to make up for contact hours
- . Smaller teacher/student ratio
- Fostering of a new mentality and culture of learning
 - . Educating for flexibility and change

THREATS

- . Corporative lobbies
- . Political instability
- . Educational budget cuts
- . Establishment of a general longer degree system with two cycles
- . Higher tuition fees
 - . Institutional isomorphism

Figure 1 - Strengths, weaknesses, opportunities and threats brought by the Bologna Process in Portugal

1.5.1 The Bologna Process at the Escola Superior Agrária de Coimbra (ESAC)

Within the framework of the Education Act 49/2005 and the Ante-project of the Law on Academic Degrees and Higher Education Diplomas 2006²⁷, the Escola Superior Agrária de Coimbra (which will be described at length in the third chapter), like many other similar institutions, started in 2006/2007, the yearlong reflection on the changes to implement on the new courses to offer. The debate was long, the meetings strenuous and seldom did we reach agreement.

According to an internal document circulated in 2006, the legal requirements imposed by law and the need to adjust the courses and the teaching to the current social conditions and to confront the problem of academic failure determined that the process of curricular reorganisation should be oriented towards mobility, employability, and competitiveness, the adoption of ECTS credits, and a change in the teaching methods so as to succeed in passing from a teaching based on the transmission of knowledge to a system based on the development of competences. In this restructuring process, the institution reiterated the values of polytechnic teaching, namely: a combined theoretical and practical teaching, communication competences, and professional training placements in industries.

According to the document, learners should have a sound knowledge in basic sciences so as to consolidate their future learning in their subject areas of specialisation, thus ensuring mobility and lifelong learning. They should also have a sound knowledge of the specific areas in order to guarantee the knowledge and competence in their active professional life. Furthermore, learners should demonstrate a good capacity for autonomous work, critical spirit and personal initiative, specially oriented to the resolution of concrete problems. Of equal

²⁷ Lei de Bases do Sistema Educativo 49/2005 e Anteprojecto de Lei sobre Graus Académicos e Diplomas do Ensino Superior 2006.

importance, was highlighted the capacity to develop team work, and last but not least, the capacity to communicate and interact in all levels of a hierarchical chain.

Among the many changes introduced was the move to have a mixed system of annual and semestral course units. The annual course units would only apply in the first year, especially to contemplate better teaching and solutions for students who enter the institution in the second and third phases of application. There was a reduction in the number of course units, respecting the Bologna Process' recommendations and allowing for a decrease in the number of exams, an improvement in the pedagogical conditions with the attempt to concentrate the students' schedule in mornings or afternoons and to facilitate the attendance of those students who were repeating course units. This was only partially achieved in some courses and only in some course years, due to the lack of classrooms and timetable management, but the effort was hard. The decrease of course units was also founded on the belief that it would allow for more interdisciplinarity and the integration of topics of study. Although we aimed for 20 hours contact a week as an incentive to group work, prior class assignment preparation, research, participation in the institution's activities, and to allow time for good preparation and study for assessments, this was also not achieved and students ended up with an average of 25 contact hours per week, not far from the previous pre-Bologna model.

Albeit each course unit had its ECTS value, the minimum considered was 3 for semestral course units and 6 for annual ones, to facilitate the permanent or automatic distribution of teaching hours. Though not all course units had the same ECTS, all were considered to be of a theoretical and practical nature, and as such, students had to attend 75% of all classes. We aimed for a reduction in the ratio of students per class which was not totally achieved depending more on each teacher's judgement.

One fundamental change, which was a complete failure, was the notion that students should have supervision beyond their class contact hours, in particular tutorials. For these, a tutor was formally appointed to each first year student and

reports were expected to be filled (three for each tutee) to be delivered to the coordinator of each year in each course. As no formal appointment of coordinator was ever made, no reports were ever delivered, although some teachers were able to meet their tutees, on occasion. I can bear witness that I met three out of the four tutees I was appointed to in the course of Ecotourism who were my students to be, so the connection was not an easy one on account of different schedules, and especially because the tutees missed the pre-arranged appointments.

Within the course units, a modular system was imposed. Each course unit had up to three teachers and a coordinator, responsible for all the modules. In each course unit, detailed student competences to be acquired, assessment instruments and the conditions of access to exams were defined and registered.

An internal brochure, an assessment guide, was compiled with the types of assessment that teachers saw fit to coexist, although continuous assessment was recommended as a way to facilitate many of the changes about to be implemented:

the assessment mode that seems to allow an efficient and careful follow up of the learning and teaching process is the assessment that possesses a formative component. It conjures up the reflective capacity of the learner (a cognitively aware learner is a more autonomous learner) and allows for the introduction of change into the learning/teaching process, if it seems fit. (Figueiredo, Gonçalves, Costa, 2007:5) ²⁸

Because this Assessment Guide (*Guia de Avaliação*) became such an important document, it is pertinent to explain that it defines objectives, results and learning competences; explains the difference between assessing and classifying; lists the instruments of assessment based on the compilation of the teachers' responses to a previous inquiry and clarifies the organisation of pedagogical activities. In addition, it includes educational taxonomies, examples of written tests

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²⁸ In Figueiredo, Vivina; Gonçalves, José, Costa, Rui (2007). *Guia de Avaliação*. ESAC, 1-42. http://www.esac.pt/gualidade/, (my translation).

and questions so as to provide all teachers with the same common language, regarding assessment.

With respect to the assessment instruments voted and approved by the Scientific Board they are listed and explained in relation to what each of the items should consist of, namely: mini-test, test, practical assignment, laboratory assignment, report, critical assignment, bibliographical research, descriptive bibliography, critical review, summary, poster, flyers, project, case study, oral test, oral presentation, role play, class, debate, seminar or panel, monograph, portfolio, and metacognitive questionnaires.

Finally, the distribution of ECTS credits was divided in the following way across three types of knowledge: 22% for basic sciences, 28% for propaedeutical instruction, and 50% for specialisation instruction. A new course unit was introduced into each study programme, in the first semester of the first year, called Introduction to the Profession, envisaging a broadening of motivation among first year students by introducing relevant topics to the future profession, be it by providing contact and practical work with industries inside and outside of the institution, workshops, etc, be it by specific project work and field trips. Unlike what would be expected of a global preparation in higher learning within the Bologna Process, it was agreed by the majority of the Scientific Board that the curriculum would focus on specialised instruction in the first cycle, so that graduates who entered the work place would have the training to fit the profession. Relevance was given to finding the capacities to work in real-world settings and to make effective judgements in contexts of uncertainty but all within the limits of specialisation. Fortunately, the English Language and Communication course unit, focus of this study, belongs to the propaedeutical instruction and has a grounding in multidisciplinary frameworks connected to the development of skills in the future, particularly to lifelong learning.

1.6 The Other Bologna: A Shift in Paradigm

The traditional tertiary educational model is normally linked to XIXth century knowledge transmission modes where crammed auditoria were instructed by 'sages on stages' with students passively copying instructions from the blackboard (Rocha, 1988; Laurillard, 2002; Hills, 2003). And yet, in the very same century a new movement appeared which defended the development of student autonomy as one of the main goals of education in what was to be termed the New School. Within the framework of the New School stand out the names of Montessori, Dewey or Claparède as dynamic educators involved in fighting against the Traditional School and its authoritative features – the teacher as the centre of all knowledge, *magister* classes, the understanding of knowledge as a sum of acquired facts (Abbagnano & Visalberghi, s.d.; Rocha, 1988; Reis Monteiro, 2005). Particularly inspired in Rousseau's *Emile*, in the New School, the student is in the centre of education – his/her needs, likes, personal interests, etc, lie at the centre - moving the pedagogical core from the teacher to the student and his/her development of autonomy.

In the first half of the XXth century, the fight for a different education gradually spread, both theoretically and in practice, gaining new enthusiastic defenders who founded associations for their institutions, *cf.* Movement of English New Schools or the French Association of New Schools (Rocha, 1988), using the pedagogical philosophy of Dewey and Claparède and all the new discoveries in child psychology to build learning based on respect for a child's personality and free will. Instead of being concerned about educating children, the emphasis was laid on offering the means for children to develop (*idem*). After the atrocities of World War II, the innate goodness of the human being was questioned and scepticism spread over the previous conception of education now branded as too intellectual. The Modern School started to emerge as a more realistic form of learning provider, grounded in experimental learning by 1947 Freinet founded the International Federation of Movements of Modern School which would become a centre of production and diffusion of pedagogical material (Reis Monteiro, 2005: 107).

Extremely revolutionary at the time, these two schools of thought were never accepted into the mainstream because they were "considered at one time as a cranky affront to educational common sense" (Gremmo & Riley, 1995: 152). Born in the mid forties, the Behavourist School had its heyday in the 60s, but soon became overshadowed by constructivist theories which emphasise the notion of learner-centredness. From Freire to Illich or Rogers all stress the importance of the learner's role and participation in the educational process (*idem*).

Pedagogically speaking, what the Bologna Process is trying to achieve throughout Europe is to overthrow the practices of the Traditional School, still quite recurrent in higher education, and shift the learning practices to theories of the 70s, greatly influenced by pedagogical concepts of the New School and the Modern School. This shift in pedagogy or in the learning paradigm²⁹ encompasses a revolution in learning: to drive the student to the centre of the pedagogical relationship and bring more marginal or experimental theories into the mainstream.

A historic perspective on the concept of university may shed some light on this paradigm change. Until a few decades ago, the university was considered an institution whose essence was above the worldly needs – it was of this world but did not belong to it, was above it: it did not react to change but absorbed it in the long run (Barnett, 1994, 2003; Vasconcelos Costa, 2001; Barnett & Coate, 2005). This Humboltian concept of university, free from church or state tutelage and independent of economic and social needs, is being questioned by the state which introduces regulatory mechanisms, copied from the marketplace in order to promote competitiveness and efficiency. With the stakeholders, or the representative agents of the various interests of our societies, there is enormous pressure to make the institutions more relevant to the wider society, to create networks with economic

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²⁹ The term 'paradigm shift' was first used by Thomas Kuhn in his 1962 book *The Structure of Scientific Revolutions* to describe a change in basic assumptions within the ruling theory of science. It has since become widely applied to many areas of human experience, and is becoming increasingly connected to the Bologna Process as a 'revolutionary' shift in pedagogy.

groups in order to survive isolationism. The economic paradigm that is brought by globalisation, internationalisation, and Europeanisation to European universities also represents a shift from the 'ivory tower' to the 'Babel tower'.

Many are the pressures for change that the academic world needs to face. According to Toohey (1999), the first to adapt to the outer changes was the UK, and other Anglo-Saxon systems, such as Australia and New Zealand, because of the high level of demand in their tertiary institutions. Due to the adoption of monetarist economic policies and the increase in automation, the number of low-skilled blue-and-white collar jobs became redundant; unemployment steadily rose in the 80s as manufacturing industries moved offshore to benefit from cheap labour. It became evident for governments that a highly skilled workforce had to be created, capable of sustaining the new knowledge industries, and this implied that the higher education curriculum had to change to adapt to the masses of students who looked for qualification as an escape from 'MacJobs':

These students brought to their university studies current experience of the professional workplace and the demand that their courses be relevant to it; little time for study but capacity to complete tasks and meet deadlines; and a willingness to speak and challenge those institutional practices, particularly assessment practices, which they did not believe to be valid or fair. (Toohey, 1999:6)

Students became one of the most influential stakeholders of the 'Babel tower' and as the student body changed, higher education institutions changed along with it. There was a widespread movement to make entrepreneurial skills and personal transferable skills a formal part of the curriculum and this was financially supported by the government (*idem*).

On the other hand, the development of technology brought radical changes to education with the widespread use of the personal computer. According to Hills (2003), the challenge was not so much in accepting the inevitability of the paradigm shift but by implementing it since it runs counter to "the traditions of centuries, the traditions of professors and students all of them wedded to a powerful but outmoded

culture", (p.1). With the paradigm shift came a new epistemology embracing implicit knowledge and explicit knowledge, practical as well as intellectual skills.

Higher education cannot change easily. Traditions, values, infrastructures all create the conditions for inertia. Inertia seems to be a key word in tertiary education where teaching methods are concerned; based on theoretical lectures or a mixture of theoretical and practical classes, centred on teaching rather than learning, the corollary of these elements of inertia is to have students as passive players. In order for higher education to change and to have students as active elements, teachers need to know more than just their subject, "they need to know the ways it can come to be understood, the ways it can come to be misunderstood, what counts as understanding and how individuals experience the subject" (Laurillard, 2002: 3).

Lately, attention has been focused on studying the contexts where individuals learn and what is measurable about this learning (Biggs, 2003: 11). Research into the nature of learning in higher education has become a reality. Marton and Säljo in Sweden were the first to investigate students' approaches to learning in 1976 and were followed by researchers in the UK and Australia such as Biggs in 1979, Entwhistle and Ramsden in 1983, probing how students went about learning. They all obtained very similar results and established deep and surface approaches as modes adopted by students in their learning processes (Toohey, 1999: 9).

These two learning approaches are widely diffused in higher education research, particularly because of the enhancement they can bring to the teaching and learning processes. Simply stated, deep learning involves the critical analysis of new ideas, linking them to already known concepts and principles, and leads to understanding and long-term retention of concepts so that they can be used for problem solving in unfamiliar contexts. Deep learning can be stimulated when learning environments and experiences align with students' interests and when learning situations afford active learning and interaction among learners. Moreover, it promotes understanding and application for life. In contrast, surface learning is the tacit acceptance of information and memorisation as isolated and unlinked facts. It

leads to superficial retention of material for examinations and does not promote understanding or long-term retention of knowledge or information (Thoohey, 1999; Almeida, 2002; Fear *et al.*, 2003; Biggs, 2003; Houghton, 2004).

In order to promote effective learning, or deep learning, experiments were conducted and out of the research into the nature of learning came problem-based learning, capability-based programmes, and action learning. There was a continuously growing

shift in emphasis from didactic lectures, subject-centred teaching, the rote learning of facts, explicit knowledge, and memory-based examinations to the 'softer' world of student-centred learning, tacit, implicit knowledge and continuous assessment. (Hills, 2003:7)

The development of the new learning paradigm foresees great benefits in comparison to the traditional teaching and learning mode. In my opinion, for the paradigm shift to occur four conditions need to be met. The first, and of foremost importance, is brought about by the implementation of the ECTS credit system which should bring a pedagogical redirection centred on the student and the objectives of the teaching/learning system, and here I agree with Machado dos Santos and Veiga Simão (2002, 2005). By measuring the workload of the student, the ECTS focuses on learning rather than teaching, but presupposes a definition of the output competences of the learner that needs a different concept of curriculum. Instead of the breaking down of knowledge into disciplines, it promotes the horizontal articulation of great areas of knowledge, interdisciplinarity, and a vertical articulation throughout the study programme, i.e., the congregation of all knowledge areas linked to the future profession of the learner, the enhancement of his/her employability. This pedagogical organisation will have consequences in the methodology to be used, clearly more active and cooperative, that will strive to promote deep learning and the longer term retention of information.

The second condition is brought by information technology as a widespread mode of learning. According to Hills (2003), grounded in the evidence of the

increasing amount of knowledge generated everyday whose 'shelf life' diminishes, most explicit knowledge should be bundled into the computer memory where it should remain for further interrogation and application. Defender of the Information Technology mode as an operationalisation of this paradigm shift, Hills puts forward that it should be the machine to embrace all the rote learning so as to free time and energy for the comprehension of the knowledge involved through tutorials, laboratory exercises, case studies and competence development (2003:05). And what is more, it implies a change from large lecture classes to tutorials and small-class teaching. Hills provides a table where he and other researchers at Heriot-Watt University, Scotland, have mapped out the profound differences between the old and the new paradigms to serve as guide for those who venture to change. These are transcribed in Table 5 below.

On the other hand, implicit knowledge cannot be taught in lecture theatres or learned from books because it can only be acquired through experience, in learning in laboratories, from case studies, from risk assessment, and decision making processes. With Information Technologies (IT), enthusiastically embraced by the students who grew up with them, unlike most of their teachers, the lecture mode of teaching becomes highly exposed as inadequate to transmit information whereas IT presupposes a more intimate way of learning based on tacit knowledge and the correlation of different areas instead of learning in compartmentalised disciplines. Moreover, it is attractive to students and frees them from time and space constraints allowing for learning to take place at *any time* and *anywhere* in an active way. It is up to the learner to correlate theory and practice, to diagnose difficulties, ask for remedial tasks and accept responsibility for his/her learning.

Table 5. The development of the new learning paradigm

Traditional	Future	Anticipated benefits
Static	Dynamic	Cheap methods of producing, transmitting and storing high quality video and animation will have greatly improved the presentation of a wide range of material.
Impassive	Supportive	Customised computer-based learning support systems can be made highly supportive in dealing with a learner's difficulties. They offer great scope for remedial teaching.
Single Medium	Multimedia	The imaginative use of a wide range of media offers scope for attractive learning, <i>e.g.</i> audio, video, simulation and animation.
Synchronous	Asynchronous	Space and time constraints of traditional lectures can be removed by a shift to self-paced learning using a variety of support mechanisms.
Passive	Active	Learning will be seen as an active process in which concepts are acquired, incorporated into appropriate schemas, and tested in action.
Unidirectional	Interactive	Interactivity offers scope for benefits in clarification, elaboration and consolidation, and is the key to the production of intensively supportive learning environments.
Location	Network	Learning can be supported on a network basis across space, even globally.
Audience	Person	The possibility arises of intensively supported learning systems tailoring their response to an individual's needs and performance.
Real	Virtual	The use of virtual objects simulated by computer, and interactively accessible, offers considerable scope for linking theory and experiment in teaching and technology.

Source: Graham Hills The New Learning Paradigm and the Importance of Technology 2003

The third condition to be met is more difficult to achieve because it implies a change in mentalities. By using new technologies and a new quantification of learning that can make teaching more attractive by bringing students closer to teachers, by implementing new methodologies and new attitudes in teachers and students, a new culture of learning will have to emerge. This new culture of learning will have to foster new mentalities, especially in students who will have to be less *alunos* – from the Latin *alumnus*, *i* - *the* ones who receive an education, who attend classes, who are spoonfed on knowledge, to be *estudantes* – the ones who study at higher education institutions, who learn, and are therefore learners³⁰. In the next chapter the problematisation of new roles of students and teachers under the new culture of learning will be expanded.

The last condition involves the deeper connection of universities with research activities. This involves two movements; the first internal, creating a greater proximity with national industries and research units (Vasconcelos & Pouzada, 2002:96); the second external, by opening up to new networks of learning and fostering mobility and development in partnership and searching for economic integration (Pato de Carvalho, 2005; Dias de Carvalho, 2005; Teixeira Lopes 2005). The Tuning project is a good example of this partnership, involving more than 100 universities (Gonzalez & Wagenaar, 2003) and successfully spreading to other continents (Zgaga, 2006:98). Economic competitiveness in the market place can only be achieved through the introduction of flexibility, mobility and productivity in a still too fragmented and overly regulated economy. For higher education to contribute to the knowledge economy, a stronger relationship has to be built between university, the market, and applied research.

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³⁰ I have based my distinction of 'alunos' and 'estudantes' on the definitions presented by the *Dicionário Houaiss de Língua Portuguesa*. Lisboa: Círculo de Leitores, 2002, vol. I, p.224-225 and vol. III p.1643. The equivalent from these two Portuguese nouns is somehow present in the English distinction between pupil and student.

Veiga Simão is one of the many to warn of the dangers should Portugal engage in cosmetic operations, or conceptual frauds, instead of implementing a new pedagogical paradigm and the reorganisation of higher education. Portugal could build a platform of knowledge for the sustainable growth of the country and the university's know-how that would be crucial in the steering capacity for innovation, for new products, for new technologies, intimately connected to the creation, diffusion, and management of knowledge based on a system of teaching and learning built on excellence (Veiga Simão, Machado dos Santos, Almeida Costa, 2005:271).

Bologna is supposed to bring a better preparation to face what Barnett has termed the supercomplexity of modern life. According to Barnett, a situation of complexity exists when there is a surfeit of data, ideas or resource demand in a given situation whereas supercomplexity involves the challenging of the framework of a given situation (Barnett, 2000b: 115). Therefore:

we are in a situation of supercomplexity when our very frameworks for making our world intelligible are in dispute (...) It is not just that we have to grapple with different theories or ideas; for example that doctors or lawyers will often come with different judgements about the same situation. Rather, the very frameworks with which we understand the world, ourselves, our practices and our environment are themselves contestable. The frameworks through which we interrogate the world and find our way in it are multiplying. (2000a:75-76)

He sees the university as being partly responsible for the process of framework multiplication and the challenge in rival frameworks carried from professional life to all aspects of our present life. The fact that university is losing the monopoly of knowledge has greatly contributed to the multiplication of conceptual frameworks and research keeps bringing in new modes of understanding ourselves and our relation with the world. Also, because the university is asked to prepare the students for a world of supercomplexity, there is great talk of self-reliance, adaptability and flexibility that the students should demonstrate, focusing not on knowledge but on being. Due to this global phenomenon of supercomplexity, universities see a new role cut out for them in education: the responsibility to educate for uncertainty, for unpredictability, contestability, and challengeability (Barnett, 2000b).

Barnett's concept of supercomplexity has echoes of Beck's risk society but it is first and foremost connecting the pedagogical world and society by stating that there can be no problem-solving methods, but only further unending problems opened up by the inquiry process when gaining access to knowledge. Barnett's corroborates Hills' support of the abandoning of the lecture as the locus of authority for acquiring knowledge, not feasible in an age of supercomplexity, but he also argues that the development of students skills as totally inadequate because they aim at competences with some fixity in the present which is highly changeable. What Barnett defends is a pedagogy for uncertainty³¹. A pedagogy that is built on a diagnosis of our age and of the challenges of humanity, encompassing all university conceptions and looking to the future beyond them. What he puts forward is a pedagogy for uncertainty, for openness, and for risk which should be the new emblems of university, instead of knowledge, for they are the conditions of our age (Barnett, 2000: 128). This vision presupposes the creation of critical communities to understand the conceptual overload of knowledge brought to university by these multiple frameworks and to study pedagogy as a transformation phenomenon (Vieira et al., 2004: 19- 20).

The now famous concept of supercomplexity seems to fit the Bologna implementation to perfection. Layers of complexity unfold before our eyes with the Bologna Process: in its midst is the always present EU consolidation and enlargement and the ongoing expanding of European identity, though the EU and the EHEA do not match in territory. Unparalleled by economy, the cultural framework develops faster in the building of a European space for higher education, ideally more harmonised, more mobile and intended to be moving at the same pace in all

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³¹ Barnett, on the question of a pedagogy for uncertainty, wants to highlight that the times we are living have broken up many values which were taken for granted, such as job security: the pedagogy of the time has to mirror the uncertainty of the age we are living in. University teaching should not be disconnected from life.

countries, wearing out differences and exclusion, building citizenship and creating a response to globalisation by acting locally.

1.7 The Bologna Process and the Question of Language Learning

Mobility is one of the main goals stated in the Bologna Declaration as a means to overcome obstacles to the effective exercise of free movement with particular attention to students, teachers, researchers and administrative staff. Academic mobility in 47 countries with such a wide range of linguistic and cultural diversity calls for great consideration in language skills. Given the importance of this field and abundance of legislation, reports or recommendations to set up lines of action is to be expected. But the wealth of documents regarding the Bologna implementation meets with great paucity when language policy is concerned.

Within the EU, the Commission's White Paper of 1995 *Teaching and Learning Towards the Learning Society* established four general objectives for building the learning society: to encourage the acquisition of new knowledge, to bring schools and businesses closer together, to combat exclusion, to make for proficiency in three languages, to treat capital investment and investment in training on an equal basis. This document underpins the actions to be taken in the Member States to be introduced at Community level, that in the case of language learning would mean that "irrespective of training and education routes chosen, to be able to acquire and keep up their ability to communicate in at least two Community languages in addition to their mother tongue" (White Paper 1995: 47).

Prior to the Sorbonne or Bologna Declaration, the White Paper manifested that proficiency in languages had become a precondition if citizens of the European Union were to benefit from the occupational and personal opportunities open to them in the border-free Single Market. In addition, the learning of languages would help to build up the feeling of being European and of understanding between the citizens of Europe. It would also be an advantage in obtaining a job either in one's country or

when opting for mobility within the Union. In order to make for proficiency in three Community languages, it was recommended that foreign language learning would start at pre-school so that upon completing secondary school – initial training – everyone should be proficient in two community foreign languages. However, it is also stated that, despite the significance of this recommendation, the commitment of its Member States to it was reduced in importance by having to add the words "if possible" (*idem*). My interpretation of this recommendation is that Member States, with great concern with internationalisation, mobility and employability have drawn up a language policy, whereas the remainder have maintained the situation prior to this document's release.

This posits a number of strategic questions to the way in which individual HEIs position themselves with respect to the language question and to Bologna's broader goals of mobility, employability and internationalisation. According to Tudor (2005) there is evidence that a certain number of HEIs are addressing the language question strategically by initiating focused reflection on the role of language learning in the programmes they offer as is shown by the European Network for the Promotion of Language Leaning among all Undergraduates (ENLU) survey of 2005 (Tudor, 2005: 9). Indeed, out of the 123 institutions surveyed, 70.7% considered it very important to develop institutional language policy aiming at promoting language learning among undergraduates, but only half of them had developed an undergraduate language policy in 2005. Regarding these results, it is important to state that some universities were under-represented, such is the case of Portugal, where, from a total of 23 institutions addressed, only 6 filled out the ENLU Marketing Survey questionnaire. However, it is curious that when questioned about the importance of having an institutional language policy aiming at promoting language learning among undergraduates 100% of the Portuguese HEIs stated it as very important (http://www.fu-berlin.de/enlu). Despite the fact that the majority of HEIs provide degrees in modern languages or language-related professional areas and provide language learning programmes for incoming students, such as SOCRATES/ ERASMUS students, there seem to be many obstacles to funding a policy for language learning of all undergraduates because it would represent, among other aspects, fitting languages into the programmes of non-specialists at the expense of 'core' subjects (Tudor, 2005b).

As indicated in the European Commission's document *Promoting Language Learning and Linguistic Diversity: An Action Plan 2004-2006*, language competences are among the core skills that every citizen needs for training, employment, cultural exchange, and personal fulfilment. For this reason, language learning needs to be an integral part of the education of all European citizens at all levels of education, as a lifelong activity. As stated in the above document "all students should study abroad, preferably in a foreign language, for at least one term, and should gain an accepted language qualification as part of their degree course" (2003:8). This raises a number of issues as well for, as Moreira has pointed out, this would include compulsory course units in foreign languages in all higher education institutions (2006: 283) and as unfortunately the ENLU survey numbers show, this is still far from being true. In the words of Wolfgang Mackiewcz:

although student mobility has become an accepted part of university life, the provision of linguistic and intercultural preparation and support for mobility is often insufficient. Also, linguistic skills and competences acquired during study or placement abroad or, indeed, in non-university contexts are rarely validated and recognised. (2002:5)

Portugal provides a good example of how there may be a great theoretical acceptance of the role of languages and a reluctance to take concrete steps to make extended language learning a reality.

By running a random search on the internet on the course plans for Environmental Engineering in some Portuguese institutions for the academic year 2007/08, the results were as presented at Table 6.

Table 6. Foreign Languages offer in Environmental Engineering degrees in Portugal in 2007/08

Institutions	Foreign Language(s)
Universidade Técnica de Lisboa - Instituto Superior Técnico	
Universidade Nova de Lisboa	
Universidade de Coimbra	
Universidade de Aveiro	
Universidade de Trás-os-Montes e Alto Douro	No language offer
Instituto Superior Politécnico de Beja	
Instituto Superior Politécnico da Guarda	
Instituto Superior Politécnico de Setúbal	
Instituto Superior Politécnico de Viseu	
Instituto Superior Politécnico de Castelo Branco	English 4 ECTS
Instituto Superior Politécnico de Coimbra	English 6 ECTS
Instituto Superior Politécnico de Leiria	English 2 ECTS
Instituto Superior Politécnico de Viana do Castelo	No information available

Source: Information available on the internet for each institution in 2007

A similar random survey was carried out in the field of Chemical Engineering with even more dismal results, none of the institutions under analysis made any provision of language offer (Branco, 2006:89).

According to Reichert & Tauch "Preparing graduates for the European labour market is regarded as one of the three most prominent driving forces of the Bologna Process" (2003: 27). Employability is thus one of the goals of the process, and is defined as "acquiring competences of innovation and leadership which are important both in the academic field and in other employment sectors (...) the link between employability and academic quality should be achieved by fostering analytic thinking, competent reasoning, the ability to structure information and arguments, and the

ability to interact in a social context" (*idem*). Considering the provision, or lack of provision, of languages in most engineering courses in Portugal, the social interaction will only involve the mother tongue. Claims that language skills assume an increasing importance in terms of employability because of the internationalisation drive of many higher education institutions (Tudor, 2005a; Kramsch, 2007) only stress the low priority agenda of languages in Portuguese HEI.

Despite the recommendation of the European Language Council in 2002 stating that "if higher education degrees are to be relevant to the European labour market, graduates have to be able to communicate in a number of languages and to expand their linguistic repertoire in response to changing needs. It is the responsibility of higher education institutions to provide opportunities and incentives for students to acquire these abilities" lack of language policies in Portuguese HEIs or broad international cooperation endeavours in HEIs has led to a general lack of language learning opportunities for non-specialists.

Another explicit and often commented upon Bologna goal is lifelong learning. Lifelong learning is defined by the European Commission as "all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective" (European Commission, 2001). On the one hand, this concept is linked to the setting up of structures available to people already engaged in professional life and wishing to upgrade their skills or acquire new ones. On the other hand, it involves the pedagogical and attitudinal preparation of students for lifelong learning in the first cycle of their higher education studies.

If lifelong learning is important in improving knowledge through life, it is certainly of particular bearing when it comes to language learning. But in preparing

³² In European Language Council (2002) – *The Bologna Process and the Issue of Languages.* In Reflectir Bolonha: Reformar o Ensino Superior. Um Arquivo Documental sobre a Construção do Espaço Europeu do Ensino Superior. Porto: Universidade do Porto. CD-ROM.

students to study foreign languages throughout their lives, a shift has to be made in the mode, or paradigm, of language learning. The outcomes of a given learning programme should be defined by the ways the students approach situations of language learning in an informed and self-directed manner. The empowerment of the learner is one of the great concerns in self-directed learning. It does not only matter that the learner acquires a certain level of proficiency – the product – but it is also important how the learner goes about the process of assessing strengths and weaknesses and making informed decisions about how to achieve his/her goals.

Setting pedagogical procedures capable of helping students develop greater autonomy and self-directedness as language learners is what I wish to explore in the following chapters.

Considering all that has been stated, this can only be an personal biography of the Bologna Process; firstly, because it is far from thorough in the analysis of the landmarks of this kaleidoscopic process, and secondly, because it is depicted through the biased lenses of a researcher from one of the subsystems of higher education - a polytechnic institution - trying to de-assemble the rhetoric involved in the Bologna documents *vis à vis* the reality of its implementation in Portugal, in order to understand and make sense of the historic moment in which the research is taking place.

Chapter 2

Autonomy in Foreign Language Learning - An Overview

"You cannot teach a man anything; you can only help him find it within himself."

(Galileo Galilei)

2.1 Defining the field

When we first enter a field of specialist knowledge or experience, we expect to encounter words that are either new to us or used in an unfamiliar sense and our initiation into the field depends largely on our understanding of the network of concepts that underlies this specialist vocabulary (Little, 1991). The theorists in the field of autonomy in language learning have paid great attention to the definition and redefinition of the concepts it encompasses, reflecting the vivid discussion going on at its centre. For over three decades of theory has led to new practices, and practice and experimentation has validated theory or led to different directions in the field because the realities of learning are in permanent change. Due to the vast interest of theorists, teachers and practitioners in the field, and the great amount of research carried out over these decades, multifarious definitions of autonomy have emerged, or to put it differently, a provisional definition of autonomy was put forward where each new empirical research helps to shed light on theory. As Benson (2003) puts forward, if research is a matter of seeking answers to questions and also a better understanding of, or theorisation about, processes and situations through engagement with data arising from them, then second language learning research has provided a large set for the framework of discussion of the concept of autonomy of which this piece of work intends to be a part.

2.1.1 Autonomy as a general concept

Wikipedia, one of the most used online resources, has the following entry as definition which serves to highlight the wide range of contexts in which the concept is used: "Autonomy (Greek: Auto-Nomos - *nomos* meaning "law": one who gives oneself his/her own law) is the right to self-government. Autonomy is a concept found in moral, political, and bioethical philosophy. Within these contexts, it refers to the capacity of a rational individual to make an informed, uncoerced decision. In moral and political philosophy, autonomy is often used as the basis for determining moral responsibility for one's actions. One of the best known philosophical theories of autonomy was developed by Kant. In medicine, respect for the autonomy of patients is an important goal for doctors and other health-care professionals, though it can conflict with a competing ethical principle, beneficence. Politically, it is also used to refer to the self-governing of a people" 33.

Given the manifold uses of the word autonomy, even if it is narrowed down to language learning, it is difficult to give a linear account of the process that has spanned centuries and has its roots in a large number of interacting disciplines (Benson & Voller, 1997; Reinders, 2000; Benson, 2001; 2006) and great thinkers. For

http://www.wikipedia/autonomy. Wikipedia as a source of reliable information is far from being an uncontroversial topic among academics. Here it was used following the footprints of Phil Benson's 2006 State-of-the-art article – so denominated by Cambridge University Press - "Autonomy in language teaching and learning", where he uses the Wikipedia as any other source of bibliography, namely to define the concepts of learner autonomy and blended learning based on wikis accessed to demonstrate the leading emergence of research and diffusion on autonomy.

reasons of clarity these disciplines, thinkers, and their influence will be analysed in a timeline.

2.2 A brief history of autonomy in language learning

Gremmo and Riley's 1995 article records the early history of autonomy in language learning, a landmark in the studies of autonomy, which is well documented (Little,1991; Benson, 2001, 2006; Holec, 2007), attributing the inception of the concept to the Council of Europe's Modern Languages Project and to the political turmoil in Europe in the late 1960's. They trace back the ideas of autonomy and selfdirection to 20 to 25 years after the Second World War, record how these became the subject of intense scrutiny, analysis and debate and went on to become familiar elements in educational research and practice (1995:152). They argue that autonomy benefitted from the historical wave of minority rights movements plus a reaction against behaviourism, i.e., from a generalised opposition to the establishment and authority and a search for alternatives of many kinds, amongst them schooling. The convergence of educationalists on the notion of learner-centeredness (Freire, 1972; Illich, 1970, 1973; Rogers, 1972; Holec, 1979) was also of great influence. The fact that the communicative concept underlying language and its teaching as well as the advent of cognitive psychology emphasised learning as a process resulting from something that learners do, rather than is done to them, provided the right ingredients for the development of the concept of autonomy.

Indeed, the concept of autonomy first came into the field of language teaching in 1971 related to the project of establishing of a centre of applied language research – Centre de Recherches et d'Applications en Languages (CRAPEL) at the University of Nancy. In 1979 Holec published his seminal report defining autonomy, which would find a wider public and impact in 1981, when it was published in English by the Oxford Pergamon Press. Other important articles from this period can be found in *Mélanges Pédagogiques* issued by the CRAPEL.

According to Benson (2001), the CRAPEL project aimed initially to provide adults with opportunities for lifelong learning and autonomy – or the capacity to take charge of their learning – which was at the core of self-directed learning practised by these adult students. The learners should have the capacity to set their goals, assess their progress and evaluate their learning, as we will analyse in greater depth when defining the field. Among the key innovations, this centre had a self-access resource centre and the learners were trained to use the centre and to learn how to learn a language.

In Holec's words:

what had started as a limited variation in practice empirically put together to loosen the constraints of teacher-directed group learning has now become a fully-fledged alternative outlook on language learning and teaching based on alternative definitions between teaching and learning and between learning and acquisition. (2007:3)

Holec is spanning over three decades in his comment, acknowledging the fact that autonomy has become, in fact, an alternative to the way language learning and language teaching are understood. This change occurred due to the work carried out in the 1980's and 1990's. These decades were marked by learner training and the focus on strategy training (Wenden & Rubin, 1987; Dickinson, 1987, 1992; Ellis & Sinclair, 1989; O'Malley & Chamot, 1990; Oxford, 1990; Wenden, 1991; Cohen, 1998). From the idealistic late 60's and the humanistic/political ideals that rooted autonomy studies, a period of practical application followed, as the literature gives evidence.

Simultaneously, the locus of innovation was 'transferred' to Dublin where the Centre for Language and Communication Studies at Trinity College had David Little as director and editor of Authentik – Books for Language Teachers. The first book is dedicated to clarifying definitions, issues and problems whereas the second – *Learner Training for Language Learning* – by Leslie Dickinson – mirrors the concerns of the field at the time. Quoting Dickinson, the goal of learner training is to help all learners, and especially those who are less effective, to become more active and more

independent in their learning. In order to achieve this, students must be given both psychological and methodological preparation (1992:18). While the above mentioned authors manifest some differences in detail, all these authors are concerned with the promotion of learning autonomy. Like Dickinson, they will explore the use of higher-level strategies, i.e., meta-cognitive strategies that are going to become a tenet in the studies of language learning autonomy.

It then became important to stress how to implement theory in classroom practice. Leni Dam (1995) uses her long practice as a teacher and teacher trainer and is responsible for the third book of the Authentik series shifting the focus from teaching to learning. The great majority of the book is an account of her class experiments and experiences:

I tried to involve the pupils – or rather forced them to be involved – in the decisions concerning, for example, the choice of classroom activities and learning materials. I soon realised that giving the learners a share of responsibility for planning and conducting teaching-learning activities caused them to be actively involved and led to better learning. (Dam,1995: 2)

The importance of Dam and her Danish secondary school colleagues implementing a model of autonomy and curriculum negotiation or Trebbi & Gjorven in Norway was paramount and prompted a shift in the focus of research on autonomy in the 1990's towards collaboration and negotiation. Collaborative decision making within co-operative learning groups would be a feature in Kohonen's experiential model for the development of autonomy (Benson, 2001: 14).

In Finland, Kohonen, highly influenced by Kolb's *Experiential Learning*, links autonomy to personal growth and experiential learning:

In terms of experiential learning theory, an essential part of such learner training is that it includes the cyclic process of having 'hands-on' experience of learning strategies and metacognitive knowledge, reflecting on such experience and conceptualizing it, thereby gaining a conscious understanding of knowledge. (Nunan, 1992: 25)

Kohonen also linked language learning to personal growth and how much affective components contribute as well to language development where the intrinsic motivation is a drive for competence containing three dimensions – a desire for challenge, a desire for independent mastery, and curiosity or interest:

If people's perceptions and feelings of competence are enhanced, their intrinsic motivation will be increased. Language learners need positive experiences of what they *can* do³⁴ with their language communicatively. Such feelings of success will increase their self-confidence. In an important sense it can thus be argued that competence develops through confidence. (*idem*: 23)

Although in the first decade an emphasis had been upon individualisation and autonomy, it then became clear, especially from the work of Little, Dam and Kohonen, that prominence was given to the relation of collaboration and interdependence in the development of autonomy. The work in cooperative learning is structured so that there is positive interdependence among the members of the group; learners feel that they are working for mutual benefit (Kohonen, 1992: 34).

Two foundational concepts in autonomy studies have been the new roles of the teacher and the learner. Of the many authors that have reflected on this issue (Volller, 1997; Riley, 1997, Breen & Mann, 1997; Sinclair, McGrath, Lamb, 2000; Little, Ridley, Ushioda, 2002; 2003; Ribé, 2003; Aoki, 2002, 2003; Vieira, 1996; 2007a; 2007b), Voller starts by questioning if there is any role left for the teacher. He then proceeds to analyse the new responsibilities of the teacher working in an autonomous context: as facilitator, as counsellor, as a resource. Voller also focuses

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³⁴ Kohonen will participate with Little in The European Portfolio of Languages elaborating the long lists of can do statements. In Little, Kohonen, Meijer, Perclová (2007) *PreparingTeachers to Use the European Language Portfolio – Arguments, Materials and Resources*. Strasbourg: Council of Europe Publishing

on a recurrent theme throughout these decades: the issue of holding control in the classroom. Autonomous learning theory demands that learners take control of their own learning but there are some who disagree with this statement because learners "lack the full grasp of the concepts they are learning and do not have clear awareness of what they need or want to learn, let alone how they wish to go about it, even if given choice" (Kenny, 1993: 434). All in all, negotiation and learner training seemed to be the solutions presented for this issue (Boud, 1988; Voller, 1997; Aoki, 2002; Pemberton, Li, Or, Pierson, 1996; Pemberton, Toogood, Barfield, 2009):

Whether we view learner autonomy as a right or distant goal, and the roles of the facilitator, counsellor and resource as stages along the road that leads to autonomy, we need to remain faithful to three fundamental assumptions. The first is that language learning is an interpretative process, and that an autonomous approach to learning requires a transfer of control to the learner. The second is to ensure that our teaching practices, within the external constraints imposed upon, reflect these assumptions, by ensuring that they are based on a process of negotiation with learners. The third is to self-monitor our teaching, to observe and reflect upon the teaching strategies we use and the nature of the interactions we set up and participate in. (Voller, 1997: 113)

Breen & Mann have taken the perspective of the learner and unlike Holec they envisage autonomy not as an ability but as something to be learnt, discovered and rediscovered (1997:134). They consider eight qualities the learner has to possess in order to be considered autonomous, namely: the desire to learn, a robust sense of self, a metacognitive capacity, management of change, independence, a strategic engagement with learning, and finally, a capacity to negotiate (*idem*). Other questions raised by Breen & Mann concerning the role of the teacher are whether the teachers are alert to enable opportunities for being autonomous, if so, can teachers exercise these characteristics in their professional life, and whether, metaphorically speaking, it is worth trying to shoot arrows at the sun, recognizing all the limits of both teachers and learners endeavouring in such an idealistic project? The now famous and widely used metaphor ³⁵ also stands for the fact that there are several degrees to

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³⁵ According to Breen & Mann when explaining their metaphor: in Pre-Columbian Mexico it is said that there existed people who believe that they could make the sun die by firing arrows at it. As this ritual

autonomy and the more you try the more skilled you become in throwing the arrow and the closer to the sun you get. David Nunan takes the discussion a step further in conceiving autonomy in sequential levels. In his opinion, which will be analysed further on, autonomy should be implemented on five levels: awareness, involvement, intervention, creation, and transcendence. In addition, these levels should be incorporated into practical pedagogical materials (1997: 153). Meanwhile the locus of diffusion of autonomy theories moved in the late 90's to the Asia-Pacific, having in Hong Kong some of the most prolific authors, such as Benson, Pemberton, Gardner, among others. In 1996, Pemberton, Li, Or, and Pierson published the result of a conference in Hong Kong and mainland China called Taking Control. Autonomy in Language Learning. Ten years later, a similar conference took place in the same city and the compilation of contributions were published in 2009 under the title Maintaining Control. Autonomy in Language Learning where contributors analyse the developments that took place in that lapse of time. In a wider international context in this interim, the Learner Autonomy Scientific Commission as part of the Association Internationale de Linguistique Appliquée (AILA) was created within the CRAPEL. AILA's first congress was held in Australia in 2003 and it has been growing in participants from all over the world ever since, holding a conference every two years in Asia Pacific. The training of novice teachers into a pedagogy of autonomy has been central to researchers such as Barbara Sinclair and Flávia Vieira. The latter has a Special Interest Group, SIG, or a collaborative work group, made up mostly of teachers of secondary teachers who publish their innovative experiments annually, a

tended to be performed towards evening, their success rate tended to maintain their faith (...) there can be little doubt that the sunset ritual enabled the people to shoot arrows over a greater distance than most people before or since. The benefits to their arrow-shooting activities such as hunting were obvious.(...)[Their argument to which I agree], is that we may seek to develop the ideals of autonomy in practice but, being alert to their complexity, are better able to struggle with the constraints upon them. The professional energy which we may devote to aiming towards autonomous language learning will almost certainly uncover and achieve an unanticipated range of new possibilities in language pedagogy (Breen & Mann, 1997; 133).

University of Minho (Portugal) publication – *Cadernos* – and more recently, internationally in Peter Lang Publishers.

With such an educational approach as autonomy, the learning structures of institutions which rely on examinations became incompatible. Self-directed learning stresses the importance of learner self-assessment, in the words of Gremmo & Riley "self-assessment is vital to the act of learning and has to be as accurate, thorough and relevant as possible: learners must learn to self-assess realistically" (1995: 155). This innovation has led many institutions to find the final mark of each school year as a combination of the teacher's evaluation and the learner's self-assessment.

Perhaps the greatest innovation associated to autonomy studies did not come from methodology, but from the creation of self-access centres which in many cases evolved from language laboratories. The CRAPEL has been involved in resource centre projects in Mexico, Hong Kong, Spain, Austria and Egypt (idem: 157). In South East Asia, new resource centres seem to spring up at a great rate and equipped with state-of-the-art design and technology (one of such centres is located at the Kanda University of International Studies in Japan, graced with a prize of excellence by the Emperor and the Ministry of Education). In Benson & Voller's (1997) Autonomy & Independence in Language Learning, most of its chapters focus on autonomy and self-access where one of the recurring themes is that there may be a conflict between the stated aims of self-access and its implementation. In other words, self-access does not automatically guarantee that learners will take charge of their learning and learn (Wenden, 1997). Another important feature of this book, according to Wenden (1997), is that it acknowledges the importance autonomy has gained in two decades and has become mainstreamed as a key concept in educational planning, discussing the main trends in autonomy implementation, being self-access the central trend in the late nineties. Many other studies have tried to establish a clear relation of success in language learning with the use of the resource centre. There seems to be no clear relation, unless the language learners have learner-training programmes on how to

use and boost their potentialities, which normally demands great monitoring and teacher involvement in the first stages. Since the publication of Gardner & Miller's (1999) book on self-access, there was a shift of focus from the theoretical debate on the organisation of self-access centres to the integration of self-access-learning with coursework (Benson, 2007). Sara Toogood and Richard Pemberton (2002; 2007) have illustrated in detail the problems they have faced in "trying to balance the students' need for structured support and our objective of helping students take control of the learning process whilst ensuring we meet institutional requirements in terms of student teacher ratios, attendance and assessments" (2002:108). Their reports have been a story of success at the Hong Kong University of Science and Technology. They have developed their success with Self-Access Language Learning (SALL) into a new step: they have implemented a Virtual English Language Adviser (VELA) < http://vela.ust.hk> to help learners create a learner plan, fill in the diary forms, and automatically provide the help learners need to help themselves. SALL learning environment does not relinquish other types of support, such as student and teacher questionnaires, interviews with teachers, and recording teacher-student consultations at weekly intervals (Toogood & Pemberton, 2007: 189).

Another face of technology and autonomy became known as CALL – Computer Assisted Language Learning – a way of integrating Information Technology usefully into the English teaching curriculum. As Sergeant (2001) puts forward, computers in commerce and industry are associated with higher efficiency and this assumption was carried to the educational field and the language teaching in particular. On the other hand, together with the fascination for computers, many students rank acquisition of computer skills alongside English language as essential for survival in the modern world (*idem*: 241). CALL brought training for the teaching staff, software, computers in network, flexible timetables and immediate feedback to the student. Success was measured mainly by the quantity of hours that computers were used by students, and, as critics point out, this technocentrism led to the assumption that having provided the opportunity to use computers, learning happens

by itself (*ibidem:* 242). As Sergeant stresses, courses comprehending CALL brought a lot of innovation, being innovation a deliberate effort, perceived as new and intended to bring about improvement, whereas change is described as any difference between files on Time *x* and on Time *y*. Hauck and Hampel (2008) classify CALL (materials complementing face-to-face teaching and conventional course materials such as books, video, and audio) as a first stage in this language learning evolution. However, Corder and Waller (2007) defend the value of software in CALL as a platform for teacher-student dialogue, resulting in increased opportunities for student and teacher reflection, as well as student and teacher awareness and understanding of language learning needs. In the time of internet-based technologies, Computer Mediated Communication (CMC) has to some extent replaced CALL. In CMC the computer is used as a tool allowing the learner to communicate with other learners and the tutor reflecting sociocultural theories, with a strong focus on language learning in interaction. The cutting-edge language resource centre is of course provided with a strong component of CMC.

By the mid 1990's one of the popular research issues connected to resource centres and language learning in general was to discover what the characteristics of good learners were and learn from this practice so that it was possible to reproduce them to those who showed less effectiveness in learning the language. From these practical studies, a more theoretical field of research emerged which identified: the learning style each learner was more dominated by, i.e., the ways they gather, process, analyse and store information for solving problems and take adequate decisions. Rebecca Oxford (1990) was one of the authors who engaged more in this line of research creating her own Strategy Inventory for Language Learning (SILL) a comprehensive questionnaire on learning strategies and language learning awareness. The questionnaire is designed to be processed by the learners themselves, who enter their results on individual 'strategy profile' sheets (Dickinson, 1992: 47). Cotterall, who acknowledges the explosion in interest in learning strategies, goes to the heart of the question when she writes that:

Learning strategies have provided language teachers with suggestions as to which learning strategies to present and, more importantly, empirical justification for spending time with learners discussing and experimenting with such strategies. At the heart of learner autonomy lies the concept of choice. This principle relates particularly to extending the choice of strategic behaviours available to learners, and to expanding their conceptual understanding of the contribution which strategies can make to their learning. (2000: 111)

Cotterall and Murray have been developing their research on meta-cognitive knowledge, i.e., what the students know about themselves and the decisions and strategies they make about their learning, for decades. Grounding their research on the psychologist Flavell, they define the strategic component of meta-cognition as 'general skills through which learners manage, direct, regulate and guide their learning, i.e., planning, monitoring and evaluating' (Cotterall & Murray, 2009: 35). Hence these are essential strategies for successful self-directed learning. Cotterall and Murray are also very involved with the current that studies learners' beliefs in order to gauge the students' degree of autonomy.

Another influential trend in language learning theories has been the Multiple Intelligences theory, introduced by the psychologist Howard Gardner in 1983:

If we accept that different intelligences predominate in different people, it suggests that the same learning task may not be appropriated for all our students. With people with a strong logical/mathematical intelligence might respond well to a complex grammar explanation, a different student might need the comfort of diagrams and physical demonstration because their strength is in the visual spatial area. Other students who have a strong interpersonal intelligence may require a more interactive climate if their learning is to be effective. (Harmer, 2010: 90)

Ellis & Sinclair (1989) and Tanner (2003) were some of the authors who applied learner styles to language learning. The latter has produced a chart to show what kind of activities might be suitable for people with special strengths in the different intelligences. The chart *Teaching Intelligently: Language Skills Activities Chart* is reproduced in Harmer and matches the skill/intelligence with activities in listening, reading, writing, speaking grammar, vocabulary and literature (Harmer, 2010: 9).

Individual differences have also emerged as relevant from a sociocultural perspective. Researchers study the relationship between the construction of individual identities and the achievement of personal autonomy through long-term biographical stories of language learning experiences (Chik, 2007; Karlsson & Kjisik, 2007; Benson, 2007; Hurd, 2008; Kjisik, 2008). Chik, Benson, and Kjisik adopt biographical approaches to capture the holistic experience of learning a language and to gain access to the learner's process on the learning process. According to Chik, "the use of narratives is a natural path to the understanding of language learning and formation of identity as a process because identity is reflexively understood by the person in terms of her or his biography" (2007: 44). In 1994 was created a programme of Autonomous Learning Modules (ALMS) in Finland (Karlsson & Kjisik, 2007), a module of learning English in which the students discuss their language learning history, their learning styles and strategies, and their personal motivation and needs in the first 6 hour session and go on to plan the module that elapses for one term. From their experience, Karlsson and Kjisik have studied the role of (auto)biography in fostering learning and reflective thinking. The students have a feedback computer programme for their needs - Kaleidoscope - that also obliges them to focus on specific areas e.g. Needs, Skills, Motivation, Personality, and Learning History, therefore building up their 'Profile' - but the dialogue is also continued face-to-face in group and with the teacher.

On the other hand, Hurd (2008) exploits in her research how affect and strategy use can promote a more effective language learning, but the context of her research is learning independently in distance distance language learning settings (Hurd, 2008: 219). Affect is about emotions, feelings, moods, and attitudes, anxiety, tolerance, ambiguity, and motivation. Although we are becoming more attentive to affective factors there is a huge gap in terms of our knowledge and the affective strategies students in the pursuit of language proficiency (*idem*: 218). Hurd used audio recorded Think-aloud Protocols with distance French language learners; the students externalised their thoughts as they occurred, making inferences or analysing

the process or strategies involved in completing the task – in an introspective manner – and finally commented on those processes and strategies – in a retrospective manner. In an era of technocentrism it is worthy of note that one of the more recently popular topics for research is about affect and biography of single students: the individual. As Oxford and Burry-Scott (1995:15) affirm: "Language learning, more than almost any other discipline, is an adventure of the whole person, not just a cognitive or metacognitive exercise".

It would be unforgivable not to mention the work that has been carried out over decades by Naoko Aoki in terms of narrative and biography as a form of knowledge, particularly in sharing her own learning history to achieve particular understanding how a language is learned, in this case, highlighting teacher autonomy as dissociable from learner autonomy. In the words of Little (2007), it is of the essence to make autobiographical narrative a way of tapping into individual learners' language learning experience as it intersects with their belief systems and self-concepts. According to his opinion, this technique is an essential antidote to the stereotyping tendency ('the learner') that so much theory is prone to, including learner autonomy theory (idem).

Another new trend in autonomy studies of great significance is linked to more advancements in IT. Such is the case of the Web 2.0, "a means whereby just anyone can contribute to an ongoing 'conversation' in which knowledge is both discovered and constructed as it goes on" (Freedman, 2006. quoted in Bran, 2009: 2520). Web 1.0 tools have been used for creating web-sites as 'the Web-as-information-source'; today we are under the influence of Web 2.0, which is based on the concept of 'Web-as-participation-platform' used by many educationalists and the most recent trend in autonomy in language learning. We are living in an era of knowledge explosion and as new developments take place every day, there is too much information to memorise, which makes it necessary for learners to be 'information managers' rather than 'information regurgitators' (Küfi & Ozgür, 2009: 326). As information managers,

the students are responsible for their blogs, e-mails, wikis, webcam comments through which they can express their ideas" in a state of virtual proximity, creating and refining their ideas through dialogue with other students and guidance by the teacher" (Bran, 2009: 2520). The learning process can be individualised, but at the same time, instead of teaching a whole class, the teacher can resort to small group instruction. Although it may seem that the highlights of learning process are on technology, it is the teacher and the pedagogy used that will have the central importance. For example, the use of VoiceThread, a collaborative, multimedia slideshow that holds images, documents, and videos, and allows people to navigate pages and leave comments using voice, text, audio file or video (Wikipedia, 2010). It can be shared by a group of students with their teachers. Curiously, users can doodle while commenting and can use multiple identities. The received comments can be embedded on other websites and exported to MP3 players or DVDs to play as archival movies. According to Weir, (2008) quoted in Bran (2009), "VoiceThread is particularly useful because it provides educators with the possibility of testing, practising and enhancing the basic skills of language learners. Blogs can be compared to conversations on this site there are multiple conversations going on at once and with text, audio, webcams made at any time bringing diversity and makes the traditional classroom conversation plain boring".

Another example of language learning in a non-traditional manner is provided by the Livemocha site. Livemocha, claims to be the world's largest language learning community, with over 5 million members from more than 200 countries worldwide. Livemocha is a social network service where users can learn languages through audio-visual lessons, and peer tutoring tools that allow native speakers to help one another. Users can aid others in learning the languages in which they are proficient while learning other languages themselves. This is achieved through peer reviewing of submissions, live text and audio conversations, and other learning systems (Wiki981234567890pedia, 2010). I became acquainted with this site and its *modus operandi* through my students in 2009 who were practising English and tutoring in

Portuguese and networking in the realm of language learning. I have also enrolled, since it is cost-free, but never been able to find the time to fulfil my duties.

More often than not, literature on autonomy mirrors classroom practice; the classroom is the locus from where autonomy is dynamised. If autonomy presupposes learner-centeredness, many of the tales of success in achieving autonomy are classroom-based. It is here that the teacher wilfully delivers the power of decisionmaking to the learner, negotiates it in terms of planning activities in the classroom, and beyond the classroom, and in terms of evaluation of outcomes. Literature gives the accounts of the experiments in terms of peer-assessment, peer-teaching, selfassessment, collaborative work, the new roles of teacher and learner, the use of student portfolios, the use of novice teacher portfolios, elaboration of personal journals (Benson, P & Voller, P 1997; Pemberton, R. Li, E., Or, W., Pierson, H. 1996; Pemberton, R., Toogood, S. Barfield, A., 2009; Little, D. Ridley, J., Ushioda, E., 2003; Palfreyman, D. & Smith, R. 2003; Barfield, A. & Nix, M.: 2003; Skier, E. & Koyahama, M.: 2006; Lamb, T. & Reinders, H. 2006, 2008; Miller, L.: 2007; Barfield, A. & Brown, H., 2007; Hurd, S. & Lewis, T. 2008; Vieira, F., 2009). Often they are small-scale experiments, pilot tests or case studies shared among a community, as in the case of the Japan Association for Language Teaching's Learner Development Special Interest Group. In their publications in Learner and Teacher Autonomy in Japan, 1 and 2, they developed an editing template later to be followed by other publications in the field. Highlighting collaboration and dialogue as vital for their teaching, their publication followed the same formula; each chapter was written by two researchers followed by two critical reader responses, one by a collaborator of the SIG publication and another by an outside reader widely known in the field. 'Considering autonomy interpreted differently by different cultures' (Sinclair, 2000: 12), they believed that it was essential for teachers and researchers to discuss the implementation of autonomy in different cultural and teaching contexts. The constant sharing of experiences throughout decades has spread the range of the audiences they reach and makes it possible for Benson to call autonomy now a mainstream phenomenon

which he exemplifies with the fact that several general books on language teaching and learning devote large sections on autonomy, among them Jeremy Harmer's *The Practice of English Language Teaching* 3rd edition of 2001 (Benson, 2006: 27). The appearance of autonomy in mainstream literature recognises a range of perspectives and contributions from different fields and cultures and an attempt to integrate autonomy in the 'regular' classroom or curriculum. In addition, it allows for the possibility of confronting the constraints to autonomy having a wider audience and participation. Emerging from the kaleidoscope of ideologies from the 60's, autonomy has covered great lengths to become an increasingly prominent goal in educational systems around the world. Given the range of foci of research it encompasses one can foresee that future research will continue the proliferation of studies we have recently become accustomed to.

2.3. Autonomy across the disciplines

2.3.1 Educational reformers

Since research in autonomy in language learning is marked by its willingness to look at sources beyond the field of language education for insights and intellectual guidance borrowing its concepts from many sources, some of the more distinguished are worth mentioning.

The influence of Rousseau (1712-1778) on theories of autonomy in education is seen as indirect (Vieira, 1996, Benson, 2001; Reis Monteiro, 2005) and is seldom cited as a source although seeds of autonomy lie in his *Émile*. In fact, two of the central ideas for autonomy are present in this work, namely the defence of the learner's responsibility for his own learning and the belief that the capacity of autonomy is innate but suppressed by institutional learning. Kant (1724-1804) and Stuart Mill (1806-1873) produced philosophical writings on society and the individual, presenting conceptions of a democratic society founded on the exercise of individual

freedom and respect for the autonomy of others (Benson, 2007), where the germs of the modern idea of autonomy in learning can also be found.

The New Education Movement, seen by some as the most powerful movement in the history of education (Vial & Mialaret, 1981; Rocha, 1988; Reis Monteiro, 2005) has its historic reference in *Émile*, landmark of modernity in education, and has produced great thinkers from Pestalozzi to Dewey and Montessori, to name just a few. The pedagogical concept underlying the New Education Movement stands as a reaction against traditional methods, i.e., the amount of knowledge that has to be acquired in authoritative classes where the teacher is the *magister*, robbing the teacher of his/her essential role in education and giving it to the student. It is the activity of the students, the needs of their age, their taste and personal interest that are going to be in the centre of this pedagogy.

The American pragmatist philosophers Dewey (1859-1952) and Kilpatrick (1871-1965) laid the foundations of learning by and through experience (Legutke & Thomas, 1991). Dewey's main contributions to the idea of autonomy lie in the relationship between education and social participation, education as problem solving, and classroom organisation (Benson, 2001). Kilpatrick's contribution to the idea of autonomy was the 'project method' where he clarified Dewey's programmatic study 'Democracy and Education' (1916) and reinforced the notion that the path to responsible citizenship was achievable through a society of cooperating individuals. As Legutke & Thomas (1991) point out, their work had considerable influence on the educational reform movements in Germany and the Soviet Union of post World War I, and project that learning would be a central issue in Europe during the 1960's and 1970's.

Another thinker in the field of education whose books on education and psychology are milestones in western thinking was Piaget (1896-1980). His contribution to autonomy has echoes of Dewey and Kilpatrick for it states that cooperation presupposes political freedom as well as freedom of thought. Autonomy is seen as the capacity to choose common values and rules. It takes more than filling

one's head with useful knowledge to obtain free men; it takes also active intelligence to achieve freedom (Reis Monteiro, 2005).

In 1970 Paulo Freire (1921-1977) published "Pedagogy of the Oppressed", which has since been translated into many languages, resulting from his relationship with the dictatorship in Brazil and authority and his subsequent exile. Politically rooted education is seen as a possibility, as a theory and action for literacy so as to obtain freedom from the oppressor. Freire argued that responsibility is as a fundamental human need to be acquired through reflection on experience and the transformation of social reality. In "Pedagogy of Autonomy" Freire stated that learners should not only be consumers of knowledge, but should assume to be producers of knowledge in their own right. Teaching is seen not as knowledge transfer but as the possibility to produce or construct knowledge³⁶. This notion of individuals being able to transform the social realities in which they live is particularly relevant to approaches in autonomy in language learning (e.g. Kenny 1993; Pennycock, 1997; Benson, 1997, 2001; Lamb, 2000).

The theory of autonomy was also strongly influenced by the work of Illtich (1926-2002) who attacked traditional educational structures and how they contribute to maintaining the barriers between learning and living (Little, 1991). Illitch insists that most learning happens casually and gives the example of second language learning or fluency in reading as the result of extra-curricular activities. Pennycook has acknowledged the radical political potential in the concept of autonomy interpreting Illitch's contribution to education more as a questioning of the nature of education rather than a search for alternative forms of education (1997). Pennycook also points out the common movement carried out by theorists of the concept of autonomy, such as Little or Wenden, from a politically engaged concept to a psychological one, transforming Illitch's political barriers to learning first and foremost into psychological

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³⁶ In Freire, Paulo (1996) *Pedagogia da autonomia: saberes necessários à prática educativa.* São Paulo: Paz e Terra, p. 22, my translation.

barriers. The focus is shifted to the psychology of the language learner in cognitive isolation and how to develop strategies for learner autonomy (Little, 1991; Wenden, 1991; Pennycook, 1997).

Rogers (1902-1987), the American psychologist and psychotherapist, believed that effective learning can only take place from the learner's unique experience and the only worthwhile learning was learning that changed the learner's behaviour. He defended that the only learning which significantly changes behaviour is self-discovered, self-appropriated learning (Little, 1991; Reinders, 2000; Benson, 2001). Roger's major contribution to the concept of autonomy lies in his laying the foundations for a new concept of teacher; the teacher as facilitator which is central to classroom-based approaches to autonomy in language learning (Vieira, 1996; Voller, 1997; Pemberton, Li, Or, Pierson, 1996; Pemberton, Toogood, Barfield, 2009; Benson, 2001).

2.3.2 Sociolinguistics

One of the most common critiques to the field of autonomy in language learning has to do first, with its depoliticising and its technologizing tendency, equating autonomy to self-access centres or laboratories. Second, it has been linked to a reductionist view of student-centred education as centred on the individual (Pennycook, 1997; Riley, 1997, Benson, 2001; 2002; 2007; Dixon, 2006). Sociolinguistics views of language are an important influence because they envisage language as inseparable from its sociocultural context. Labov is often regarded as the founder of the study of sociolinguistics. He is especially noted for introducing the quantitative study of language variation and change, making the sociology of language into a scientific discipline; particularly for developing ethnolinguistics, i.e., the study of language as related to certain groups of people, namely race, gender, and age. As Gremmo and Riley (1995) have pointed out, during the 1960's and 1970's, linguists and philosophers embarked on multiple research resulting in many

sociolinguistic disciplines such as speech act theory (Austin, 1962; Searle, 1969; Apel, 1976), discourse analysis (Garfinkel, 1967; Cicourel, 1973), to name just a few.

Despite major theoretical and methodological differences, one of the common beliefs held by sociolinguistics is that language is a tool for communication that takes place in a social context. Individuals with personal needs and intentions learn to express themselves in relation to the group they are part of. In other words, language use is influenced by contact among people of different language communities. As Riley (1997) theorises, all knowledge is socially conditioned, that is, established, selected, formulated, and transmitted on the basis of social criteria. Individual members of a society do not have identical knowledge: all the factors that constitute the individual's social identity (age, sex, occupation, religion, class, place of birth and residence, etc.) are knowledge related. Individuals use language to share and maintain or change a certain social reality and they acknowledge this social reality in their speech. The knowing when and where to say what to whom, or communicative competence, is related to this notion (Reinders, 2000).

Sociolinguistics provided the emphasis that some theorists needed to reinforce the idea that autonomy cannot be equated to studying on one's own (Dixon, 2006; Benson, 2007), distancing it from the notion of individualism and highlighting people's uniqueness because of their sociocultural background. The integration of this idea into classroom teaching and practice meant that learning should take into account learners' backgrounds if it wished to provide a meaningful and stimulating learning environment (Reinders, 2000).

The work of Lantolf (2000) has been seminal in exploring the implications for second language learning and teaching of the sociocultural theory of mind mediation, as conceived by the Russian psychologist Vygostsky (1896-1934), in as much as these approaches emphasise the context rather than the individual's role in it. This influence will be crucial in the works of Kohonen (1992; 2001), Little (2000; 2003), and Ushioda (2003; 2006), who elaborate their theory and practice on autonomy based on Vygostskyan theory, in order to build the foundations of the concepts of

'interdependence' and 'socially mediated' learning processes, which we will return to below.

The role of sociolinguistics or sociocultural approaches has recently gained renewed importance in theories of autonomy, specially due to the prolific work of Benson who has explored individual case studies to have access to a community of learners and thus to learning. The goal of research on identity and language learning relies on the development of understanding of the learners as both socially and individually constructed. According to Benson:

Some of my recent work has explored these perspectives on the development of autonomy as a long-term process through (auto)biographical research (...) One of the more important themes to emerge from these studies is the extent to which the construction of individual identities and the achievement of personal autonomy are often interwoven in stories of long-term language learning experiences. (Benson, 2007: 30)

2.3.3 The Psychology of Learning

The most influential discipline to the field of autonomy has been psychology, and in particular constructivist theories of learning. As Gremmo and Riley stress (1995), humanist psychology and cognitive psychology were both reactions against behaviourism, which saw learning as automatic change of behaviour, since both emphasised learning as a process resulting from what the individual is capable of doing to produce meaning, in other words: 'Something that learners do rather than something that is done to them' (p. 153). Constructivism, in its turn, also arises from a reaction against positivist theories inside psychology.

Positivism conceives knowledge as an accurate reflection of reality and something that can be taught, therefore learning can consist in the transmission of knowledge from one individual to another (Benson, 1997; Reinders, 2000). Traditional teacher/learner relationships rely on this theory of 'mug-and-jug'. However, positivism also presupposes the discovery of new knowledge to be ascertained by the scientific method using a 'hypothesis-testing' model. In terms of language learning, positivism

is connected to a representation of language in terms of structures, patterns, words, leading to a teaching methodology based on structuralism's drill and practice.

Constructivism, on the other hand, sees knowledge as reorganisation and restructuring of experience and therefore cannot be taught but must be constructed by the learner. In the field of applied linguistics constructivism has been connected to such theorists as Halliday (1979) and Candy (1984) who discuss language acquisition in terms of the construction of experience and meaning. Because learners are seen as responsible for their own learning, a great emphasis is laid on language interaction, negotiation of meaning, and especially, on creativity.

In general terms, constructivist approaches to the psychology of learning provide support for the theory that effective learning will take place if the learner is fully active and participant in the process of learning. The thought of Rousseau, Dewey, Kilpatrick, Freire, Illitch, and Rogers has been developed systematically on the psychology of learning (Benson, 2001), but Vygostky particularly, has been a major influence in the concept of autonomy, as we have already seen. His concept of zone of proximal development has been fused with the concept of autonomy (Benson, 2001; Brown, 2003; Thomsen, 2003; Huttunnen, 2003; Lazenby Simpson, 2003; Little, Ridley, Ushioda, 2003). Vygostky's famous definition puts forward that:

the zone of proximal development. It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygostsky, 1978: 86)

In other words, interaction with others is an essential condition in the process of individual development. The individual's internal development is inextricably linked with the child's social and interpersonal development, thus the importance of this concept to support notions of interdependence or collaborative autonomy proposed especially by Little and Kohonen.

Little (1996), for example, relates group work and learner autonomy through Vygostky's theory:

The chief argument in favour of group work as a means of developing learner autonomy is Vygostkyan in origin: collaboration between two or more learners on a constructive task can be achieved by externalizing, and thus making explicit, processes of analysis, planning and synthesis that remain largely internal, and perhaps also largely implicit, when the task is performed by a learner working alone. (Little, 1996: 214)

2.4 Language learner autonomy

Research into autonomy in language learning has mainly developed through the influence of its own sources, benefitting from the inner and constant debate of its theorists and its practitioners, who, in a dialogic and dynamic relationship, have led the language learner autonomy field through distinct periods and approaches and allowed for a theoretical flexibility and expansion of the field. Part of the theory has been evolving with the different definitions that have burgeoned.

The concept of autonomy as an educational goal gained visibility first in the 1960s and 1970's, as has been mentioned, through adult education in what was then termed by some researchers as self-directed learning. Research started to focus on the learning habits of adults involved in informal self-instruction. Knowles, a pioneer in the field, defends that people who take the initiative in learning – proactive learners – learn more and learn better than reactive learners who wait passively to be taught. He argues that it is no longer realistic to define the purpose of education as transmitting what is known because facts and skills easily become obsolete, hence the main purpose of education should be to develop the skills of inquiry. After the formal process of schooling, the individual should have the ability to go on acquiring more knowledge for the rest of his or her life. Knowles (1975:18) defines self-directed learning as a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

He acknowledges that what he has defined as self-directed learning is also described in the literature as "self-planned learning," "inquiry method", "independent learning," and "autonomous learning". Regardless of the label given, he clarifies that self-directed learning does not take place in isolation but in association with various kinds of helpers, such as teachers, tutors, and peers.

In his report for the Council of Europe in 1979, Holec, also involved in the movement of adult education and concerned with the concept of permanent education present in Knowles, laid the foundation ideas for the discussion of autonomy in the field of language leaning. This report, *Autonomy in Foreign Language Learning*, presents the most quoted definition of autonomy in the field of language learning: "the ability to take charge of one's own learning". According to Holec this ability is not inborn and must be acquired by formal learning. He states that it is a capacity to act in a given situation and it involves having and holding the responsibility for all the decisions concerning all aspects of this learning, i.e.:

- determining the objectives;
- defining the contents and progression;
- selecting methods and techniques to be used;
- monitoring the procedure of acquisition properly speaking (rhythm, time, place, etc);
- evaluating what has been acquired.

Holec also distinguishes the acceptance of responsibility for the learning conducted with or without the help of a teacher, or teaching aids. The former is termed self-directed learning with support whereas the latter is designated as "unorganized" self-directed learning. Holec also points out that there may be various degrees of self-direction (1981: 4).

On the other hand, Boud (1984) emphasises that the notion of autonomy encompasses three groups of educational ideas. First, it is a goal of education, an ideal of individual behaviour to which each student or teacher may wish to aspire: teachers assist students to attain this goal. Secondly, it is a term used to describe an

approach to educational practice, a way of conducting courses which emphasises student independence and responsibility for decision-making. Thirdly, it is also an integral part of any kind. No learner can be effective in more than a very limited area if he or she cannot make decisions for themselves about what they should be learning and how they should be learning it: teachers cannot and do not wish to guide every aspect of the process of learning (1984:17). According to the three aspects defined, Boud analyses the groups who debate the definition: philosophers of education dominate discussions of autonomy as a goal for education, innovative teachers influenced practices to give responsibility in what and how students learn, lastly, researchers began to consider the structure of knowledge in different disciplinary areas and how students need to exercise autonomy in coming to understand and utilise this knowledge. He criticises the lack of 'cross-fertilization' among the groups leading to fewer gains and slower breakthroughs.

Little (1991:4) has considered another standpoint when defining autonomy, essentially, [as] a *capacity* for detachment, critical reflection, decision-making, and independent action. It presupposes but also entails that the learner will develop a particular kind of psychological relation to the process and content of his/her learning. The capacity for autonomy will be displayed both in the way the learner learns and in the way he or she transfers what has been learned to wider concepts. Besides focusing on the cognitive processes involved in learning in an autonomous manner, Little takes great lengths to clarify what autonomy is not, namely: a synonym of self-instruction, or learning without a teacher, therefore making the teacher redundant. Moreover, he argues that the action of the teacher may destroy the autonomy the learners have attained, that autonomy can manifest itself in many different ways, and finally, that autonomy is not a steady state and its permanence cannot be guaranteed. Little also alerts to the fact, that beyond the referred misconceptions around the usage of autonomy is the implication that autonomy implies a great degree of freedom neglecting the social character of human beings. Because we are social

beings our interdependence is always balanced by dependence and thus our essential condition is one of interdependence (1991).

Brian Kenny published in a single article, in a nutshell, one of the many attempts to move forward in the definition or redefinition of autonomy, to which I am particularly partial. From his article "For more autonomy" of 1993 exudes a dissatisfaction with the existing concepts and definitions of autonomy where he wanted to go so much further. Kenny's working hypothesis of autonomy is grounded in the context of experiential learning (learning-by-doing) where it signifies more than the ability to make responsible choices, implying the exploration of the realisation of the personal or group potential through their empowerment. There is a direct correlation between education and empowerment, and what it empowers is people's autonomy as well as the opportunities to generate knowledge. This notion of autonomy is grounded on the capacity of the learners to initiate, plan, organise and carry out work of their own. This experiential learning is holistic, transcends subject disciplines and is seen as an emancipatory way of organising knowledge. He goes further to clarify autonomy as having the learner as producer, having:

creative abilities ... which permit them not only to be consumers of ready-made resources and subjects, but even producers in their own right: producers not just of resources and methodologies, but of real-world tasks and pieces of work, and of their learnings. This is the other dimension of autonomy, in which learners do not just choose, select and rearrange, but produce, create, clarify issues, propose solutions and make a difference to the world through their learning processes. (Kenny, 1993: 4334)

Furthermore, Kenny conceives autonomy not only as the freedom to choose among materials and methodologies, or even negotiate a syllabus, but uses Carl Rogers' words to put forward that autonomy is the freedom to learn and the opportunity to become a person.

Trying to successfully carry out a pedagogy for autonomy in a study at a secondary school in Portugal, Vieira comprehensively compares traditional teaching and learning to a pedagogy grounded in autonomy present in Table 7.

Table 7. Pedagogy of dependence and pedagogy for autonomy

Reproduction

Transformation

Pedagogy of Dependence

Pedagogy for Autonomy

Main

Presupposes

The student is the passive subject of knowledge; the teacher represents social, scientific and pedagogic authority and assumes the role of transmitting information whose knowledge is static and absolute

The student is a critical consumer and creative producer of knowledge, he mediates in the relation student- knowledge, he is partner in the pedagogical negotiation; knowledge is dynamic, transitory and differentiated from subject to subject

Process

Features

Develop the academic competence of the student, mainly in what concerns the acquisition of knowledge and the domain of cognitive skills Let the student go to the process of learning; help the student learn how to learn, to develop his capacity of managing his own learning; encourage responsibility and the development of a pro-active attitude in the learning process; develop a critical perspective of school, of knowledge and of learning; promote the relation between school and life

Priority Goals

Focus laid in the processes of transmitting the contents of learning; potentially authoritarian and formal environment; processes commanded by the teacher, the only to decide and assess; strong dependence on the students at the levels of speech and tasks, frequently associated to a dwindling of motivation or to external motivation; tasks determined by the teacher, generally directed exclusively to the development of academic competence; emphasis on competition and individualism; normative assessment practices with a tendency to segregation

Focus in the student processes of learning: theories, styles, needs, strategies, habits and past experiences; systems were student appreciation is shown; informal and democratic environment; the student participates in the taking of decisions and elaboration of projects and contracts; reflexive and experimental tasks; development capacities of planning, regulation, (self) assessment of learning; management in collaboration of information and speech; collaborative construction of academic and social knowledge of learning; valuing of the formative function of the student practices of (self) assessment, tending to be integrative

Vieira's analysis sums up a whole new student profile to be attained by the new pedagogy, a pedagogy of participation, where many of the theories of autonomy researchers underpin this manifesto for a study programme, not necessarily circumscribed to language learning. As Cotterall puts it, the principles of learner autonomy/learner pedagogy, should not be seen as a goal only for highly committed students, rather it should be seen as an essential goal of all learning (Cotterall, 2000: 109).

More than a decade later, Vieira, Jiménez Raya, and Lamb will present a definition for pedagogy for autonomy, in which autonomy refers both to the learner and the teacher and can be defined as:

The competence to develop as a self-determined, socially responsible and critically aware participant in (and beyond) educational environments, within a vision of education as (inter)personal empowerment and social transformation. (Jiménez Raya, Lamb & Vieira, 2007:1)

This definition was later expanded by EuroPAL (*European Pedagogy for Autonomous Learning – Educating Modern Language Teachers Through ICT*) ³⁷ and the most important idea behind it is that education is a moral and political activity whose goal should be to transform (rather than reproduce) the anti-democratic forces that constrain it (Vieira, 2009). Vieira enhances the brief definition into Figure 2 by clarifying all the assumptions encrypted in it.

³⁷ EuroPAL was funded by the SOCRATES programme, action Comenius 2.1, and developed from October 2004 to October 2007. Team members were: Manuel Jiménez Raya (coordinator, Spain), Agni Stylianou/ Charalambos Vrasidas/ Michalinos Zemblyas (Cyprus), Enrica Flamini (Italy), Flávia Vieira (Portugal), Ivan Shotlekov (Bulgaria), June Miliander (Sweden), Terry Lamb (UK), and Turid Trebbi (Norway).

competence	To govern oneself one must be in a position to act competently.
·	Competence involves attitudinal dispositions, knowledge, and abilities to develop self-determination, social responsibility and critical awareness.
to develop	Autonomy is not an all or nothing concept, it is better conceived as a continuum in which different degrees of self-management can be exercised at different moments.
as a self-determined	Autonomy has an individual dimension (e.g. self-knowledge, responsible self-agency, self-regulation, self-direction).
socially responsible	Autonomy has also a social dimension (e.g., voice, respect for others, negotiation, cooperation, interdependence).
& critically aware	Autonomy has moral and political implications and involves the cultivation of an inquiring, independent mind.
participant	Autonomy involves assuming a proactive and interactive role.
in (and beyond)	Formal education settings can and should allow individuals to exercise the
educational	right to development to autonomy, and thus promote lifelong learning, which
environments	may occur both within and outside of an educational institution.
within a vision of	Learner and teacher development towards autonomy assumes that
education as (inter)personal	education is a moral and educational phenomenon whose goal is to transform (rather than reproduce) the status quo. In this sense, autonomy is
empowerment and	a collective interest oriented by democratic and emancipatory ideals.
social transformation	

Figure 2. A definition of teacher and learner autonomy by EuroPAL 2007

Prior to the sophisticated EuroPAL definition, another important contribution to the definition of autonomy was given by Benson and Voller in a book that became a landmark for the novice researcher – *Autonomy & Independence in Language*

Learning (1997: 1-2) who identified five ways in which the word has been described in the literature of language learning:

- 1. for situations in which learners study entirely on their own;
- 2. for a set of skills which can be learned and applied in self-directed learning;
- 3. for an inborn *capacity* which is suppressed by institutional education;
- 4. for the exercise of *learner's responsibility* for their own learning;
- 5. for the *right* of learners to determine the direction of their learning.

In the year 2000 Barbara Sinclair decided to take stock and review the progress made in the field of autonomy in language learning. Simultaneously, while trying to achieve a definition, bring comprehensiveness to it due both to the growing awareness of the field and to the different dimensions of autonomy. Elaborating on twelve aspects of learner autonomy she had already presented in 1997 (Sinclair, 2000:6) she presents them as having been recognised and broadly accepted by the language teaching profession, namely that:

- 1. Autonomy is a construct of capacity;
- 2. Autonomy involves a willingness on the part of learners to take responsibility for their own learning;
- 3. The capacity and willingness of learners to take such responsibility is not necessary innate;
- 4. Complete autonomy is an idealistic goal;
- 5. There are degrees of autonomy;
- 6. The degrees of autonomy are unstable and variable;
- 7. Autonomy is not simply a matter of placing learners in situations where they have to be independent;
- 8. Developing autonomy requires conscious awareness of the learning process, i.e., conscious reflection and decision making;
- 9. Promoting autonomy is not simply a matter of teaching strategies;
- 10. Autonomy can take place both inside and outside the classroom;
- 11. Autonomy has a social as well as an individual dimension;
- 12. Autonomy is interpreted differently by different cultures.

Rebecca Oxford names the different embodiment of the diverse autonomies put forward by theorists, 'the hero of a thousand faces'. A hero equipped with a range of learning strategies that empower this multifaceted independent L2 learner (Oxford, 2008: 59). She reviews former metaphors for autonomy, especially the stage theory presented by Nunan (1997). This theory concentrates on classroom-based learners whose autonomy grows and changes through five stages (which will be interpreted further on in the case study). Oxford adds a 'no stage' descriptor for learners who have not received help from an established independent L2 learning system while learning the language, so they are not linked with system-related stages (Table 8).

This is an example of how theory in language learner autonomy is always re-writing itself, reinventing the field and also integrating itself with learning metaphors such as degrees and spirals, all in all, with the theory of knowledge that is predominant to the author, as we shall see next.

Table 8. Oxford's adaptation of Nunan's stages of autonomy to fit independent L2 learning

Level	Learner action	Learner Role	Goals, which lead to→→→	Tasks	Comments regarding scope of decisions and responsibility
1	Become aware Nunan: Awareness	Recipient of information	The independent learning system explains the official goals.	The independent learning system provides the task(s)	Learners can decide how to do the task and possibly when. They can make fewer other decisions about learning. Most decisions are made by the independent learning system.
2	Select Nunan: Involvement	Receiver and selector among system-given options	Learners choose their own goals from a range of official goals.	Learners choose which task (or part of tasks) from given alternative as ways to achieve the goals.	The scope of decision-making and responsibility expands as learners select from a set of given options provided by the system.
3	Adapt Nunan: Intervention	Adaptor	Learners adapt (but do not eliminate) official goals.	Learners adapt given tasks, a little or a lot, as means of achieving the goals.	Learners remain in the established system but adapt it, making more decisions on their own their own and taking more responsibility.
4	Create Nunan: Creation	Inventor, originator, Creator	Learners create their own goals.	Learners create or decide on their own tasks to fulfil the goals.	This is the apex of decision-making within and independent L2 learning system. The system might provide support, but learners make all decisions and take maximum responsibility.
5	Transcend Nunan: Transcendence	World-seeker, Researcher, Teacher	Learners identify their own interests and create goals relevant to those.	Learners seek and perform tasks in the outside world that involve creating new knowledge and helping others to learn the L2	These learners leave the established independent L2 learning system. They are autonomous in a larger sphere. They seek resources, challenges, and ways to help in the world.
NO STAGE	Decide	Master decision- maker, free learner	Learners identify their own interests and create goals relevant to those.	Learners seek and do learning tasks in the outside world.	These learners do not enter the established independent L2 learning system in the first place. They make all decisions for themselves. They seek resources anywhere they can find them and decide on their own independent learning path from the start. Motivation might help compensate for the lack of formal support in learning.

Source: Oxford, Hero with a Thousand Faces 2008

2.5 Autonomy and theories of knowledge and learning

The concept of autonomy is also linked with two factors: the nature of knowledge and the process of learning which deserve a delving into, even if the analysis that follows is necessarily abbreviated and somewhat oversimplified given the breadth of the subject and the limits of this sub-chapter. In accordance to Candy (1984), knowledge, not only in common usage, but also in most of the current psychological and philosophical literature, has always tacitly been assumed to be knowledge of an existing world. That is to say, what we know is assumed to be the aspect of an independent reality, a reality that exists by itself in itself.

This 'objectivist' or 'naive realist' view of knowledge has been very influential in shaping conceptions of teaching and learning, because it implies that there is one objective reality to which learners should be introduced. It has also influenced many approaches to research, where it has been considered the purpose of the researcher to discover and represent this objective reality as faithfully as possible. (Koetting, 1984; Merriam and Simpson, 1984, Soltis, 1984, quoted in Candy 1984: 61)

This view of knowledge is one of copying and replicating the existing reality. On the other hand, from the alternative perspective of knowledge, constructivism, reality can only be known if we act on it.

This means that knowledge is neither a copy nor a mirror of reality, but the forms and content of knowledge are constructed by the one who experiences it. The active interaction between the individual and the environment is mediated by the cognitive structures of the individual. What we learn in interaction with the environment is dependent upon our own structuring of those experiences. Thus, according to this view, people do not merely respond to the environment, they construe it. (Nystedt & Magnusson, 1982, quoted in Candy, 1984:62)

In this context of a constructivist epistemology, the pedagogical world will reject the Cartesian rationalist notion that there is an objective world to be explained by science, and will present the cosmos as human built, built by the learner, a social building of reality (Kincheloe, 2006). Thus, the world corresponds to the

understanding of the dominant groups in society and there is no neutral or objective view or reality. What appears to be objective reality is the mere figment of our mind; we build what we are used to perceiving.

Kohonen (2002) deepens this epistemological assumption and distinguishes among three major educational paradigms; the positivistic paradigm, the constructivist-interpretative paradigm, and the critical-emancipatory paradigm. The learning paradigms are related to the teacher's role as educator and to his/her classroom practices. Kohonen's theory is summarised in Table 9.

Table 9. A comparison of three educational paradigms

Paradigm	Ontology	Epistemology	Methodology
Positivism paradigm	Realism; reality summarised as time- and-context free generalisations	Dualist and objectivist; the investigator and the 'object' as independent entities	Experimental, verification of hypotheses; mainly quantitative methods
Constructivist- interpretative paradigm	Relativism: local and specific constructed realities	Transactional and subjectivist; created findings	Hermeneutical and dialectical interaction
Critical-emancipatory paradigm	Historical realism; individual structures historically situated	Transactional and subjectivist; value-mediated findings	Dialogic and dialectical interaction

Source: Kohonen Quo Vadis Foreign Language Education? 2002

Autonomy is connected to the critical-emancipatory paradigm, committed to the notion that classroom research helps teachers to interpret, understand and eventually transform the social life in schools. In this perspective teachers are seen as ethically committed change agents. They foster democratic procedures and principles both within school and larger society. To do so they need to be actively

involved in developing their practical theories through continuing action, collaboration, and reflection (Kohonen, 2002:15).

Going back to the roots of theories of learning, it has been observed that knowledge and learning have been subject of research mainly by psychologists in the XIX century, more concerned in developing One Grand Theory of Learning than the contexts in which people learned (Biggs, 2003). In the late 70's appeared a field of study now designated 'student learning' research that originated in Sweden with Marton and Säljö's, particularly with their studies on surface and deep approaches to learning, mentioned earlier. Marton and Säljö divided their university students into two groups and gave them the same text with a set of questions. The former group, learned in anticipation the answers, concentrating on the facts and details that might be asked. According to Marton and Säljö, (1976) they used a surface approach to learning and what they later remembered was a list of disconnected facts missing the point the author was making. The latter group, set out to understand the meaning of what the author of the text was trying to say; they went below the surface of the text to interpret that meaning, using a deep approach. They saw the 'big picture' and how the facts and details made the author's case (Biggs, 2003: 12). The work of Marton and Säljö had echo in UK with the work of Entwistle and Ramsden in 1983, and that of Biggs in Australia in 1979 and 1987.

Looking further into the surface and deep approaches, Biggs puts forward that the former arises from an intention to get the task out of the way with the minimum trouble while appearing to meet the course requirements using low-cognitive-level activities when higher-level activities are required to do the task properly. Appointed factors that encourage students to adopt such an approach include: an intention to achieve a minimal pass; non-academic priorities; insufficient time, too high a workload; high anxiety, etc. On the teacher's side this would involve teaching piecemeal by bullet lists, assessing for independent facts, e.g. short answers or multiple choice tests. On the other hand, the deeper approach arises from a felt

need to engage the task appropriately and meaningfully. When students feel this need to know they try to focus on underlying meaning, on main ideas, themes, principles or successful applications. This requires a sound foundation and prior knowledge, so students will naturally try to learn the details as well as the 'whole picture'. Importantly in this teaching environment, is to teach in a way as to explicitly bring out the structure of the topic or subject, teach to elicit by questioning, presenting problems, by building on what students already know. In addition, assessing from structure rather than for independent facts, teaching and assessing encouraging a positive atmosphere so students can make mistakes and learn from them, emphasise depth of learning, rather than breadth of coverage. As put forward by Candy, the distinction between surface and deep approaches to learning tasks are closely related to the notion of autonomy. Deep approaches are the one in which students are taking responsibility for their knowledge and are making decisions about what they are learning. Deep approaches may not be highly autonomous, but surface approaches are clearly not.

What perspectives of knowledge and learning have in common today, is the idea that the learner has to act, to do, to create knowledge, so that knowledge is not imposed or transmitted by direct instruction. Knowledge then is created by the student's learning activities, their approaches to learning. A surface approach does not yield a construction of the cognitive world whereas a deep approach does.

Learning is thus a way of interacting with the world. As we learn, our conceptions of phenomena change, and we see the world differently. The acquisition of information in itself does not bring about such a change, but the way we structure the information and think with it does. Thus, education is about *conceptual change*, not just the acquisition of information. (Biggs, 2003:13)

Biggs became well known in the world of education for his theory of constructive alignment. That is to say, based on the assumption that learning takes place through the active behaviour of the student: it is what he does that he learns, not what the teacher does, the constructive alignment is a design conceived for

teaching to encourage deep engagement. In constructing aligned teaching, it is first necessary to specify the level or levels of understanding of the content in question. By choosing appropriate verbs that describe what the learner has to do, these verbs become the target activities that learners need to perform, for which teaching methods to encourage, and for the appropriate assessment tasks to address, in order to judge if or to what extent the students have been successful in meeting the objectives. This combination of constructivist theory, aligned instruction, and assessment is Biggs' model of constructive alignment as basis of education and gnosis. This theory ultimately aims at quality teaching at university.

If Biggs' constructive alignment is important to the underpinning theories of autonomy, Kolb's model of experimental learning (1984) has been highly influential to language learning theorists, Viljo Kohonen in particular. Kohonen traces back historically the roots of experiential learning to Dewey's progressive pedagogy, Lewin's social psychology, Piaget's work on cognitive psychology, Kelly's cognitive theory of personality, and humanistic psychology from the work of Maslow and Rogers. More recent theories of Gardner's multiple intelligences and emotional intelligence by Coleman are not disregarded either. As has been mentioned Kohonen paid particular attention to paradigms of learning as background to autonomy development. The role of experiential learning in autonomy basically points out that experience plays a significant role in learning. Moreover, experiential learning techniques include various interactive practices where participants have opportunities to learn from other's experiences, being actively and personally engaged in the process. This mode of learning involves both observing the phenomenon and doing something meaningful with it through an active participation. Thus the learner is directly in touch with the phenomenon being studied, rather than just hearing, reading or thinking about it.

Kolb puts forward a general theoretical model of experimental learning as shown in Figure 3. According to the model, learning is essentially a process of resolution of conflicts between two opposed dimensions, the *prehension* and the *transformation* dimension. The former corresponds to a way in which the individual grasps experience, comprehension, whereas *transformation* is knowledge that is intuitive and tacit without need of rational inquiry or analytical confirmation. In the words of Kohonen:

The transformation dimension refers to the transformation of experience through reflective observation and active experimentation. An individual with an active orientation is ready to take risks, attempting to maximize success and showing little concern for errors or failure. An individual with an excessive reflective orientation, on the other hand, may withdraw from risks in order to avoid failures, preferring to transform experiences through reflective observation. (Kohonen, 2003: 28)

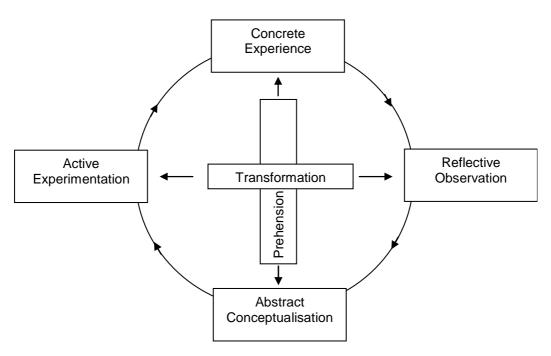


Figure 3. Model of experiential learning (Adapted from Kolb by Kohonen, 1984)

Kohonen moves on to relate the experiential orientations to the historical developments of foreign language pedagogy: in short, correlating the grammar-translation method to abstract conceptualisation; behaviouristic approaches to concrete experience; communicative approaches to active experimentation. The communicative use of language applied to meaningful situations together with taking further factors into consideration, such as affect, personal, emotional and social factors. In addition, Kohonen considers it paramount that reflective observation and active experimentation will lead to transformation. It is up to the teacher to provide optional courses of action so that the learners can make personal choices as they transform themselves, reflecting on the consequences and making new action plans, having experiential learning paving the way to autonomy.

Finally, I will analyse the study of motivation as prominent mainly in the field of education, particularly in foreign language learning. Like the concept of autonomy itself, motivation is no straightforward concept and there are many ways of conceptualising it. To quote from Dörnyei and Ottó:

In a general sense, motivation can be defined as the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritised, operationalised and (successfully or unsuccessfully) acted out. (Dörnyei and Ottó, 1998, quoted in Dörnyei, 2001: 9)

The current spirit in motivational psychology is generalised by a cognitive approach. So motivation is no longer seen as a reflection as certain inner forces such as instincts, emotional states, and physical energy, neither is it viewed in terms of strictly behavioural terms. Rather current cognitive approaches place the focus on the individual's thoughts and the integration of emotional theories into the mainstream of motivational research as one of the priorities of the researchers. In effect, recent research has directly related emotion to language learning, and Shumann argues that L2 is primarily emotionally driven and emotion underlies most, if not all, cognition (Dörnyei, 2001; 11). Motivation has to do with something that evolves gradually,

through a complex mental process that involves initial planning and goal setting, intention formation, task generation, action implementation, action control and outcome evaluation (Dörnyei, 2001). When it is contextualised in the mastering of L2 it does not remain constant during the course (Ellis & Sinclair, 1989; Ushioda, 1996; Dörnyei, 2001). It is characterised by regular appraisal and balancing of the various internal and external influences to which the individual is exposed. The enthusiasm and commitment of the learner fluctuates, sometimes on a daily basis (Ushioda, 1996; 15). In order to avoid fluctuation in motivation, learners are supposed to have intrinsic motivation. According to Ushioda (1996) this is typified by a number of positive features of motivation, the most important of which seem to be the following:

- It is self-sustaining because it generates its own rewards;
- It leads to voluntary persistence of learning;
- It focuses on skill development and mastery;
- It is an expression of personal control and autonomy in the learning process.

Furthermore, Dörnyei (2001) adds that human motivation is at its highest when people: are competent, have sufficient autonomy, set worthwhile goals, get feedback are affirmed by others. Not disregarding the importance of parental and peer influence, the teachers' motivational influence is self-evident and acts as a key factor in the learning process. Teacher motivational effectiveness appears to be determined by an interplay of several broad factors related to the teacher's personality, enthusiasm, professional knowledge/skills and classroom managerial style. Yet it is of common agreement that teachers are motivational socialisers, they embody the groups' unity and identity, serve as a reference and are critical for mobilising the energies of the group, i.e., motivate (Jesuíno, 1996, quoted in Dörnyei, 2001: 35). Dörnyei (2001:113) has established in a table a summary of his perception of motivation in language learning and teaching (Table 10).

Table 10. Dornyei's framework of L2 motivation

LANGUAGE LEVEL	Integrative motivational subsystem
	Instrumental motivational subsystem
	Need for achievement
	Self-confidence
LEARNER LEVEL	Language use anxiety
LEARINER LEVEL	Perceived L2 competence
	Casual attributions
	Self-efficacy
LEARNING SITUATIO	N LEVEL
Course specific	Interest (in the course)
motivational	Relevance (of the course to one's needs)
components	Expectancy (of success)
	Satisfaction (one has in the outcome)
	Affiliative motive (to please the teacher)
Teacher-specific	Authority type (controlling vs. autonomy-supporting)
motivational	Direct socialization of motivation
components	Modelling
	Task presentation
	Feedback
Group-specific motivational components	Goal-orientedness
	Norm and reward system
	Group cohesiveness
	Classroom goal structure (cooperative, competitive or individualistic)

Source: Dornyei, Motivational Strategies in the Language Classroom 2001

This comprehensive attempt to summarise the motivational components relevant to L2 instruction gives us an overview of the L2 learning process in which there are three basic constituents: the target language, the language learner, and the language learning situation. Further, three different aspects of language are also considered: the social dimension, the personal dimension and the subject-matter dimension.

From this brief chapter it is possible to conclude that in order to introduce students to deep knowledge, experiential knowledge or to have motivated students and induce experiences of success and engagement with the process of learning involves a broad agenda for teachers. Of course it is up to the learners to consciously take the responsibility for managing successful learning experiences and controlling their motivation, and thereby their learning, (Ushioda, 1996). Nevertheless, it enlightens the, sometimes invisible, work to which teachers devote themselves when dedicated to a pedagogy of autonomy.

Considering that I am treading in the footprints of researchers much greater than me, and because I stand on giants' shoulders, I dare to state that for me, autonomy is a capacity that involves the whole personality of the learner, being therefore holistic, that depends on his/her own volition to take responsibility for learning and satisfying an inner curiosity that is often innate, but can be worked; can initiate, plan and organise the carrying out of his/her work. The autonomous learner is self-critical, creative and enthusiastic, deriving great pleasure in surprising him/herself and the teacher with discoveries and serendipitous knowledge. Like all learners, autonomous learners need feedback and help in self-monitoring and understanding that there are autonomous lifelong idealistic developmental stages parallel to the great journey of learning. Autonomy is also parallel with motivation and therefore it is not constant, it depends often on the social network from which the independent worker draws synergies. Autonomy should embrace feelings of personal fulfilment, empowerment, and emancipatory drives leading to personal satisfactory change. As for autonomy as an educational goal or intrapersonal ideal, it is a moral, gradual

phenomenon that should take place in society with the goal of changing it into a more democratic, emancipatory, citizen-aware system.

Chapter 3

E.S.A.C. – A Case Study

"The gradual establishment of a pedagogy for autonomy is a complex challenge and not unlike trying to shoot arrows at the sun."

(Breen & Mann, 1997)³⁸

3.1. Objectives and methodology

With the current study we aimed to investigate how to design, implement and assess a methodology for English Language and Communication (ELC) in the scope of the Bologna Process, concurrent with the curricular restructuring brought about by its implementation, in which the student came to the centre of the process as an active member and full participant in teaching-learning decisions. I will now describe the objectives and principles underlying this study, its structure and the methodology used.

Two main research questions guide this study. The first question is: what are the implications of the Bologna Process for learners at ESAC concerning the understanding and production of both oral and written work in English having less contact hours? The second question stems from the first: how to develop a pedagogy for autonomy which provides answers for this new reality?

Thus I set myself to put into practice a new methodology in the teaching of English for Specific Purposes in the course of BSc Biotechnology, in accordance with the implementation of the Bologna Process at ESAC, and taking autonomy as a principle factor in achieving the desired goals. By developing a pedagogy for

³⁸ From the article with the same title "Shooting arrows at the sun: perspectives on a pedagogy for autonomy" by Michael P. Breen and Sarah J. Mann in P. Benson & P. Voller *Autonomy and Independence in Language Learning*. London and New York: Longman, p. 13.

autonomy, I hoped to operationalise change within the course unit as well as attitudinal changes in the students, myself, and the institution. At the same time that the end product - progress towards the attainment of the learning goals - was measured, I also tried to measure how the development of the process took place, namely the development of meta-cognitive awareness and skills.

The research was carried out in my classes and the participants in the study were the 54 students enrolled on the BSc in Biotechnology. Among the strategies for the promotion of autonomy were the operationalisation of a self-access resource at ESAC, a new curricular design contemplating a cross-curricular dimension with other fields of expertise and the use of the portfolio as a tool for the development of autonomy. In addition, the curricular design put into place to give answer to our questions and supported by a pedagogy for autonomy included, among other aspects, the following principles:

- 1) Sensitisation of students to the new curricular design and to their new role as responsible for their own learning;
- 2) Identification of the processes, strategies and activities used in learning a language;
- 3) Awareness of meta-language when learning a language;
- 4) Adaptation of the didactic activities to the students and the programme;
- 5) Negotiation of decisions;
- 6) Negotiation of strategies;
- 7) Negotiation of contents;
- 8) Use of the self-learning resource centre;
- 9) Use of questionnaires;
- 10) Use of self-assessment.

On the basis of these principles, I hoped to develop a new methodology where contact hours and tutorial hours plus personal face to face advice in the self-access centre might provide a good response to the learners' needs and increase success rates and motivation. Built into this methodology was the collaboration of teachers of different specialisations in the field of biotechnology so that a dossier of authentic material of a specific nature could be collated and serve to enhance the students' capacity to understand authentic materials to be used in later years. This would allow for a cross curricular transfer of knowledge and a valuing of competence in English as concurrent to the building of a broad knowledge in the area of expertise and to the competence in foreign language.

Taking into account its objectives, the study involved developing a research methodology that followed a case study design and relied on action research. All the research was carried out by the practitioner of the study with a view to achieving change (Nunan, 1992). This change is described in detail in the case study, and is supported by data and interpretation carried out by myself, investigating aspects that I found pertinent, in my particular context and situation. Mialaret in particular, admits dynamic forms of investigation in which the goal of the pedagogical research is the creation of education situations or the perfection of the existing ones (1969:1940). Action Research was considered particularly relevant to the situation under study, privileging a reflective cycle, when teachers have to critically question their practice and their beliefs, in the moment of change and adaptation such as we are now living in.

3.2. Case study research design

The case study is a research approach that fits perfectly in educational research backgrounds due to the flexibility it allows researchers. According to Yin (2009), the most frequently encountered definitions of case studies emphasise that the essence of a case study, the central tendency among all types of case study, is

that it tries to illuminate a *decision* or set of decisions: why they were taken, how they were implemented, and with what result, Schramm, 1971, emphasis added (Yin, 2009: 17).

To Yin, this is clearly incomplete and does not provide the definition of the case study as a research method. Therefore he puts forward that

the scope of the case study is an inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Also, the case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical prepositions to guide data collection and analysis. (Yin, 2009:18)

A case study can also be defined by stating what it is not, as can be observed in Table 11, which provides a definition of three other research approaches.

Table 11. Definition of experiment, history and survey

An experiment	A history	A survey
An experiment divorces a phenomenon from its context. Attends only to a few variables. It is carried out in "controlled" laboratory environment.	Deals with the entangled situation between phenomenon and context but usually with noncontemporary events.	Tries to deal with phenomenon and context, but their ability to investigate the context is extremely limited. The survey designer struggles to limit the number of variables to be analysed to fall safely within the number of respondents who can be surveyed.

Source: Yin, Case Study Research. Design and Methods, 2009

Equating qualitative research with case study research, Tuckman (2005, quoting Bogdan and Biklen, 1992) presents the five main characteristics of qualitative research, or case study research, as being the following: i) It is the natural situation which provides the data source and the researcher is the key instrument in collecting

the data; ii) the first concern of the researcher is to describe and only later analyse the data; iii) the fundamental issue is the whole process, i.e., what happened, as well as the final product; iv) the data are analysed inductively, as if they were all together, all the parts of a puzzle; v) the research is essentially about the meaning of things, that is to say, about the why and the what. Wilson (1977), also quoted in Tuckman (2005), explains this type of methodology research, also designated as ethnography, by describing it as events that must be studied in natural situations, field integrated. These events can only be understood if we understand the perception carried out by the people involved in them. Participant observation is the most common data collection device (Tuckman, 2005: 508).

The application of qualitative methodology in education, has been characterised by the use of responsive assessment (Stake, 1975) and naturalistic assessment (Guba & Lincoln, 1981) and both classifications are applied to the case study methodology (Tuckman, 2005: 508). By this methodological process, the researcher visits a local or a field situation, to observe - perhaps as participant observer – the phenomena occurring in that situation. The observer interviews the people involved in the situation and surrounding it. The researcher tries to identify the main questions felt by the various participants and audiences, assess the merit, the value or the meaning of the phenomena to the participants. In order to achieve this goal, the researcher must determine the effects that the situation, the participants and the observed phenomena provoked amongst themselves.

Patton (1990), also quoted in Tuckman (2005), identifies ten topics of qualitative investigation, presented in Table 12.

Table 12. Themes in qualitative investigation

Naturalistic inquiry	Study of situations of the real world, as they naturally manifest; non-manipulative, it is discrete and non-controlling; there is total opening to what may happen – absence of constraint over results.
Inductive analysis	Penetration in the details and specific aspects of the data to discover categories, dimensions and important inter-relations; it starts by exploring open questions more than testing hypotheses theoretically derived (deductive).
Holistic perspective	The global phenomenon under study is understood as a complex system, being more than the sum of its parts; it focus on complex interdependencies, not reduced to few discrete and linear variables, nor to cause effect relationships.
Qualitative data	Dense and detailed description; in-depth inquiry, direct quotations which contain the experiences and the personal perspectives of the participants.
Personal contact and insight	The researcher keeps direct contact with people and becomes someone close of the participants, the situation and of the phenomena under study; the personal experiences and the insights of the researcher are an important piece of the inquiry and constitute crucial aspects to understand the phenomena.
Dynamic systems	The attention is centred on the process; it is assumed that change is something constant and continuous, be it focussed on the individual or in the integrated culture or in a whole culture.
Orientation of a unique case	It assumes that each case is special and unique; the first level of the inquiry is to be truthful respecting the details of the individual cases in study; the analysis of cross-cases depends on the quality of the individual cases and has its origin in them.
Sensitivity to context	The conclusions are placed in a cultural, social and historical context; there is insecurity relating to the possibilities or to the meaning of generalisations in time and space.
Empathy and neutrality	Total objectivity is impossible; pure subjectivity weakens credibility; the passion of the researcher is the comprehension of the world in all its complexity – not to demonstrate whatever, not to defend, not to present personal notes, but only understand; the researcher includes her/his personal experience and an empathic insight as an integrative part of the relevant data, at the same time, shows a neutral bearing and is non judgemental towards any possible situation.
Design flexibility	Openness to adapt the inquiry as the researcher's knowledge deepen or/and the situations change; it avoids closure in rigid designs which eliminate its feature of response; opens new ways of discovery as they emerge.

Source: Tuckman, Conducting Educational Research, 2005

Unlike Patton, Nunan (1992) is interested in discussing opposing views of knowledge and the attempt to uncover it by using certain methods that he refers to as a "binary distinction between qualitative research and quantitative research" (Nunan, 1992: 3). According to Nunan, the main distinctions between these traditions are:

Quantitative research is obtrusive and controlled, objective, generalisable, outcome oriented and assumes the existence of 'facts' which are somehow external to and independent of the observer or researcher. Qualitative research, on the other hand, assumes that all knowledge is relative, that there is a subjective element to all knowledge and research, and that holistic, ungeneralised studies are justifiable. In metaphorical terms, quantitative research is 'hard' while qualitative is 'soft'. (idem, 3)

An important attribute to case study research is that the researcher is able to use a wide range of data collection methods, both qualitative or quantitative, as referred by Nunan (1992). Case studies have been used with great frequency in studies of language learning, especially in the field of second language acquisition where longitudinal studies allow the researcher to monitor and evaluate in-depth development. Case studies and action research are often connected as Wallace (1997) has put it:

Action researchers are usually interested in their own unique situations: their students; their classes, and so on. The specific focus of the case study therefore becomes a positive advantage for action researchers, since it may meet their professional needs better than more empirical research studies relating to large target populations. (1998, 161, emphasis in original)

Furthermore, Wallace offers another argument of paramount importance for this to be the best approach for this project: that it may become the object of debate within the teaching and research community:

By its nature... case study research often generates more *human interest* than generalised statistical findings. For practitioners of a caring profession like teaching, this fact makes case study research more accessible, and indeed more valuable, than some approaches. (1998: 161, emphasis in original)

Alderman *et al.* (1976), quoted in Nunan (1992) also delve into other advantages that the case study presents:

In the first place in contrast with other research methods, it is 'strong in reality' and therefore likely to appeal to practitioners, who will be able to identify with the issues and concerns raised. Secondly, they claim that one can generalise from a case, either about an instance, or from an instance to a class. A third strength of the case study is that it can represent a multiplicity of viewpoints, and can offer support to alternative interpretations. Properly presented, case studies can also provide a database of materials which may be reinterpreted by future researchers. Fifthly, the insights yielded by case studies can be put to immediate use for a variety of purposes, including staff development, within-institution feedback, formative evaluation, and educational policy-making. Finally, case study data are usually more accessible than conventional reports, and therefore capable of serving multiple audiences... Case studies, therefore, may contribute towards the "democratisation" of decision-making (and knowledge itself). (Nunan, 1992:78)

Given the theoretical background, the present study presents an action research project which is framed within a case study, or qualitative research, (Tuckman, 2005; Bogdan & Biklen, 1994). The nature of the observation of the data collected is descriptive and without manipulation. The key to the investigation is the description of the procedures the biotechnology learners had to undertake in order to adapt to a new study programme previously prepared by the researcher, observer and participant, in order to put forward a pedagogy for autonomy. The methodology design is markedly qualitative but it uses auxiliary quantitative elements in its analysis in order to complement the search for understanding of a complex, real-life situation with some objectivity and quantification. In this way, it can be classified as a qualitative research with a quantitative component (Bogdan & Bilken, 1994).

Opting for qualitative and quantitative components seemed to be the most adequate since, on the one hand, the qualitative component allowed to comprehend the learners' personal description of the process they were undergoing. On the other hand, the quantification of the learners' responses to several questionnaires allows for a more neutral construction of the learners' profile, thus giving a clearer and more precise dimension of the obtained results. To summarise the characteristics of the

research design in relation to those outlined above: the study was conducted in a naturalistic setting, it was non-manipulative and non-controlling of the results; there was inductive analysis when observing the inter-relations in some of the details; there was a holistic perspective seeing the pieces as parts of the big puzzle but being more than the sum of its parts, focussing on its complex interdependencies; the qualitative data sometimes includes dense and detailed description, in-depth inquiry, direct quotations which contain the experiences and the personal perspectives of the participants; the researcher keeps direct contact with the learners, the situation and of the phenomenon under study, the personal experiences and the insights of the researcher are an important piece of the inquiry and constitute crucial aspects to understand the phenomenon; the attention is centred on the process, and it is assumed that change is something constant and continuous; the conclusions are placed in a cultural, social and historical context, there is insecurity relating to the possibilities or to the meaning of generalisations in time and space; the researcher includes her personal experience and an empathic insight as an integrative part of the relevant data, at the same time, shows a neutral bearing and is non judgemental towards any possible situation, there is openness to adapt the inquiry as the researcher's knowledge deepen or/and the situations change; it avoids closure in rigid designs which eliminate its feature of response; it is open to new ways of discovery and knowledge as they emerge (considering Patton, quoted in Tuckman, 2005).

Given the nature and complexities of my research project, where case study theory was a theoretical guiding influence, I hope that the teaching and researching community will find some relevance in the findings of this study.

3.3 Case study context and participants

This case study was undertaken within the context of higher education in Portugal, and in particular, of the polytechnic sector of higher education in this country. Debates on Portuguese Higher Education intensified after the international crises running from 1966 to 1969, and after 1970, in Europe, some countries had made provision for the genesis of a dual model with universities and other institutions of a more vocational nature, whereas others had clearly chosen to unify around a university single system (Veiga Simão, 2000; Arroteia, 1996; 2002; Conceição, Durão, Heitor, Santos, 1998; Amaral *et al.*, 2002). In 1971, the General Reform of Higher Education³⁹ started the genesis of a dual model by creating rectors and vice-rectors of universities and presidents and vice-presidents of polytechnics, justifying the latter's inception by the new needs of Portuguese society. According to Veiga Simão and Almeida Costa (2000), it was a general understanding that education may act as a factor supporting social progress. Furthermore, Portuguese society at the time saw as incumbent the general influence of education and training in the creation and distribution of wealth and in the development of entrepreneurship.

Although the Decree-Laws of 1973⁴⁰ established the basis for the diversification of higher education in Portugal and the establishment of the network of Portuguese polytechnic institutes, the political evolution in Portugal after the 25th of April Revolution was not favourable to its implementation nor to the influence of foreign experience. The actual creation of the network of new institutions would only occur in the end of 70's and early 80's (Arroteia, 2002:25)⁴¹.

³⁹ Reforma Geral do Ensino Superior, January 1971, based on the documents *Projecto do Sistema Escolar* and *Linhas Gerais de Reforma do Ensino Superior*, produced by Veiga Simão.

⁴⁰ Lei nº 5/73 de 25 de Julho and Decreto-Lei nº 402/73 de 11 de Agosto.

⁴¹ During the revolutionary period of 1974-1976, all citizens wishing to enrol in higher education were free to do so, and the dual system was envisaged as tainted by a fascist strata of society (Amaral *et al.*, 2002:4). From 1976 to 1986 there was a consolidation of the dual system and in 1979 the Decree-Law 513-T/79 gave origin to courses of a shorter cycle and vocationally oriented. Thus was the polytechnic teaching finally created.

The aims of polytechnic teaching are deeply rooted in professionally directed study programmes of short duration, in order to permanently adjust to the rapid changes of the marketplace. The short duration of the courses is synchronous to the shorter lifespan of 'speculative knowledge'. The emphasis is laid on learning by doing, therefore practical work, such as training placements, which existed in two consecutive years at our institution when three-year bachelor degrees where the norm. Hence the belief that 'one only knows by doing' and 'one only does when has knowledge' – 'só sabe quem faz' and 'só faz quem sabe' (Veiga Simão & Almeida Costa, 2000: 29). The challenge for polytechnics was, in the 80's and 90's, to stand as an alternative to university teaching. In other words, to offer something different and specific to a different target student: vocational study programmes. The organisation of these study programmes had a close relationship with the entrepreneurial world and the marketplace, as well as had a dynamics of continuous updating of its graduates (*idem*, 32).

Agricultural studies have a long history in Portugal, but it was with the Decree-Law 86/83⁴² that ESAC, Escola Superior Agrária de Coimbra, became one of the schools which made up the network of polytechnic institutions, with the Decree-Law 86/83, offering three-year bachelor degrees, 43. In 1998, the Portaria 413-A/98 of

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⁴² Decreto-Lei 86/83 SÉRIE I de 14 de Abril de 1983.

⁴³ In Portugal the teaching of agricultural studies had its beginning during the reign of D. Maria II. In 1864 there was a first reform in which a division was established between elementary agricultural teaching and its teaching at university. In 1886 one of the agricultural elementary schools was set up in Sintra - Escola Regional de Sintra - and became one of the most important in the country, later changing its name to Escola Central de Agricultura. One year later it was transferred to Coimbra with the name of Escola Central de Agricultura set up in the Bishop's Farm in the outskirts of the city, grouping other farms of the surroundings until it reached more than 142 hectares, which remain its heritage today. In 1889 the school changed its name again to Escola Nacional de Agricultura, which it kept until 1931 when a profound reform in teaching transformed it into Escola de Regentes Agrícolas de Coimbra. It was only with the Decree-Law 86/83 that it became one of the schools which made up the network of polytechnic institutions, receiving the name that still holds, Escola Superior Agrária de Coimbra (ESAC).

17 of July⁴⁴ authorised five-year courses with a two-tiered structure *licenciaturas bi-etápicas* allowing for direct competition with university degrees.

After implementing the Bologna model in the academic year 2007/2008, ESAC offered seven first cycle degrees in Agricultural Engineering, Organic Farming, Forestry Engineering, Food Engineering, Biotechnology, Environmental Engineering, and Ecotourism. Two years later offered 9 Masters programmes, second cycle degrees, in Organic Farming, Agricultural Engineering, Bio-fuels, Food Engineering, Forestry Resources, Ecotourism, Environmental Engineering and Right to Food and Rural Development. At post-secondary level, there were also three technological specialisation programmes on offer, namely Forest Defense against Fire, Food Quality, and Environmental Quality.

One of the organic units of the Coimbra Higher Polytechnic Institute - Instituto Superior Politécnico de Coimbra (IPC), the ESAC shares the institutional vocation 'of learning by doing'. In fact, "the doing" happens almost at the same time as the "learning" and they may even coincide in time (Veiga Simão & Almeida Costa, 2000).

The IPC belongs to the network of the Portuguese polytechnic higher institutes – Associação dos Institutos Superiores Politécnicos (ADISPOR) - from which it receives the global guidelines in terms of its policies. However, the organic units, such as ESAC - have a great deal of internal autonomy, namely in the makeup of the study programmes or the type of assessment the institution will follow.

The IPC has only two organic units where engineering courses are taught, but each has a different history in terms of teaching a foreign language. Hence, at the Coimbra Higher Engineering Institute - Instituto Superior de Engenharia de Coimbra (ISEC), only two programmes out of the six on offer provide for the teaching of English I and English II with a total of 60 hours of theoretical and practical teaching since the end of the 90's.

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⁴⁴ Portaria nº 413-A de 17 de Julho de 1998.

On the other hand, ESAC had a formal vacancy application, back in 1989, for two lecturers in English. Although the Faculty of Letters of Coimbra had provided part-time teachers since 1985, the subject was officially considered as part of the curricula since April 1989. There were three levels to be taught; elementary, intermediate, and advanced for two years in annual subjects. In sum, English for Specific Purposes is taught in 3 out of 7 organic units of the IPC.

Then in 1990, with the Law 54/90 of 5th of September⁴⁵, the status and autonomy of the polytechnic institutes were established and ESAC reorganised its courses with a reduction in the provision of the teaching of English, condensing it from two annual to two semester disciplines to be taught only in the first year. Since then a new discipline came into being also to be taught by lecturers in English: Communication Skills – Processos de Comunicação⁴⁶ – a unique offer in the whole IPC.

The overall institutional culture of ESAC is predominantly teaching-focussed, although there is a research centre - Centro de Estudos de Recursos Naturais, Ambiente e Sociedade - C.E.R.N.A.S. - managed by senior professors. The centre aims to promote interdisciplinary research but the main focus is on the development of rural areas in Portugal. It also promotes and participates in post-graduate programmes, in the register of patents, certification of environmentally-friendly products or processes and their transfer to the entrepreneurial world. Given the centre's research principles, social sciences are not usually contemplated, and these researchers establish partnerships with other institutions.

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⁴⁵ Lei nº 54 de 5 de Setembro de 1990.

⁴⁶ This discipline provided guidelines on scientific research and report writing, techniques for oral presentations as well as academic writing, particularly based on the selection and synthesis of the information gathered from different sources. It still exists with the same goals and approximate content in the course unit English Language and Communication. The module Communication replaced the former Processos de Comunicação.

Vague instructions from the IPC were received regarding the models and the assessment to be adopted by study programmes within the new Bologna format. It was the Scientific Board of ESAC that approved a document, mentioned above, - that within the framework of the new Law Reforming the Education system 49/2005 and the Decree-Law 74/2006 of 24th March⁴⁷, making provision to effect change. Predominant in this document were guidelines on how to change a study programme into a 3-year model, revising all curricular design, and to move from a traditional exam dependent system to a system of continuous assessment⁴⁸.

The reorganisation of the institution, following Bologna, was oriented towards i) mobility, employability and competitiveness; ii) revision of the curricular design with the adoption of the ECTS credit system; iii) change of the teaching methods so as to move from a system based on the transmission of knowledge to a system based on the development of competences. The end-profile of the graduates of ESAC should be supported by a sound education in basic sciences, to ensure mobility and lifelong learning, and in the area of specialisation, to ensure knowledge and competences that will secure an active professional life, by the capacity to carry out autonomous work, critical thinking and initiative oriented towards the resolution of concrete problems, by the capacity to work in teams, and finally, by the capacity to communicate and interact at all levels in a hierarchical chain. All the programmes share a common model and the same course units serve for several study programmes so as to rationalise resources, teaching staff, structures and facilities. Harmonisation was sought from inside the institution as well in diverse activities in different courses and even internal mobility among courses.

Among the many principles approved by the Scientific Board of ESAC, special relevance was given to the pedagogical aspects that would strive to combat

⁴⁷Lei da Reforma do Sistema Educativo 49/2005, Decreto Lei 74/2006 de 24 de Março.

⁴⁸ Within the framework of the new Lei da Reforma do Sistema Educativo 49/2005, Decreto Lei 74/2006 de 24 de Março.

academic failure. Measures were implemented so that the rate of attendance of theoretical classes would be raised. Moreover, a model of general continuous assessment was conceived as well as minimum averages for students to be allowed to attend a final exam.

All former disciplines received the designation of course units. In the first year of each study programme, the course units all became annuals to allow a better organisation of basic components throughout a whole year, to harmonise the students' knowledge, to integrate late-comers, etc. The weekly contact hours were extended in the first year (24 h/week) to allow group work, preparation for classes, research, participation in activities at the school or associated enterprises, preparation for continuous assessment and demonstration of competences. A uniform distribution of credits among the course units was established. Most classes were designated as theoretical-practical, to keep up with the tradition in polytechnic institutions. It was decided that the course units would have to be organised by modules and each module would have a coordinator. The attendance of all classes became mandatory.

Another innovative aspect was that in each course unit time was allotted to be used as tutorial. Furthermore, each teacher was assigned from 3 to 4 first year tutees to follow the tutee's life during the study programme. The tutor would have to act as the first interface between the school and the student with at least three mandatory meetings and a lot of bureaucracy involved in this new task. With the Bologna restructuring, some independent disciplines, namely English, Technical English, and Communication Skills became one combined course unit with three distinct modules under the name English Language and Communication (ELC) – Língua Inglesa e Comunicação, which is common to all first years.

In 2007/2008, at ESAC there are around 1600 students on the aforementioned 7 BSc degrees. In all, there are approximately 290 first year students studying ELC plus around 40 second year students of Ecotourism who take another semester in a course unit designated as Technical English.

According to the ECTS, the students should have a 40-hour week workload. ELC has 6 ECTS credits which is half of what mathematics and informatics have, but on a national level is the highest attribution of ECTS to an ESP course unit we have knowledge of. The contact hours per week are 2 hours for traditional upfront teaching and one hour of tutorial. As there are 3 teachers of English for about 330 students the teacher/student ratio is 110 and the average class is made up of 25 students.

54 first year students on the BSc in Biotechnology participated in this case study. I investigated their learning experiences over a 6 month period, at the same time that I was their Technical English modules teacher. 49 of these students were enrolled at ESAC for the first time. The English language preparation of the students on entering higher education is very heterogeneous. Some have received formal education ranging from 3 to 5 years, with a majority having 7 years of formal learning. To have a clear notion of how the group could be sorted into the categories A1 to C2, the same placement test was carried out at the beginning and end of the Technical English modules. In this group, 25% of the students presented an A1 level, 41% a B1 level and 9% a C1 at level the beginning of the semester, according to the levels established in the Common European Framework for Languages (Council of Europe, 2001). At the end of the semester, 7 of the 54 students failed to pass the course unit because they had not attended classes and of the remaining 47, only 41 presented their assessment by portfolio, central to this research project. Almost all the data collected and presented throughout the following sections is related to the 41 portfolios analysed and the results of the questionnaires the students had to answer. 33 of the portfolios were elaborated by female students and 8 by male. The students age average was 18.9. I did not need any special authorisation from the institution for carrying out the study because I was going to teach according to the approved descriptor, as did the other two colleagues, only the materials and methods used by me would not be the same.

3.4 Exploring the case: planning the activities

The preparation of the specific materials I was going to use in this study began in the academic year 2006/2007. As my colleague who teaches the Communication Module of the course unit ELC divided her materials into units called ferramentas para – tools for, I designated the units of materials I prepared as toolkits. With the toolkits I meant to build units of subject matter that would help prepare the student to learn about the subject or topic of the toolkit theme and would also point out pathways to try to find language exposure opportunities outside the classroom, in order to have real progress. The materials included in the toolkits would normally have pointers for further study with keys, so that the student could develop the topics focused in class, in case of need, curiosity or competence attainment. I have worked hard on including the development of autonomy from working with the materials and the use of language in the future in real life. The concern with lifelong learning was always present.

In terms of procedure, the timeline of materials exploration and student activities was as described in Table 13.

Table 13. Overview of researcher's preparation, teaching practice & students' independent learning opportunities

	Researcher's		Learning opportunities	
Dates	preparation for collecting data	Teaching practice		
	1.Questionnaire B1	Toolkit for module I:	1.Research on learning types	
	2.Placement test	1.Learn how to learn	2.List personal difficulties	
	3. 4-week plan	English	3. Choose	
January 2008	4.What kind of learner are you?	2.Learn how to interact in English	strategies to deal with difficulties	
	5.What Language Learning type are you?	* first assignment	4.Monitor time management	
	6. Working habits	– an essay	5.Random extra work	
Echruory 2009	7.Needs questionnaire Portfolio elaboration	Learn English for Science and	Research on science and technology	
February 2008		technology	2.In-depth description of a topic freely chosen	
March 2008	Portfolio elaboration	*second assignment - oral presentation on science and technology	3.Organise extra work according to portfolio matrix	
April 2008	1 st Collection of portfolio data	*third assignment - test	Extra study of grammar topics	
			2.Extra readings	
	Portfolio elaboration 8.Questionnaire on lecture attendance	Toolkit for module II: Learn English for Biotechnology *first assignment - attending a lecture	Interaction with specialist of biotech	
			2.Extra readings on the articles/books suggested by	
May 2008			Lecturer	
			3.Help in collating scientific English papers for biotech dossier	
			Participation in e-pal project	
	9.Questionnaire on Bologna	*second assignment - Poster presentation at	1.Research on biotech cutting-edge investigation for poster	
June 2008	10.Placement test	science fair	2. European level exam at an	
	11.Questionnaire B1	*third assignment -	independent language institute	
	12.Portfolio delivery	test	insulute	

3.4.1. Instruments and Materials

Several instruments were used during the semester with the aim of guiding the students' learning as well as collecting data for meeting my research objectives. The first instrument of research used was questionnaire 1, called January B2 questionnaire (Annex 1), comprising having 35 'can do' 'can't do', 'wished could do' statements from the European Language Portfolio and establishing that the level to attain in class will be B2 (according to levels of the Common European Framework for Languages, Council of Europe, 2001). This was expected to give the students a holistic perspective of the aims they should attain during the twenty weeks of class. Students were told quite in detail what their competences should be at that institution. The second instrument of research used was a Placement test (mostly grammaroriented) administered in the second class to place the students in relation to the different European levels. The placement test was to be repeated in the last class of the year as an attempt to measure objectively changes in proficiency. It was peer corrected the first time and teacher corrected the last time. The 4-week learning plan for independent study, Figure 3, in next sub chapter 3.6, was an essential tool for the construction of the portfolio. This 3-sheet plan contained the plan, the reflection of what was carried out in that cycle and the remedial work for what went wrong. It also had a percentage of self-assessment in several categories, e.g. successfulness. The questionnaire 'What kind of learner am 1?', Figure 6, in next sub chapter 3.8.2, designed to find out about the beliefs about language learning shared by the group of students and discuss them in tutorial hour. The 5th tool used is part of unit 2 of Activate your English by Sinclair and Prowse (1996), where the whole unit is used calling attention to "Ways of Learning". The first part is about English learning recollections (pair work), the second focuses on language learning aims (group work), the third is about different language skills (listening comprehension activity). Finally the last activity is a questionnaire filling entitled "What Language Learning Type are You?" I used the whole book unit because of its coherence and especially because it opened up the field for the discussion of learning types and typologies and selfdiscovery as students. The 6th tool used, the questionnaire on work habits, Appendix 3, was designed to complement the 4-weekly plan the students had to fill in. The 7th tool, Appendix 4, questionnaire on professional needs priorities intended to find out if the subject matter worked in classes corresponded to students' expectations.

Apart from these pre-defined materials, the students undertook other activities during the semester where they had the opportunity to use their choice, their innovation and creativity in the work presented, for example in the assessment assignments. Thus, in the oral presentation, according to the general topic science and technology under study, the students were free to do their presentations on the subjects they wanted, in pairs or independently, and if they wished to prepare the oral presentation with the teacher, they could do so. Oral guidelines for this activity had been provided in the Communication Module.

During the second module the students had to organise themselves in groups and choose from a wide range of grammar items to present along the 10 weeks.

Attendance and assessment of a live lecture was an important component of the second module, requiring, students to make a summary of the lecture they attended and engage in discussion afterwards. They were also required to assess their own competences in relation to this activity. Due to time constraints the second lecture scheduled focusing on forestry had become optional in terms of attendance. Due to time constraints, only one of the scheduled lectures was compulsory for the students; the other two lectures were made optional.

Another central component in the teaching-learning-research was the poster presentation project, which involved collaborative work, research and presentation skills, creativity and innovation; it also involved self-assessment and peer-assessment and these were considered in the students' final mark. The best posters were exhibited for a year.

The elaboration of an individual portfolio, following a pre-established matrix, Table 18, in sub chapter 3.7.3, was the innovative device by which the teachers of the

course unit assessed their students and tried to change the way they learned and enable them to take charge of their own learning. Besides the compulsory items to be included in each portfolio, for example, their histories of language learning or their overall reflection of the experience of learning, there was a section of independent work where the autonomous strategies and skills of the students would be under scrutiny.

These and other materials will be discussed in more detail in later sections.

3.5. The course unit restructured

Teaching English for Specific Purposes has been carried out at ESAC for over 20 years in a teacher directed system. Coming from a background of English literature and language, our experience as teachers had been primarily concerned with the traditional syllabus of Learning English as a Second Language and then teaching according to our Faculty experience. Although the heads of ESAC never demanded a study programme for specific purposes, it was our understanding that we would have to design programmes and materials focused on what the students learned in their fields of studies. Therefore all study programmes were designed to meet the students' needs based on their needs analysis. Thus, despite all disciplines sharing the name Inglês I or Inglês II, all materials were different, tailored to the different courses. Regardless of the great importance given to reading skills in ESP, because "the students need to read a number of specialist texts that are available only in English [and the programmes] should concentrate on reading strategies" (Hutchinson & Waters, 1987: 13), we always considered oral skills equally important, and tried not to neglect the other skills. We had informal meetings with the directors of the courses and ask them for advice and guidance during our first years of teaching. In the late 90s it would be considered a waste of teacher labour to have so many classes of English. Due to budget cuts it became popular saying that learning English at ESAC should be the same as learning general English. So far this group of opinion

has not prevailed and ESP teaching, teaching to the specificity of each course, has been defended by the two lecturers in English since 1989.

As has been said before, the English language used to be a biannual discipline until the polytechnics also offered 5-year courses, competing directly with universities and losing part of their original goals on the way. From 1998 onwards, English was reduced into two semester disciplines of 3 hours/week for 34 weeks, which still meant 102 hours a year. With the Bologna restructuring, Processos de Comunicação, which had only a semester of duration, became part of the new course unit and was allowed 30 hours, therefore the hours remaining to English were reduced from 102 to 60 hours.

As described above, with the Bologna restructuring, three separate disciplines (English, Technical English and Communication Skills) were combined into one course unit with three distinct modules. This new course unit – English Language and Communication (ELC) is made up of three modules, namely Communication, Technical English I and Technical English II, having variable duration and weighting in the assessment of the unit as a whole. The Communication Module takes place either in the first 10 weeks or last 10 weeks of the 30 week-year, according to the course, and is worth 30% of the final mark. The remaining weeks are divided between Technical English I, 30%, and Technical English II, 40%, of the final mark, corresponding to a gradual increase in student effort and output. With the current study we aimed to investigate how to design, implement and assess a methodology for English Language and Communication (ELC) in the scope of the Bologna Process, concurrent with the curricular restructuring brought about by its implementation, in which the student came to the centre of the process as an active member and full participant in teaching-learning decisions.

As it can be seen from the Descriptor⁴⁹ of this new unit (Appendix 1), an attempt was made to harmonise some contents, so as to let the students believe that, although the contents were taught in two different languages, the goal was the same: to improve their communicative skills in both languages:

The Course Unit of English Language and Communication is part of the curricula of scientific and technical courses and aims at providing learners with the appropriate competences to have access to information as well as select and convey information in the scope of their scientific domain, both in Portuguese and in English. The Course Unit also intends to lay the foundations for a lifelong learning process with a high degree of autonomy. (Descriptor ELC 2007/08)

As this course unit is perceived as preparatory to other subjects, it can be seen as instrumental, and, as such, it was consensual that each unit would be a tool for students to be able to do something. As mentioned above, I followed the example of the Communication teacher and compiled several units as toolkits to help the students to achieve some results autonomously. It was agreed among the three teachers of English that only I was carrying out pedagogical research that would use the collected data for my thesis, but that I would follow all the guidelines provided by the descriptor and in essence, although the methodology might vary, the goals would be the same and the portfolio matrix which the language teachers used was also the same.

Regarding the course unit descriptor, it followed the model approved by the institution and instead of listing the subject matter the learners were to study, and in accordance with the Bologna guidelines, it listed the competences students should acquire, namely:

⁴⁹ See descriptor of Biotechnology as an example for the model that would be implemented in all curricular units with the same name. Although the descriptors were exactly the same, the handouts collated by the teachers varied in Technical English I and Technical English II, adapting the texts to be studied to the specificity of the course subject-matter.

- 1. Recognise specific scientific and technical discourse both in Portuguese and in English.
- 2. Collect, analyse, and select information in both languages.
- 3. Identify and use creatively the syntax, rhetoric, and structure of scientific and technical discourse to write texts in both languages.
- 4. Identify and use appropriate grammar structures.
- 5. Present and explain orally relevant topics of his/her scientific domain.
- 6. Collect, edit, use and produce information.

In terms of content and teaching methodologies, and in order to accomplish the goals of the course unit and the acquisition of the expected desired competences, individual and group activities were planned so as to allow the learner to: develop skills in reading and listening to texts in the scientific domain; develop written and oral skills in specialised contexts; expand lexical fields in specific scientific domains; review and enhance Portuguese and English linguistic structures; stimulate critical skills through self-assessment and peer-assessment; develop oral skills in frameworks involving time, space, and context management.

Furthermore by listing the learning outcomes in terms of what is expected of the learner (as follows) we aimed at total transparency of learning goals to be presented to our students and colleagues (Table 14.).

Table 14. Learning competences of ELC descriptor

Competence 1: 1.1 Read and comprehend specialised texts		
	1.2 Identify extended speech and discourse in different media.	
	1.3 Infer technical and semi-technical words from context.	
Competence 2:	2.1 Do critical bibliographical research on specific issues.	
	2.2 Organise glossaries on particular topics.	
	2.3 Use technical vocabulary.	
Competence 3:	3.1 Write clearly a wide variety of texts.	
	3.2 Write summaries and syntheses.	

	3.3 Characterise, classify, and define proficiently in a wide variety of contexts.	
Competence 4:	4.1 Use correctly Portuguese and English syntax and structure.4.2 Use morphological structures correctly.	
Competence 5:	5.1 Use varied techniques to carry out different tasks.5.2 Give and discuss guided presentations.	
Competence 6:	6.1 Write scientific and technical reports.6.2 Write CVs, cover letters, and job application letters.	

We adopted a modular organisation of assessment, and specified for each module which competence or competences we were assessing, so that they would not overlap if we were aiming at a balanced assessment of different skills.

3.6. Outline of the course unit

Unlike former English classes which were centred on the subject matter and exercises to warm up heterogeneous groups, I spent the first weeks of the new module Technical English I focused on trying to make the learners aware of the pedagogical goals and content of the materials they were using, preparing them for the first level of autonomy: awareness (Nunan, 1997: 195). The first class was fundamental because it provided a lot of information on the Bologna Process. In fact, the students had many questions about the whole process and realised the importance of language learning in this setting. The information about the European levels of proficiency was confusing for them, although some were already familiar with them. The filling in of the B2 questionnaire, a 'can do' checklist that is part of the European Language Portfolio, and constituted one of the first activities, was carried out in Portuguese and even so presented some difficulties to understand some very formal can do statements.

Still dwelling at the level of awareness, the second class involved a placement test, a general grammar test not particularly related to our syllabus, to measure the proficiency of the group and to be peer-corrected. This test would be

repeated in the last class at the time of the final assessment test to check progress in proficiency and measure whether awareness in autonomy contributed to change the results of the first test.

The moment when the students are faced with the reality that classes are going to be in English is always a shock, and many are those that consider giving up immediately because, generally, they lack confidence to speak in public and are not able to follow a conversation in English. But the next steps in the redesigned module were designed to prevent that from happening and gain their confidence by focussing on getting to know them by using several questionnaires on language beliefs, study habits, learning styles, etc. Special attention was given to mapping out their 4-week plan to face their difficulties. With the first toolkit we started to work with English-English dictionaries, the designated grammar and the 4-week independent learning plans, Figure 3. The toolkit – the first unit of the material – works as a DIY compilation of basic exercises on pronunciation, dictionary entries and symbol explanation, choosing strategies to fill in the learning plan, how to organise a vocabulary notebook, etc.

	INDEPENDENT STUDY: A 4-WEEK ENGLISH LEAR	NING PL
	Technical English – Biotechnology - Academic Yea	r 2007/08
Name	e: Partner(s)	
Goal: what I wish	to learn in the next 4 weeks:	
Focus: My study v	will focus on	
Strategies: The lea	earning strategies I will try to use	
are:		
Materials: My lear	rning materials/ equipment are:	

Date	How I will conduct my learning	Notes
	1	
	2	
	3	
	4	

Figure 4. A four-week learning plan

This first unit, or toolkit, is called "Learn how to learn English", and works as a DIY kit for choosing strategies to fill in the learning plan. Besides vocabulary learning, reading and listening strategies, guidelines for oral presentations are also included in order to prepare the student for the formal oral presentation in which s/he would be assessed. In the next unit, toolkit 2, the focus was all on speaking interaction - "Learn how to interact in English" - the focus was on speaking interaction. Although brief, this unit was an opportunity students had to be able to dramatise dialogues in a given situation in higher education contexts, namely with ERASMUS students, and resort to very simple vocabulary from everyday use. This was one of the few possibilities of letting the real world of their teens come to class because the majority of the materials were connected to science and technology, experiments and innovation, in a very formal language. It was also a means of revising basic vocabulary and grammar knowledge and building confidence for further oral skill use.

Assessment of Module I comprised an essay, a test based on vocabulary/grammar studied in class and a prepared oral presentation, based on students' own research, of a ten-minute powerpoint on any subject they liked, within the broad heading of science and technology. The essay might vary from biodata to what the characteristics of a good language learner may be, all topics that had been

discussed in tutorial time. The majority of materials dealing with scientific subject matter were adopted from "Gateway to Science. Vocabulary and Concepts"⁵⁰.

Having taken the first five weeks to centre on the student, a great part of the subject matter had to be studied at home, as independent work, as homework, and as responsibility of the student. Parts of the grammar lessons were negotiated with the students and they chose which to bring to class to practise, as well as extra material that they would like to revise. As the tutorial hour was clearly not enough for large classes, there was an appointed hour when students could show their work, clarify their doubts and, for example, prepare their slides for the oral presentation.

Below is the teaching/learning plan of the first 8 weeks that made up module one, Table 15.

After the first module the portfolios were collected in order to assess what the students had been carrying out as independent work, and the selections of material they were organising as proof of the choices for their 4-week activity plan. On the whole, the first collection of the portfolios worked more as an alert and preparation of the work needed to be done and the time management to meet their plans.

⁵⁰ Collins, Tim & Maples, Mary J. (2008) - *Gateway to Science. Vocabulary and Concepts.* Boston: Thomson Heinle.

Table 15. Teaching/ Learning Plan 1

LBIOT TECHNICAL ENGLISH MODULE I - 2007/8			
Class	Date	Contents:	
1	8,11/1/ 2008	Introducing the aims, contents, assessment and attendance systems of the course unit I.1. Portfolio assessment and glossary elaboration. I.2. Methodology to be used Short discussion on the themes to be studied I.3. Establishing a framework for language learning in the Bologna context I.1. Description of the European levels of language proficiency (from A1 to C2). I.2. Filling in of B2 self-assessment checklist I.1. The students introduce themselves	
2	15,18/1/ 2008	1.Placement Test. 1.1. Peer correction of Placement Test 2.What Kind of Learner am I? 3. 1. Metacognitive questionnaire filling	
3	22,25/1/ 2008	1.Ways of Learning 1.1. Listening comprehension 1.2. Table filling 2.What Language Learning type are you? 2. 1. Metacognitive questionnaire filling 2.2. Different Learning Styles 2.3. Group work with different types of learners	
4	29/1,1/2/ 2008	Learning how to learn English 1.1.How to work with an English-English dictionary 1.2.Searching for meaning, pronunciation, part of speech, grammar features, collocations, words in context, synonyms and antonyms. 1.3.Practical exercises. 2.Listening to pronunciation of English sounds 2.1.Problems with pronunciation 3.Tutorial – Designing a 4-week learning plan (group work according to learning styles).	
5	12,15/2/ 2008	1.Learning how to interact in English 1.1. Personal background 1.2. Educational background 1.3.Routines 1.4.Hobbies 1.5. Plans for the future/ ambitions/ dreams 2.Question formation	
6	19,22/2/ 2008	Written assignment biodata (1 hour) Thinking like a scientist Nocabulary in context Observing and describing, experimenting Tutorial – guidelines for oral presentations	
7	26,29/2/ 2008	1.Science tools 2.Metric units of measurement 2.1. Numbers & dimensions Oral presentations	
8	4,7/3/ 2008	1.Short descriptions (plants, animals, apparatus, scientific phenomena) Oral presentations	

The second Module, English II, Table 16 below, focused only on the unit of biotechnology, corresponding to a large unit where more weeks would be spent and the type of work to be carried out would also be different. From the start, it was evident that the texts used were from real books to be utilised and read and would present many problems for those reluctant to work with dictionaries or on glossary building. The fourth class was a scheduled lecture given by one of their teachers, in this case a Macedonian. After the reading of the texts and the vocabulary introduction of Biotechnology in Agriculture by teacher and students, the guest lecturer presented a live lecture on the subject, as one of the specialists of the school in biotechnology. I had the possibility to see the slideshow beforehand and added a glossary of the most difficult words to help the weaker students.

It was expected that the students would be able to understand a non-native speaker of English speaking on a topic which was not new to them but in English. The students had to take notes and build a summary from their notes. This summary would be their first assignment and intended to replicate closely a work situation. They had all been assigned a task as if they were already working for a company; they had been sent to a conference in a foreign country, and had to reproduce for their colleagues at home what they had learnt in the same enterprise, but as the boss was very demanding, they had to also provide a written summary that made sense of the lecture experienced. The powerpoint presentation lasted one hour and the students had an hour and a half to build their texts afterwards. They could use all the material on connectives that they had with them as well as the dictionaries they always carried to class.

From the second class onwards the students had a challenge presented to them: to invent a product or a treatment which would revolutionise the field of biotechnology. No limits were placed on their creativity, but the form of presenting their breakthrough to the class had to be in poster format and they would have to defend it orally. This project represented 40% of the mark of this module and was to be developed ideally by up to three students. The class before last of the semester

simulated a scientific meeting where all their research was exhibited. The students also had to complete a file with elements of self-assessment and peer assessment and elect the best poster and the best presentation. Since this project involved a lot of time for selecting the best idea of the group and developing in the best way possible, the task was presented right at the beginning of the second module. Since it was the first time that they had presented a poster, the challenge was well received but considered as something which could not be done on the eve of the presentation, rather as a problem which needed to be managed with the help of planning at every step.

The cross-curricular dimension represents a reaching out to the world of the other course units, but also to the real world of work of projects, beyond texts, and aimed to enhance the motivation of the students and bring them into contact with other non-native speakers of English. These were mostly Portuguese, and their future teachers and they revealed that they also had difficulties with the foreign language but managed to overcome them in order to communicate. From a similar perspective the students had a lecture with a forester who showed how biotechnology can be applied to forestry. After the lecture that closed the unit of biotechnology in forestry, the students had a simple true/false sheet to check on vocabulary learning.

The third lecturer that closed the unit biotechnology in Food Science also brought a poster used in a former conference and explained how the poster had been built and helped reassure the students by answering all the questions they had about poster layout. Although they had studied the theory on how to build a poster in the Communications module, and had built the abstract, introduction, materials and procedure, results and discussion, conclusion and references during tutorial time and in out of class meetings with the teacher of English, it was important for them to see someone experienced showing them how it could be carried out.

The scientific meeting where students presented their posters was the highlight and culmination of many weeks of work. Depending on the students' creativity, the project defended in the posters could present prototypes, and/or

demonstrations to support the presentation. This aspect was really enjoyed by most. When doing their initial research, there were projects that fit the challenge of coming forward with something original, or close to original, an idea which was not yet possible but under study. Because of this, some students found that they needed to be advised by specialist teachers and informed by literature that is quite beyond the knowledge and range of their first year. This external collaboration sought by the students, and mentioned in the acknowledgements of their work, is well in line with the cross-curricular dimension encouraged in the modules and outlined in the Bologna principles.

In the last class of the semester a test was given to check progress in grammar and vocabulary, but at the same time the placement test was run a second time to check for evolution in proficiency, as mentioned previously. Finally the students also had some questionnaires to fill in on assessment and portfolio elaboration. It was also the second, and last, collection of the portfolio.

Table 16. Teaching/ Learning Plan 2

	LBIOT TECHNICAL ENGLISH MODULE II 2007/8			
Class	Date	Contents:		
1	1,4/04/ 2008	1.Minitest correction 2. Introducing the aims, contents, assessment and attendance systems of module 3. Vocabulary practice		
2	8/11/4 /2008	1. Reading Comprehension of "Biotechnology - an introduction" 1.1.Ancient times - beer and cheese making 1.2.Modern times – antibiotics, detergents, GM foods, cloning and stem cell research 1.3. Glossary building 2. The connectives or linking words. 2.1.Practical exercises.		
3	15,18/04/ 2008	1.Biotechnology in Agriculture 1.2. Reading comprehension 2. Revision work – present simple vs present continuous		
4	23/04/ 2008	1. Understanding a live lecture 1.1Biotechnolgy in agriculture – A lecture by Professor Kiril Bachcevandziev 1.2 The role of biotechnology in agricultural engineering. 1.3. DNA manipulation. 1.4. Plant breeding - DNA transfer. 1.5. Biotechnological transfer in agricultural products. 2. Note-taking for summary writing 3.Collection of summaries based on the lecture – portfolio assessment 1.		

5	29/04, 2/05/ 2008	1 Louis Pasteur's contributes to science. 2.1. The past simple and the past continuous (revision work) 2.Writing 2.1. Summary writing 2.2.Abstract writing 2.3.Essay writing
6	13,16/05/ 2008	1.Reading comprehension of the text: "Biotechnology of Tree Improvement for Rapid Propagation and Biomass Energy Production" 2.The articles: a/an , the, \emptyset – revision work
7	20,23/05/ 2008	1. Feedback on summaries. 2.Writing 2.1. Summary writing 2.2.Abstract writing 2.3.Essay writing
8	27,30/05/ 2008	 Biotechnology and forestry – a lecture by Professor Filomena Gomes Rapid and mass multiplication Seed propagation, grafts, cuttings and clone propagation Molecular markers –applications Preservation of genotypes Preservation of germplasm Micropropagation Tree improvement Genetically modified trees grown in field trials Debate Core vocabulary extension Self-assessment worksheet – listening comprehension true /false
9	2,6/6/ 2008	1.Listening comprehension of U2 "I still haven't found what I'm looking for" 1.1.The perfect tenses 1.2. The present perfect and the present perfect continuous - revision 1.3. The past perfect simple and the past perfect continuous 1.4. Tense revision – table filling
10	13/6/ 2008	1. Biotechnology in food science – a lecture by Professor Aida Moreira da Silva 1.1. Application of biotechnology for milk improvement 1.2."Better milk for cats" - A practical experiment to be carried out by students 1.3. Self-assessment worksheet 2. Reading Comprehension of "Genetically Modified Foods: Benefits and Risks 2.1. Writing – paragraph coherence on advantages and disadvantages of GMFoods
11	17/20/ 2008	 1.A scientific meeting of biotechnologists 1.1. Student poster presentation 1.2. Student self-assessment 1.3. Student peer-assessment ♣ 2nd portfolio assignment
12	24,27/06/ 2008	 Minitest ♣ 3rd portfolio assignment Diagnostic test Portfolio delivery

3.7. How to effect change? The portfolio as a strategy towards autonomy

At the heart of the need to redesign the curriculum was the need to effect change in the learners and to implement working habits that would help support a strategy towards autonomy. In this process, the portfolio is considered an essential instrument and was adopted in the reconstructed course unit - ELC. The European Language Portfolio served as a model, parts of which could be adopted to the needs of the students and the institution.

3.7.1 The European Language Portfolio

The internationalisation and mobility of workers in Europe will undoubtedly continue to expand, particularly due to the current integration processes and the economic situation, and cross-cultural contacts will increase in the future. These developments will create greater demands for intercultural communication and respect for cultural diversity, which suggests intercultural competence is a significant education goal orientation in all sectors of schooling (Kohonen, 2002). What the Bologna Process calls attention to is that when moving towards a knowledge society, work, education, and democracy are interlinked, giving increased importance to the development of generic and cross-disciplinary competences. Important is the fact that important new skills and qualifications in work include flexibility in thinking, continuous learning skills, good communication skills, initiative, team work capacity, social skills, and risk taking.

The idea of an economy based on a knowledge society conveys a vision of the future in which everyone participates in education and training throughout life, and that learning empowers (*idem*). Such is also the view shared by the European Language Council on the issue of language learning in implementing the Bologna Process. By stating the crucial importance of language learning for European integration in general, especially connected to the concepts of *employability* and

mobility, and for the creation of the European higher education area in particular, the European Language Council recommends that the signatory states and higher education institutions take concrete actions to meet the linguistic requirements resulting from the Bologna Process. The issues and developments of the process in which competence in foreign languages is deemed relevant in higher education are related to the improvement of the mobility of students, teachers, researchers, and administrative staff, the promotion of inter-institutional cooperation in regard to mobility schemes, curriculum development and integrated programmes of study, training and research, the development of study programmes leading to a degree relevant to the European labour market (European Language Council, 2002).

If it is up to higher education institutions to devise foreign language policies, it has been the educational researchers' responsibility to conceive ways to promote the development of learners' personal and intercultural competences and to enhance their capacities for autonomous lifelong learning. In order to bring harmonisation and transparency to language learning and improve the quality of communication among speakers of different languages and different backgrounds (Council of Europe, 2001), the Modern Languages Division of the Council of Europe published the Common European Framework of Reference for Languages (CEFRL) and the European Language Portfolio (ELP). The former aims at defining curriculum goals and assessment criteria, whereas the latter intends to guide the management and assessment of learning in the classroom (Hildén, 2002; Kohonen, 2002; Little, 2003; 2009).

The CEFRL defines non-native language proficiency in relation to five activities (listening, reading, spoken interaction, spoken production, and writing) at six levels (A1 Breakthrough, A2 Waystage, B1 Threshold, B2 Vantage, C1 Effective Operational Proficiency, and C2 Mastery). The CEFRL descriptors assist the specification of learning goals, the identification of the learning tasks and the assessment criteria as well as the alignment of curriculum, teaching, and assessment. The CEFRL is a central achievement of European research and

development, and a keystone for language education (Hildén, 2002), for it provides coherence and comparability between curricula and language learning outcomes in so many different countries.

The ELP is another cornerstone in language education, but whereas the CEFRL can be used to establish desired outcomes and assess their attainment, the ELP is a tool linked to a democratic society and school system which presupposes some forms of assessment that also acknowledges a tool of individual progress, such as a personal portfolio, as evaluation (idem). The ELP consists of three parts: (i) a language passport, which is a record of language skills, qualifications, and intercultural experiences of its holder. The language skills are defined in terms of the levels of proficiency presented in the CEFRL whose scale is included in the passport as a self-assessment grid. The contents of the passport are a profile of language skills, a résumé of language learning and intercultural competence, and a record of certificates and diplomas; (ii) a language biography, which is a record of personal language learning history to help the learner to set his/her learning objectives and contains self-assessment checklists for the evaluation of the linguistic competence and progress of the learner; (iii) a dossier, which contains both a collection of various items of personal work and certificates and diplomas got by its holder (Council of Europe, 2001).

According to the *Principles and Guidelines* that preceded the release of the ELP, it was conceived to have the following features (Principles, 2000):

- 1. It is a tool to promote plurilingualism and pluriculturalism;
- 2. It is the property of the learner;
- 3. It values the full range of a learner's language and intercultural competence and experience regardless of whether acquired within or outside formal education;
- 4. It is a tool to promote learner autonomy;
- 5. It has both a pedagogic function to guide and support the learner in the process language learning and a reporting function to record proficiency in languages;

- 6. It is based on the Common European Framework of Reference with explicit reference to the levels of competence specified in the model;
- 7. It encourages the learner's self-assessment (which is usually combined with teacher assessment) and assessment by educational authorities and examination bodies:
- 8. It incorporates a minimum of common features which make it recognisable and comprehensible across Europe.

As mentioned above, learning empowers. Since the ELP is the property of the learner, it is not used for examination purposes, and records only what the learner, aided by the teacher, wishes to record. Thus, it can bring great empowerment to the learner through this ownership. The learner develops a different dynamic in learning by producing work that is kept in the dossier and recording progress in the language biography; "it supports goal-setting and self-assessment in relation to specific learning objectives, and encourages reflection, sometimes schematic and sometimes narrative, on learning styles, strategies and intercultural experience" (Little, 2009; 155). The dossier is devised to record and file all steps forward in language learning. But most importantly, its pedagogical function has also the power "to make apparent failure to progress [to] be analysed to provide a positive motivation to the next activity or stage of learning" (Simpson, 2003: 207).

The pedagogical function of the ELP is based on the principles that support and promote the development of learner autonomy. If we understand learner autonomy, as Holec has defined it, as the capacity to take charge of one's learning and to take responsibility for determining the objectives, defining the contents of progression, selecting the methods and techniques to be used, monitoring the acquisition, and evaluating what has been acquired (Holec, 1981: 3), then the ELP can be a very useful tool in organising learning. Learners create a learning cycle by establishing the goals, reflecting on them and using self-assessment to measure their

performance and how a certain activity may, or may not, have contributed to the larger learning process. This process enables learners to gradually assume control of their own learning, to be at its centre and to be responsible for it.

In the first class I elicited from the students what they thought the Bologna Process was. On average their information base was weak and they seemed eager to discuss the subject (I will later on provide quantitative data on their expectations and experience). I introduced the main lines of the process and tried to sensitise the students to the existence of the CEFRL and the ELP, encouraging them to do a diagnostic test at a private institute to obtain a formal record of their level to include in their portfolio.

It was established by the EU that the B1 level in English is officially⁵¹ the accepted level for communication to be accepted to study or work in any country. Joining other teachers of higher education institutions, I have also agreed that the B2 level (the independent user – vantage) was the more reasonable intermediate level that European Higher Education institutions should accept and try to develop in English for Specific Purposes courses (Béresová, 2007; Bárbara, 2007; Ribeiro, Brito, Méndez, 2007). The students were confronted with the B2 questionnaire 'can do' statements from their first class to give them a notion of what would be required from them, in particular to develop their metacognitive skills. They were advised to fill in the questionnaire in their first class and again in the last class. Both questionnaires were collected by the teacher. Another similar strategy for measuring whether the desired learning outcomes could be achieved in 20 weeks of teaching and learning or not was through the repetition of the placement test conducted in the students' second class and repeated in the last class of the academic year.

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⁵¹ Officially declared both by the representative for the diffusion of the European Language Portfolio of the Ministry of Education of Portugal and by the European level examiner of the International House in Coimbra.

Although the ELP and the CEFRL were not instruments to be used and explored by me on a classroom basis, students were alerted that there was a parallel in the introduction to the new paradigm in education between the Bologna Process and foreign language education. This second paradigm shift involved moving from "mastery" of languages in isolation from one another to the development of a plurilingual and intercultural competence in which all languages interrelate and interact:

This paradigm shift poses significant new challenges for language teachers, requiring them to help students/ language users to see themselves as social actors and agents of their own learning and to develop their intercultural communicative competence and their capacity for intercultural communication and cooperation on a lifelong basis (...) It involves a shift from the knowledge transmission model of teaching to transformative, negotiated learning model. Moving from a (relatively) teacher-directed organisation of the classroom towards student-centred teaching that promotes autonomy and intercultural learning [as] a major educational change for the participants. (Little, 2007: 17)

3.7.2 Portfolio Assessment

The ELP can be perceived as the outcome of decades of debate over the demanding new role of assessment⁵² in education and the role of portfolios for learning and assessment as illustrations of innovation in learning. Although portfolios have been traditionally used by artists, writers, photographers, architects, and the like, today portfolios are increasingly used in education in a wide range of contexts and for a variety of purposes.

The portfolio can be defined as "a purposeful collection of student work that tells the story of the student's efforts, progress, or achievement in (a) given area(s). This collection must include student participation in selection of portfolio content; the

⁵² The new role of assessment will be analysed a bit further, particularly by Boud & Falchikov In Boud, D. & Falchikov, N. (eds.) (2007) - *Rethinking Assessment in Higher Education. Learning for the Longer Term.* Oxon & New York: Routlege.

guidelines for selection; the criteria for judging merit; and evidence of self-reflection" (Arter & Spandel quoted in Klenowski, 2002: 3). This definition acknowledges the developmental nature of the assessment process and the active role the learner should play. Moreover, it also introduces the integration of assessment with teaching and learning (what Biggs has termed constructive alignment)⁵³ as well as reflection and self-assessment on the part of the student.

Unlike more traditional assessment that usually relies on the examination as the sole means of quantifying student work and "constructs learners as passive subjects, that is, have no role other than subject themselves to the assessment acts of others, to be measured and classified" (Boud, 2007: 17), the collection of portfolio work is not an end in itself but a collection of evidence from an ongoing process. Therefore it is not the product in isolation that matters but both process and product are important. On the other hand, to "develop a portfolio of work the learner requires important cognitive and metacognitive skills such as monitoring, planning, reflecting and self-evaluation" (Klenowski, 2003: 4), regarded as important in a society that values lifelong learning. This wide range of skills recorded and assessed will consequently empower the learner and prepare him/her better for the learning continua which are expected to take place beyond school and thus present a better preparation for employability in a society of continuous and rapid change.

In the specific case of language learning, the language portfolio can allow the students to develop language skills and attitudes as well as promote a critical self-consciousness of their own role as active agents in the learning process, with an ability to assess their own progress, materials, activities and the learning arrangements (Nunan, 1988). What is more, by introducing a portfolio-oriented language learning and teaching approach, the portfolio can be the axis of all curricular

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⁵³ As we have already seen in chapter 2, Biggs puts forward that learning is built based on the activities of the learner therefore teaching should align the teaching method and the assessment of learning activities in such a way that all aspects of the system create a holistic harmony in order to ultimately support learning (Biggs, 2003).

planning and subsequent work done in class. Gonçalves has summed up the relevance of the introduction of the portfolio in language classes to three aspects:

The first one refers to the contextualization of the learning process, that is, a wider linking of the language learning to the situation where it is developed. The second refers to the diversification of the learning strategies and daily class activities, which can meet the different learning styles and personal skills. Finally, due to the longitudinal nature of the portfolio, it can register the difficulties and the progress experienced by the learners. (Gonçalves, 2007:199)

The use of portfolios in assessment reveals itself to be a flexible tool for it can accommodate both the institutional curricular requirements and also the student's learning process, allowing a personal, continuous and holistic training. What is more, if language teachers want to promote the development of learner autonomy, they must involve their learners in their own learning, giving them ownership of learning objectives and the learning process. Self-assessment and reflection also play a central role since reflection is made much easier by using learning plans, lists of vocabulary, drafts of work in progress, reminders of things we must look into (Little *et al.*, 2007).

It is acknowledged that there is a wide variety of portfolio uses, nevertheless it is usual to distinguish between two types of portfolios in language learning: process-oriented portfolios, or learning portfolios, and product-oriented portfolios or dossier portfolios. The learning portfolio usually includes process-related materials, such as action plans, learning logs, drafts of work, comments of the teacher and peers, student reflections, submitted assignments, evaluation criteria and checklists to evaluate progress with regard to explicit learning objectives. It normally emphasises reflective language learning and self-assessment. Dossier portfolios, on the other hand, are used to document learning outcomes usually for the attribution of marks in institutions or for the purpose of documenting language skills when applying for a job (Kohonen, 2002).

Both learning portfolios and dossier portfolios can reflect a vast range of assessment types connected with daily class activities, or with homework and private

study research. The samples may vary from classroom tests, essays, or other samples of different writing tasks, research projects, audiotapes, video-recordings of presentations of oral performances or other learning exhibitions (Klenwoski, 2003; Brindley, 2003).

The use of portfolios for assessment purposes seems to be a reification of the shift in pedagogy that drives the student to the centre of the pedagogical relationship and the parallel shift from a quantitative tradition of assessment to a more qualitative approach bringing forth the emergence of a new model of assessment. The changes in our conceptual framework of curriculum and assessment were also followed by changes in learning theory, that is, in the way we understand how learning takes place. Epistemologically, the paradigm shift involved changing from a static passive view of knowledge transmission to a more active view of knowledge construction that is seen as an interactive, organic process of reorganisation and restructuring by the learner (Klenowski, 2003). As has been referred, constructivist views of learning see the learner as an active interpreter and constructor of knowledge based on experiences and interactions with the environment, where learning is no longer conceived as being a stable but rather as a cumulative process. The student has to be engaged in making sense of new learning and how to integrate it, how to construct it.

With the expansion of access to higher education the range of student ability in classes has soared. Although the population attending classes has been changing for decades, traditional teaching and assessing methods have remained the same in many settings. For many these seemed inadequate because they separated testing and instruction and measured only the final product. Students tended to reproduce what the teacher had transmitted in a one-shot exam, focusing not on knowledge but on the exam technique, thwarting the very nature of learning (Kohonen, 2002; Klenowski, 2003; Biggs 2003; Boud, 2007). Teaching large classes has led to the dominance of multiple choice assessment, true/false alternatives or short answers questions. Standardised tests, while easy to score and reliable for selecting students,

tend to simplify knowledge and emphasise memorization, focusing only on lower level cognitive activities and disregarding independent and creative thinking.

With developments in learning theories, dissatisfaction with quantitative systems impelled the emergence of alternative forms of assessment such as authentic assessment. As Kvale has highlighted, by terming some forms of current innovation assessment as authentic, there is a clear suggestion that traditional assessment is 'inauthentic' because form and content of educational assessment do not match the corresponding tasks to be mastered outside school whereas "portfolio assignments have been regarded as authentic assessments because they have been inspired by assessments in working life" (Kvale, 2007:66).

In order for knowledge to be constructed and enhanced, periodic feedback from the teacher, peers or tutors allows the learners to take stock of how well they are doing and develop metacognitive skills, to interpret the construction of knowledge, and accelerate learning (Hounsell, 2007). Aligning with Boud's concept of sustainable assessment, i.e., "assessment that meets the needs of the present without compromising the ability of students to meet their own future learning needs" (Boud, 2004: 39), Hounsell supports the idea that feedback should also be sustainable, in the sense that it should contribute to equip the learners to learn for the longer term, prospectively, beyond graduation, moving towards their careers. This sustainable feedback would involve metamorphosing feedback into *feedforward*, evidencing a clear concern with employability and lifelong learning.

On the whole, for assessment to be meaningful it has to be strategically integrated in the learning process in the form of authentic tasks. These tasks should be perceived as useful by the learners, so as to lead to more desirable deep approaches to learning and provide long-term learning outcomes based on a *looking into the future assessment* or sustainable assessment (Bárbara, 2009).

3.7.3 The Portfolio Matrix

Within their English I handouts, the students received a portfolio matrix, Table 17, as guidelines that were explained to them item by item to help them build their portfolio during the two modules of Technical English. The first part would include their identification, as in an identity card, the filled questionnaires on their working habits, attitudes towards assessment and a small essay where they would describe their cognitive profile based on the metacognitive questionnaires they had been given and the group work carried out in the classroom. In the first module, the essay describing the student's biography - Biodata - was to be a portfolio assignment and as such would be graded on a scale from 1 to 5 like all the other 4 portfolio assignments. The second portfolio assignment was to include all graded tests or pieces of work in their original form and their corrected version; the third assignment was to present a glossary on English for science, and the fourth assignment was to produce pieces of evidence of independent work that would correspond to their completion of the four-week study plan. The portfolio assessment with its 4 parts would correspond to 10% of their mark in the first module and also 10% of the second module. So, on the whole, all portfolio work to be done at home would be 20% of a students' final mark in the two modules involving the learning of the English language. The Communication module had no portfolio format, just pieces of work of continuous assessment. Assessment of the English Modules would be achieved as shown in Table 18.

Table 17. Portfolio Matrix

ENGLISH LANGUAGE PORTFOLIO				
TABLE	OF CONTENTS	DESCRIPTION OF CONTENTS		
I. LEARNER'S PROFILE		Filling-in metacognitive questionnaires handed out by the teacher		
II. CLASS ASSIGNMENTS	MODULE 1	 <u>Biodata Writing</u> - Factual information about life and work experiences (family background, formal education, jobs, hobbies, etc.) as well as items involving opinions, values, beliefs and attitudes (plans for the future, reasons for choosing the course, etc.) <u>Self-Assessment Test</u> on Science and Technology Vocabulary <u>Group work</u> on Describing Experiments <u>Written text</u> on the science-related careers the students wish to pursue <u>Assessment Test</u> on Science and Technology Vocabulary (Peer Assessment) <u>Oral presentation</u> of a research work on a topic of the students' choice <u>Portfolio Evaluation</u> 		
II. ASSI	MODULE 2	Reading Comprehension test Summary Writing of an article on a scientific subject Attending a Lecture – show the capacity to understand a non-native speaker of English delivering a lecture on a specialised issue, take notes and write a summary (5 points) Poster Design and Presentation – Group work – show the capacity to be creative about an innovative topic, treatment or product Portfolio Evaluation		
III. INDEPENDENT STUDY		Learning Plan - Definition of goals, focus, strategies, materials, learning activities. Examples of learning activities: practise conversations with a partner, listen to songs reading the lyrics, read science magazines, write film synopses, etc. Remedial work: grammar exercises; extra written work.		
IV. SELF-ASSESSMENT OF COMPETENCES IN ENGLISH		Periodical checking of progress madeChecklists		
V. GLOSSARY		English-Portuguese glossary of the words the student considers to be important for his/her vocabulary development. Portuguese-English or English-English glossaries can be complementary when describing technical concepts.		
VI. OVERALL REFLECTION		 Identification of problems and difficulties and remediation carried out A global judgment of the course unit development, the teaching and learning process and presentation of suggestions to improve methodology 		

Table 18. Assessment of the English Modules

Assessment of Modules of Technical English I and Technical English II					
1 st Module : 1 essay 20% Mini-test(s) 40%	5 points	Portfolio: correction of essay 1 Biodata or 2 What makes a good student or 3 Learning history of Strategies for learning a language successfully correction of all extra work presented to the teacher during classes.			
Oral presentation 30%	5 points	Independent work			
Portfolio 10% (20points)	5 points	Glossary of English Portuguese on Science and Technology			
-	5 points	Overall portfolio, considering plans, reflections, etc			
2 nd Module : 1 lecture 20%	5 points	Portfolio: correction of lecture summary; correction of all extra work presented to the teacher during classes.			
Mini-test(s) 30% Poster presentation 40%	5 points	Independent work			
Portfolio 10% (20points)	5 points	Glossary of English Portuguese on Biotechnology			
-	5 points	Overall portfolio, considering plans, reflections, etc			

As classes were very large at the beginning, reaching almost 30 students per class, it became obvious that negotiation was needed in terms of class assignments for weeks were scarce, many explanations or tutorial discussions had to be provided to students who were not used to working with portfolios. In the first module, the result of our negotiation was that out of the seven items of assessment we only carried out three: biodata writing, oral presentation, and portfolio assessment. A fourth assignment - a mini-test of one hour, the duration of the test was imposed by the

institution - was conducted in the last class encompassing all vocabulary and grammar studied plus an open question on one of the issues dealt with, trying to make up for what might be lost in the negotiation. Out of the four topics discussed briefly and orally in group work (Biodata, What Makes a Good Student, Personal Learning History or Strategies for Learning a Language Successfully), students chose to write and be assessed on their biodata, probably because it was the most appealing and more simple to write about. Nevertheless, some included their learning histories in their independent output in the portfolio while others decided to include part of their learning histories in their module reflections.

The overall reflection was only done by some students although it could be done in English or in Portuguese. The choice of using the native tongue was exactly to prevent students from presenting no reflection on the argument that it would be too difficult to express what they really felt in English. Also, given the lack of proficiency of some students, it would be an opportunity to include their voices as well.

At first it was mandatory that the independent work to be included in the portfolio was to be corrected by the teacher first, but as students did not present practically any extra material to be corrected, or if they did it was very hard to correct it all on time, there was a later negotiation in which they could include all that they had produced during those weeks and I would later correct them in the first portfolio correction. It became clear that for many this would involve delaying their English study and delivering work on top of their deadline without much reflection on what they had done. But hopefully, they would work better for the second module and its deadline which involved the end of the year.

3.8. The Participants

3.8.1. Learners' profiles

"Instruction begins when you, the teacher, learn from the learner. Put yourself in his place so that you may understand what he learns and the way he understands it."

(Kierkegaard, 1848)

It became commonly accepted amidst the academic world that in the XXth century we evolved from a Teaching to a Learning Paradigm (Fear *et al.*, 2003; Hills, 2003; Grauerholz, 2001), and a growing interest in the role of individual differences in the learning process has been encouraged since the 1960's (Biggs,1987; Marton & Säljö,1984; Boekaerts,1999; Jeffrey, 2008). It was concluded that students varied in their characteristics, therefore teaching practices should be adapted to take account of these differences. Students' learning styles have been described as the characteristic modes of organising and controlling cognitive processes. It was also acknowledged that in a time of unprecedented growth in knowledge, learning content was important but learning how to learn was taken to be equally vital. This presents a challenge for teachers and for schools who will need to focus on two things simultaneously: teaching the substance of subjects and helping students learn the ideas and practices associated with the process of learning itself (James & McCormick, 2009).

Felder (1993) has been particularly devoted to mapping the different learning styles in college science education. He typified the dimensions of learning style into:

1) sensitive vs intuitive; 2) visual vs verbal; 3) inductive vs deductive; 4) active vs reflective; 5) sequential vs global. But more important than defining what each learning style involved he presented solutions for the mismatches between the prevailing teaching styles in sciences courses and the learning styles of most of the students. His point is not to address 32 different learning styles simultaneously in a

single class, but address each side of each learning style dimension at least some of the time to promote effective learning (Felder, 1993: 298).

Learning styles were soon related to L2, specially recognised as the personal factors that facilitate L2 learning. Generally, these language learning behaviours became known as learning strategies (Wenden, 1987: 6-7). Oxford, who has been particularly prolific on the subject, has defined in a nutshell the relation between the two:

Language learning styles (general approach to language learning) has been identified as another key determiner of L2 strategy choice. When allowed to learn in their favourite way, unpressured by learning environment or other factors, students often use strategies that directly reflect their preferred learning. For example, students with an analytic learning style prefer strategies such as contrastive analysis, rule learning, and dissecting words and phrases, whereas students with a global style use strategies that help them find the big picture (i.e., guessing, scanning, predicting) and assist them in conversing without knowing all the words (i.e., paraphrasing, gesturing). Visually oriented students use strategies such as listing, word grouping, and so on, whereas those with an auditory preference like to work with tapes and practice aloud. (Oxford, 2003:127)

Considering the students under the Bologna paradigm to be at the centre of the process and that the process implied change, part of the first toolkit of the module of Technical English was focused on how people learn, what characteristics distinguish each other when in a learning environment, discussing the Learning Styles typology worksheets (Table 19. and Table 20.) to be completed at home together with the Index of Learning Styles questionnaire by Barbara Solomon and Richard Felder, whose site was provided if the students wished to pursue their knowledge in getting to know more about the topic, and hopefully about themselves⁵⁴.

Further research on learning styles could be accessed at http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Learning_Styles.html;http://www.teachingenglis h. org.uk/think/methodology/learning style.shtml.

Table 19. Learning Styles typology by Felder and Solomon

LEARNING STYLES 1

What types of learning styles are there?

There are many ways of looking at learning styles. Here are some of the classification systems that researchers have developed.

The four modalities

Students may prefer a visual (seeing), auditory (hearing), kinesthetic (moving) or tactile (touching) way of learning.

Those who prefer a visual learning style	Those who prefer an auditory learning style
look at the teacher's face intently	like the teacher to provide verbal instructions
like looking at wall displays, books etc.	like dialogues, discussions and plays
often recognize words by sight	solve problems by talking about them
use lists to organize their thoughts	use rhythm and sound as memory aids
recall information by remembering how it	
was set out on a page	
Those who prefer a kinesthetic learning style	Those who prefer a tactile way of learning
learn best when they are involved or active	learn well in hands-on activities like projects and
find it difficult to sit still for long periods	demonstrations
use movement as a memory aid	use writing and drawing as memory aids

Source: Felder, http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Learning_Styles,1993

Table 20. Learning Styles typology by MacCarthy

LEARNING STYLES 2

Field-independent

Field-dependent

They can easily separate important details from a complex or confusing background. They tend to rely on themselves and their own thought-system when solving problems. They are not so skilled in interpersonal relationships.

They find it more difficult to see the parts in a complex whole. They rely on others' ideas when solving problems and are good at interpersonal relationships.

Left-brain dominated

Right-brain dominated

Students who are left-brain dominated... Those who a

...are intellectual

...process information in a linear way

...tend to be objective

...prefer established, certain information

...rely on language in thinking and remembering

Those who are right-brain dominated...

...are intuitive

...process information in a holistic way

...tend to be subjective

...prefer elusive, uncertain information

 $\ldots rely$ on drawing and manipulating to help them

think and learn

Innovative learners

...look for personal meaning while learning

...draw on their values while learning

...enjoy social interaction

... are cooperative

...want to make the world a better place

Analytic learners

...want to develop intellectually while learning

...draw on facts while learning

... are patient and reflective

...want to know " important things" and to add to

the world's knowledge

Source, MacCarthy, http://volcano.oregonstate.edu/education/livingwmsh/is/4mat.html, 1980

However, what was carried out as practical work in class was a fairly simple exercise, devised by Sinclair and Prowse from the manual *Activate your English*⁵⁵, which in a simple manner, divides the class into 4 language learning types, namely: the worker, the player, the thinker, the feeler (Table 21). The purpose of a 14 question quiz is to help the student identify which type s/he is most likes and think about other ways of learning s/he might want to try. Apart from the class results and discussions, I recommended that in the portfolio, together with the student biodata should be included a description of what language type suited him/her best, in order to give more details about the person building the portfolio.

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⁵⁵ Sinclair, Barbara & Prowse, Philip (1996) *Activate your English. Intermediate Coursebook: A Short Course for Adults.* Cambridge: Cambridge University Press.

Table 21. Learner typologies according to Sinclair and Prowse

Table 21. Learner typologies according to Silicial and Frowse					
The worker	The player				
The worker is someone who:	The player is someone who:				
- likes organisation & planning	- likes being with people and enjoys variety and change				
- enjoys doing exercises & drills	- prefers listening and speaking to reading and writing				
- would like to work with the teacher all the time	- prefers playing games and working in groups to writing				
- has good study habits, is punctual and is good at	exercises				
homework	- prefers competition and excitement to practice and				
- is comfortable with facts & routine	homework				
- likes doing tests and being corrected	- prefers lots of different activities to doing long projects				
- prefers writing to discussions or drama	- enjoys participating and performing				
- dislikes doing project work	- hates doing the same thing lesson after lesson				
- dislikes playing games or working in small groups	- would like to do different things all the time				
The thinker	The feeler				
The thinker is someone who:	The feeler is someone who: is good at and enjoys				
- wants to know why and is always looking for rules and	learning languages				
principles	loves interacting and group and pair work				
- works independently and learns from individual study	is interested in talking about emotion and personal				
- enjoys listening to lectures and doing projects and	topics				
longer written work	enjoys being with people and learns through				
- is very hard-working and always wants to get things	cooperation				
right	prefers taking part in discussions to studying rules and				
- prefers reading to taking part in discussions or group	doing exercises				
activities	likes reading, and drama				
- likes getting feedback from the teacher	is very sensitive to criticism and needs individual				
- sometimes does not complete work and is often	feedback				
dissatisfied with it as it may not be perfect	prefers speaking to writing				

Source: Sinclair & Prowse Activate your English,1996

Basically, I was trying to find more than just know what grade the student might have in the end according to the placement test or what European level would achieve, but to build a profile of his/her characteristics. Moreover, by focussing on the nature of learning, the learning process, and the students as learners I was trying to enter the domain of their metacognitive knowledge or their learners' beliefs (Wenden, 1999; Cotterall & Murray, 2009; Wang et al, 2009) and get a description of how they perceived themselves as learners.

Unfortunately, out of the 41 portfolios only 25 included a description of the language learning type. 10 of the descriptions belonged to the worker typology, 8 to the feeler, 4 to the thinker, 1 to the player and 2 who just referred to learner's styles in general. The majority of the students just listed the descriptions in Table 22 and added more characteristics from Table 20 and Table 21, not including any particular details about themselves. The exceptions are reported below:

[after naming the main qualities of the worker ...] As a 'worker', I think there's time to play and have fun. But when it comes to work it must be well done. I do not like being stressed because of not doing things at the right time and not achieving my goals. I really like working hard and being challenged! Challenges excite me, make me feel I have a good reason to live – life is a challenge! And I believe it's worth working hard and doing our best to be successful! A. V.

I am included in the 'worker' type because I like organisation and planning. However, I think that I am more the 'feeler' in some aspects because I love interaction, group and pair work. I like talking about emotions and personal topics, I prefer speaking to writing and finally I enjoy being with people and learn through cooperation. In conclusion, I think that I don't have only one learning type, but I am a mixture of the 'worker' and the 'feeler'. S. S.

My profile is the 'feeler'. I enjoy a lot learning languages and I'm interested to talk about emotions. But I am a mix of many types of learner. I'm visual and also tactile, I

like to have pictures, images... something that could be touched to be remembered like sentences, words... I prefer to work with partners because it's more interactive and productive, but sometimes I like to study alone, to be quiet, concentrated. It all depends on my feelings at the moment. My learner profile is difficult to do because I'm a piece of everything. But I am connected to everything that has no rules, to freedom. I prefer speaking to writing. Learning is everything that I have been exploring. M. M.

My learner profile is the 'feeler' but I don't agree. I am not like that. I don't like group work and talk about personal things with everyone. I prefer to be quite and keep the ideas for myself and share them only when it's necessary. And I definitely prefer writing to speaking, I become nervous when I have to talk to an audience but I always show my opinion even if it's different from the majority. I think I have more of the 'player' and the 'thinker'. I hate routine and to do the same thing for a long time. I like to experiment new things and learn but not always by the common way, sometimes it is so boring and we don't learn all in the same way. I love reading, all kinds of book or scientific magazines. I prefer to study alone and note down my doubts, so I can clear them afterword with someone. R.S.

I think I prefer working independently and I really am willing to learn. I am not a very organised person (unfortunately) but I usually manage to do everything I have to. I always try to understand what I do wrong and I think that's the best way of learning. I prefer working alone but I like to help other people studying. Learning English can be very interesting. We can learn lots of things from music lyrics and from TV. I love to read in English and I think that is important to learn new vocabulary. Lately I've been reading science magazines and trying to improve my scientific vocabulary. Though I'm supposed to be a 'feeler' and prefer speaking to writing, I really enjoy writing in English. I don't focus easily so, to work for several hours, I really have to enjoy what I'm studying. S.C.

In order to have a better awareness not only of how students learn, and especially how they learn a second language, a questionnaire of work habits was used so as to have a better assessment of the planning, revising, and interaction of students beyond the classroom regarding the work behaviour towards their study (Appendix 2.) From the results of that questionnaire it was possible to understand that 51% of the students frequently studied alone, but 54% occasionally studied with classmates. Regarding planning their studies beforehand, the majority 51% admitted to frequently having a plan, 13% always had a plan and 36% admitted that they occasionally had a plan. In terms of capacity to work for several hours, frequently was the most chosen adverb with 49%. When it comes to revising class topics before a new class, only 51% occasionally did it but regarding revising for tests, 54% admitted that always did it. When studying a subject 49% stated that they frequently tried to memorise every topic focussed in class, whereas 46% stated that they occasionally did a summary of the classes and memorised it. Regarding the clarification of doubts, 67% of the students resorted to frequently speaking with classmates and 59% occasionally consulted the teacher for complementary explanations (Table 22).

Table 22. Work habits (results expressed as percentages)

	Never	Occasionally	Frequently	Always
1.You study alone	0%	18%	51%	31%
2. You study with classmates	3%	54%	43%	3%
3. You study by setting up a work plan	0%	36%	51%	13%
4. You study by having no work plan	21%	49%	26%	5%
5.When you study you work for several hours	0%	41%	49%	10%
6.When you study you take a lot of breaks	8%	53%	34%	5%
7. You revise before every new class	8%	51%	38%	3%
8.You revise before tests	3%	18%	26%	54%
9. You try to memorise all the class topics	3%	26%	49%	23%
10.You make a summary of the class topics	0%	46%	38%	4%
11.To clarify your doubts you speak to classmates	3%	13%	67%	18%
12.To clarify your doubts you ask the teacher	3%	59%	28%	10%

Since they had been working together for 10 weeks with the Communication teacher, the group seemed very cooperative and independent, so the great question was how I could help my students learn how to learn as well as develop and understand their learning profiles in a systematic way. A leap was needed to bridge the gap from awareness of learning styles and work habits to learning strategies to correct eventual weaknesses in language learning and develop their autonomy skills. "Amongst the factors which determine students' readiness to benefit from autonomy, are their previous educational experiences and their underlying assumptions of what language learning entails and who they are as language learners" (Mozzon-McPhearson & Dantec, 2006: 142).

The concept of learning strategies has been widely explored (Wenden & Rubin,1987; Oxford, 1990; Wenden 1991; Dickinson, 1992; Chamot & O'Malley, 1995; Cohen, 1998; Ehrman *et al.*, 2003), and importance has been given to the role of the teacher in providing strategies that the learner can best identify with and learn more effectively. In order to help students who had had no previous experience with self-directed learning, Tables 28 and Table 29 were built based on the famous Oxford's Strategy Inventory for Language Learning (SILL)⁵⁶.

Although most of the group was made up of 'workers' who recognised that planning and organisation were part of their characteristics and 51% admitted that they frequently worked with a plan, none had ever worked with a 4 week plan (Table 23) where so much detail was required. They not only had to be responsible for the strategies that they chose but had also to assess in percentage how successful their study had been and reflect at the end of the learning cycle whether the goals had been achieved and what feelings they had towards independent learning.

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⁵⁶ Oxford's Strategy Inventory for Language Learning (SILL), (1980: 277-299) and on adapting material provided by Alice N. Lee, from Kanda University, Japan, at a presentation named "The Teacher's Role in Developing Students' Capacity for Self-Directed Learning".

Table 23. End of independent study Reflections

	End o	f independe	ent study Ref	lections			
1. What did I study?							
2. How did I study?							
3. What materials did I	use?						
4. Where did I study?							
5. What did I add to my			/learning?				
6. What learning activit	ies/ strategies	did I use?					
Speaking	Listening		W	riting			
Spelling	Vocabulary		Gr	ammar			
Pronunciation							
7. How successful/usef	ul/enjoyable w	as my study	? Did I use the	e time well?			
Successfulness	100% 75%	50% 25%	0%				
Usefulness	100% 75%	50% 25%	0%				
Enjoyment	100% 75%	50% 25%	0%				
Time management	100% 75%	50% 25%	0%				
8. What problems did I	8. What problems did I have? How did I try to solve them? Did I ask for help?						
9. How and what to stu	dy in the next	4 weeks:					

Autonomous language learning has long been associated with individualisation (Benson & Voller, 1997: 6), but lately the social dimension of autonomy has risen in importance in the field (Benson,1996; Sinclair, McGrath, Lamb, 2000; Dam, 2000; Little, 2000). While 'individual autonomy' stresses the importance of individual learning styles over collaborative learning; in contrast, 'social autonomy' recognises that awareness raising and learning takes place through interaction and

collaboration, as well as through individual reflection and experimentation (Sinclair, McGrath, Lamb, 2000: 12).

Therefore in the independent study learning plan, it was taken for granted that the student would not work alone but with a partner or partners and named them from the beginning. However, only 13 of the students worked with a classmate, although some specified working with friends in pair work activities.

To quantify the goals the students intended to achieve, considering the 2 learning plans that were collected regarding 8 weeks of learning, the great majority was primarily concerned with mastering technical vocabulary in the area of biotechnology 41% (Figure 5). In second place, their worries were about speaking, fluency with 29%; in third place grammar and accuracy with 15% followed by writing with 13%. 2% of the students wrote general statements about English learning improvement.

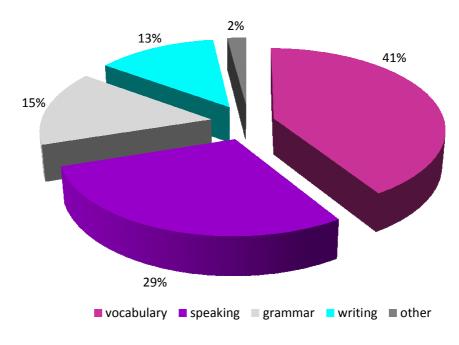


Figure 5. Students' four-week goals

In accordance with their goals, their choice of study focus, regarded reading, the learning of new words and expressions by analysing scientific articles, which amounted to 35% (Figure 6). Although speaking was their second great concern, the study focus that is second to reading is the practise of grammar 24%. Many students pointed out how nervousness affected their performance in oral presentations and so a focus of their training was on speaking 18%. 15% of the students found that their study focus should be writing. A few students showed that their energy would be spent in revising class material 4%, some others showed concern for being able to listen properly 2%, and only one acknowledged that the focus of her study would be dealing with her difficulties and mistakes.

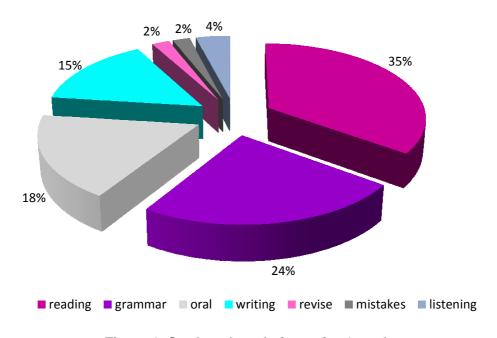


Figure 6. Students' study focus for 4 weeks

In terms of describing how they would conduct their learning, 19 students did not fill in any information whereas the other 22 produced either dates and specific activities together with notes, or just very brief remarks, such as: first week – study grammar. 13 of the students understood the independent study file as an opportunity to record their homework assignments:

Table 24. Student sample work 1

- 1) Study for my biodata. Write texts about myself.
- 2) Do the correction of the biodata and the dialogue between two students.
- 3) Study for the oral presentation. The vocabulary.
- 4) Study grammar, do exercises to study for the grammar test.

However, the majority of the students who described what they had done in those weeks gave specific information that allowed it to be understood as independent from classes but complementary, of which the samples in the portfolio would be the evidence of their extra work (Table 26).

Table 25. Student sample work 2

	•
February	Chose a scientific article and translated it: "Why would scientists want to create a hybrid human-cow embryo?" by Julia Layton
	Studied the lyrics of "Earth Song" by Michael Jackson
	2. Read and translated some scientific words from an article of the internet "The human genome". Did some grammar tests on the internet from sites suggested by the teacher.
	3. Read an article:"Cancer drug: how good is good enough?"
	Saw the film and wrote a synopsis of "Blood Diamond".
March	4. Tried to improve my vocabulary. Listened to music and read the lyrics trying to understand the words and how they are pronounced.
	Read a text for a presentation in Microbiology "Solutes and water activity: oxygen".
II .	

Although the majority of the students did not give much detail about the activities and strategies chosen, or even use the numbers of the activities in question 6, in End of Independent Study Reflections, Table 24. In the event they had used several activities as had been proposed, they all just listed the most common

strategies, e.g. speaking – talking to a partner, listening – listening to music without using the examples in Table 27. However, the paucity of their writing was outweighed by their capacity to assess and quantify the study they had conducted and in a very positive manner.

As science students it was perhaps more appealing to them to quantify their study reflections than to write about the goals achieved, the management of the learning or the feelings about cycles of learning (Table 27). Considering the percentages expressed, the majority of the students - 47% - found that their independent study had 50% success. Together with the 41% that found that the rate of success was 75%, we have an overwhelming 88% of students stating that the independent study they carried out in 2 plans, 8 weeks, was either very successful or successful. Regarding usefulness, the majority - 46% - classified it as very useful, whereas 28% considered it useful, and we have an expressive 72% of the students' opinion, the bulk of the class. When quantifying the enjoyment had with the activities, strategies chosen, the majority - 43% - opted for an average 50%, neither too low nor too high, although 35% considered they had had great enjoyment in the activities. Some of the reflections related the difficulties with time management to achieve the goals, contributing to the stress of the work overload of the last weeks of the academic year imposed on the students, suppressing part of the capacity of enjoying their discoveries. Time management is clearly where the students show a bigger percentage on a mid level - 53% and where negative results, 25%, reach their highest percentage 12%.

Table 26. Independent study Activities / Strategy ideas

- 1. Talk with a native speaker
- 2. Read/speak aloud listening to a tape
- 3. Practice Q&A with a partner
- 4. Ask questions/speak in English in Class
- 5. Make friends with the ERASMUS students
- 6. Greet classmates and teacher in English
- 7. Remember set phrases/expressions and use them

Speaking

- 8. Imitate the speech of native speakers
- 9. Have a conversation in English
- 10. Use gestures when you can't say something
- 11. When you don't know how to say something make up a new word
- 12. When you don't know how to say something use another word that means the same
- 13. Speak using a loud voice
- 14. Practise the same conversation over and over
- 15. Try to communicate without worrying about grammar
- 16. Conduct imagery conversations
- 1. Listen to songs on CD
- 2. Listen to a conversation in a film
- 3. Listen to a film while reading English subtitles
- 4. Listen to a film without reading the subtitles
- 5. Write examples of sentences that you hear
- 6. Watch TV shows or movies not reading the subtitles

Listening

- 7. Take notes of the sentences you hear 8. Write a summary of what you have heard
- 9. Listen to a tape/conversation and guess what people are going to say next (predict)
- 10. Write down some of the words you hear from news, songs, etc
- 11. Listen to English songs without looking at the lyrics
- 12. Listen to English songs while reading the lyrics
- 13. Use imagery while listening
- 1.Read aloud many times
- 2.Read and memorise example sentences
- 3.Read simple sentences
- 4.Read an easy book/ picture book
- 5.Scan the text the first time then read it again
- 6.Read without looking up words in a dictionary
- 7.Don't look up every word in the dictionary
- 8. Summarise the sentences you read
- 9. Try to guess the meaning of unknown words

Reading

- 10.Read an English newspaper
- 11.Read the lyrics of a song12.Read short-stories easy to read
- 13. Try to read for the mains ideas without using a dictionary
- 14. Pay attention to the subject and verb phrases and try to guess the content
- 15. Try to read the subtitles of a movie without the sound you provide the sound
- 16. Don't worry if you don't understand every word, focus on the main idea.
- 17. Read technical papers available for your course at the library
- 18. Keep a record of the new words that you find, separate them into categories or topics
- 19. Copy part of the context of the new word to your records
- 20. Find mnemonics for technical words

Table 26. Independent study Activities / Strategy ideas

- 1. Try to understand the grammar rule
- 2. Try to guess the rule of grammar in a structure
- 3. Do a lot of exercises in your grammar book
- 4. Try to apply the grammar rule when you speak
- 5. Try to apply the grammar rule when you write
- 6. Try to do exercises in which you have to correct grammar mistakes
- 7. Try to pay attention when other people correct you materials to learn by imitating them
- 8. Don't repeat corrected sentences if you do not understand the correction

Grammar

- 9. Write texts in which you apply the grammar rules you have learned in your course
- 10. Write the corrections for your 2nd version of portfolio work paying attention to the teacher's suggestions
- 11. Copy set phrases/ structures you may use in the classroom
- 12. Build a plan to explore structures not studied
- 13. Frequently revise the grammar structures you have learned
- 14. Try to automatise structures
- 15. Ignore your grammar mistakes when you are speaking to build fluency in your discourse
- 16. If you are aware that you've made a mistake and want to correct it, do it immediately
- 1. Organise a plan for writing every day, e.g. a learning diary
- 2. Revise what you have written and elaborate a 2nd version
- 3. Spend as much time in brainstorming as in writing
- 4. Have a clear outline of what you want to say
- 5. Do research for the vocabulary you want to use: first using a Portuguese/English dictionary and after an English/English dictionary, preferably online
- 6. After writing save some time for proofreading
- 7. Copy sentences and short paragraphs from authentic
- 8. Write short paragraphs about topics that are important for your course

Writing

- 9. Write notes from lectures/films and then write summaries
- 10. Write a letter to a newspaper presenting clear arguments
- 11. Write paragraphs/ essays in which you present contrastive arguments
- 12. Write a summary of a book/ film you have read and give your opinion about
- it in a well-structured manner
- 13. Write a creative short-story
- 14. Try to write brief flyers with necessary information only
- 15. Try to write slides in powerpoint with necessary information only
- 16. Find a pen/pal, email/pal and share ideas
- 17. Try to express feelings in writing

On the whole, as learners were developing their knowledge of L2 and were filling their portfolios with their collection of work samples, they were also developing their profiles, increasing their awareness of the way they learn, their own styles, and what motivates them the most. Thus, a partial conclusion can be drawn that by trying to establish a pedagogy for autonomy an attitudinal change in the students became necessary. Part of Holec's definition of autonomy (1980) may fit the roles the students performed in this process: they took charge of their own learning, held responsibility for, not all, but part of their learning and many decisions concerning aspects of their learning, i.e. determining the objectives, defining the contents and progression, selecting methods and techniques to be used, monitoring the rhythm, the time and the place where they learned, evaluated what they acquired.

Table 27. Self-assessment of study (results expressed as percentages)

	100%	75%	50%	25%	0%
Successfulness	3%	41%	47%	9%	3%
Usefulness	13%	46%	28%	10%	3%
Enjoyment	11%	35%	43%	7%	4%
Time management	2%	32%	53%	12%	2%

3.8.2 Beliefs questionnaire

Linguists have appropriated the studies of the American psychologist Flavell on metacognition and applied them to language learning as an illustration of his model of cognitive development. The learner's beliefs knowledge, also called metacognitive knowledge (Wenden, 1999), has become an important area of research, especially to understand what the learners know about themselves, what factors act and interact to affect learning (Flavell, 1979), what decisions they make about their learning (Cotterall & Murray, 2009) making all elements essential for successful autonomous learning.

As Wang *et al.* (2009) have pointed out, metacognition has several virtues for it focuses on the role of awareness and helps the learners become active participants in the process. It also helps the teachers to promote self-appraisal and self-management skills which should trigger not only cognitive development but also greater motivation.

Through the beliefs questionnaire (Figure 7) it was possible to continue to characterise the group, particularly in a series of issues about independent learning and autonomous work. The students were asked to complete this questionnaire only once because the results were already very objective, well-defined and conclusive right in the second week of classes (Table 28).

WHAT KIND OF LEARNER ARE YOU? (QUE TIPO DE APRENDENTE É VOCÊ?) N.º Name: Choose from (1) the lowest score to (5) the highest score. [Escolha de (1) a classificação mais baixa a (5) a classificação mais alta] 1. Are you afraid of taking the initiative in your own learning, i.e., of going further than what is normally asked of you? 1 2 3 4 5 (Receia tomar a iniciativa na sua aprendizagem, isto é, ir mais além do que é normalmente esperado de si?) 2. How self-confident do you feel, especially in your academic work? 1 2 3 4 5 (Quantifique o seu grau de auto-confiança, em especial no seu trabalho académico) 3. What level of interest and motivation do you have? 1 2 3 4 5 (Quantifique o seu nível de interesse e motivação) 4. How able are you to co-operate with others? 1 2 3 4 5 (É capaz de cooperar com outros colegas?) 5. Do you like to participate in classroom events? 1 2 3 4 5 (Gosta de participar em actividades na sala de aula?) 6. How willing are you to discuss your progress with others? 1 2 3 4 5 (Está disposto a discutir o seu progresso na aprendizagem com outras pessoas?) 7. How flexible are you in adapting to: (Quão flexível é à adaptação a:) new ways of learning (novas formas de aprendendizagem) 1 2 3 4 5 new learning environments (novos ambientes de trabalho) 1 2 3 4 5 new classmates (novos colegas) 8. Have you ever had to establish your own learning goals? Are you able to establish your learning needs? (Já alguma vez estabeleceu os seus próprios objectivos de aprendizagem? É capaz de estabelecer as suas necessidades de aprendizagem?) **9. How do you prefer to learn?** (Como prefere aprender?) by listening passively to lectures (ouvindo passivamente) 1 2 3 4 5 1 2 3 4 5 by reading on your own (lendo sozinho) by discussing work with colleagues (discutindo trabalhos com os colegas) 2 3 4 5 by working in a group (trabalhando em grupo) 2 3 4 by talking to the teacher (falando com a docente) 2 3 4 5 10. How often do you use these resources? (Com que frequência usa estes recursos): the instituition's library (a biblioteca da instituição) 1 2 3 4 5 a public library (uma biblioteca pública) 1 2 3 4 5 1 2 3 4 5 the media (audio-visual resources) the internet 1 2 3 4 5 11. Do you think you are able to be objective in your self-assessment? (Acha que consegue ser objectivo na sua auto-avaliação?) 12. Have you ever carried out self-assessment? What did you learn from the process (Já se auto-avaliou em alguma unidade curricular? O que aprendeu com esse processo?) 13. Would you like to assess your own learning at the end of this module? Please explain. (Gostaria de avaliar a sua aprendizagem no final deste módulo? Explique porquê.)

Figure 7. Beliefs questionnaire

Table 28. What kind of learner are you? (results expressed as percentages)

ltem	Strongly disagree %	Disagree %	Agree %	Strongly agree %	Totally agree %
2. I feel very self confident.	0	4	49	44	3
3. I feel very motivated.	0	0	15	64	21
4. I feel able to cooperate with others.	0	0	8	44	48
7. I am able to adapt to new ways of learning.	0	5	18	56	21
10. I prefer to learn by passively listening to lectures.	4	10	38	38	10
11. I prefer to learn by reading on my own.	0	13	26	51	10
12. I prefer to learn by discussing work with classmates.	0	10	41	46	3
13. I prefer to learn by working in group.	3	10	23	49	15
14. I prefer to learn by talking to the teacher.	0	5	41	51	3

More than 47% of the students felt quite self-confident about their learning (44% strongly agreed and 3% totally agreed with the sentence) and the majority of the group just agreed that they had self-confidence – 49%. On the other hand, concerning motivation, it is quite clear that the group was highly motivated with 64% expressing their strong agreement to this statement and 21% responding to be totally motivated. Overall, an overwhelming 85% felt strongly motivated towards their learning.

In terms of class cooperation, or beyond class cooperation, which was often necessary, the students showed total predisposition for pairwork or group work in which cooperation was needed - 93% (44% strongly agree, 49% totally agree).

The group has also shown flexibility towards adapting to new ways of learning which involves some risk taking, self-confidence, and creativity among other variables. Thus, 56% strongly agreed and 21% totally agreed (77%) in experimenting with new ways of learning.

In reference to the preferred way of learning, passively listening to lectures and discussing work with classmates both had 48% of the highest percentages, so both were at the bottom of the preferences. In third place, learning by talking to the teacher was chosen by 51% and in second place with 61% came learning by reading on their own. The students' favourite mode of learning was working in group with 64% of their choices. Considering these results, it can be assumed that these 41 respondents are moderately dependent on the teacher to obtain information, but mostly rely on their own capacity for work and especially on their capacity to collaborate with their classmates when they work with a goal, such as in group work.

3.8.3. B2 questionnaire

The B2 questionnaire (Annex1) used in this study is part of the European Language Portfolio dossier model 21/2001 elaborated by Ministério da Educação - Portugal 2001 and works as a self-assessment checklist. The checklist has 35 statements divided into five communicative activities, namely listening, reading, spoken interaction, spoken production, and writing. The students have 3 columns to signal what they can do (1), what they can do easily (2), and what they wished they could do (3). 39 students answered the 35 statements in both January 2008 and June 2008. In the January questionnaire (Figure 8) the 'can do' questions competed with the 'would like to do' questions and the number of students who felt confident enough to admit that they could do the task easily was low.

The first 6 statements correspond to listening and statements 7 to 14 to the reading categories. There is almost a balance between what the students feel they can do and what they wished they could do. However, from statement 15 to 27 involving spoken interaction and spoken production, it is clear that the level of self-confidence is lower. Statement 18 – I can participate actively in long conversations about almost all general subjects – reaches the lowest percentage of 'can do' statements: only 20% of the students respond affirmatively to such a comprehensive

statement. Other statements where students also show incapacity are 16, 22, 25 and 32, respectively:

- 16. I can exchange detailed information on facts about subjects related to my interests.
- 22. I can do descriptions with great clarity and detail regarding a vast range of subjects in my area of interest.
- 25. I can orally develop my arguments accurately articulating my ideas logically.
- 32. I can develop an argument in an essay or report, in a systematic way, highlighting the most important aspects without neglecting certain details.

These are precisely, the actions which focus on the area of scientific reference of the students' interest and where they had been put to the test or practice had been more intense (Figure 8).

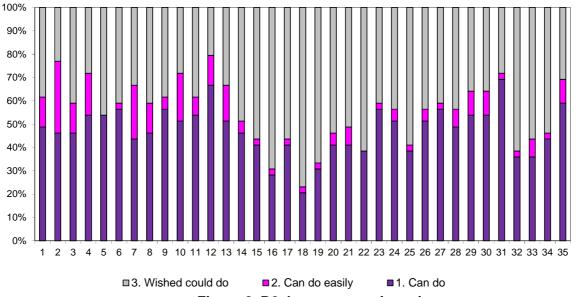


Figure 8. B2 January questionnaire

Conversely, in June (Figure 9), the 'can do' statements are predominant and the 'wished they could do' statements have almost disappeared. The number of students who stated that they can do the tasks with ease is also noteworthy, particularly in questions 2, 3, 8, 10, and 29, respectively:

- 2. I can identify information, ideas and opinions in extended speech and follow complex lines of argument, provided the topic is reasonably familiar and/or related to my work and delivered in standard spoken language.
- 3. I can understand radio documentaries in standard spoken language, identify the state of mind and the tone of the speakers.
- 8. I can understand articles and reports on general issues on which the authors express specific attitudes and points of view.
- 10. I can understand in detail texts directly related to my specialist personal or work interests.
- 29. I can write clear, detailed text on a range of subjects relating to my personal interests, work or studies.

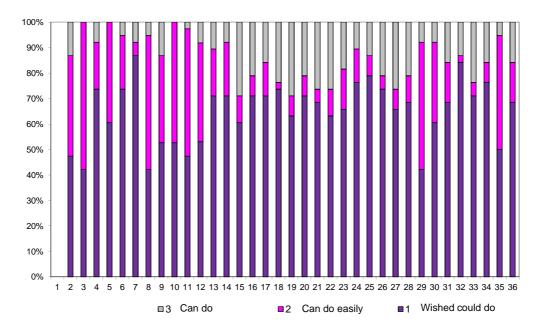


Figure 9. B2 June questionnaire

In his model of cognitive monitoring, Flavell (1979) identifies three different types of metacognitive knowledge: personal knowledge – the knowledge a person has about how human beings learn and process information; task knowledge – the knowledge a person has about the information and resources they need to undertake a task, i.e. the nature of the task, its demands, its purpose; strategy knowledge – the knowledge regarding the strategies which are likely to be effective in achieving goals and undertaking tasks (Wenden, 1999; Cotterall & Murray, 2009; Wang *et al.*, 2009).

In the beliefs questionnaire, Figure 7 above, the metacognitive knowledge that was activated was in the area of personal knowledge, whereas with the B2 questionnaire, we have moved to the domain of task and strategy knowledge. In the January B2 questionnaire, the students answered based on their personal beliefs of what they could or could not do, easily or not, but in the June B2 questionnaire, their answers were based on task experience. Many of the activities on the checklist had been carried out in class or as independent work and the students had been assessed on them. They had had to find the best strategies to achieve some tasks, so strategy knowledge was also present, thus contributing to the difference in results.

Another possibility regarding the difference in the June B2 questionnaire with respect to the 'can do' easily percentages arises from the fact that Portuguese students are not prone to acknowledge merit lest it be considered boasting, but after having been assessed in the above mentioned tasks they felt comfortable enough to admit their skills.

The B2 questionnaire provided the opportunity for student reflection about task difficulty and language proficiency. Having the opportunity to carry out self-assessment on the same statements at the beginning and at the end of the semester, enabled students to develop awareness of their progress towards what they believed they were able to do in L2. It is hoped that such consciousness-raising will reinforce the building of self-confidence, of self-appraisal, encouraging future risk-taking and autonomous endeavours. 'Self-assessment is at the heart of the reflective processes that drive the development of learner autonomy' (Little, 2009: 161).

3.8.4. Needs questionnaire

From the very first classes, the intention to connect ELC with the marketplace, the real world of work was clear, so the tasks carried out were connected to the future needs of graduates after completion of Bologna's first cycle. Either the tasks were directly related to other curricular units of the degree programme or to future needs after graduation. ELC aimed at achieving a cross-curricular dimension that emphasised its importance and reinforced its role as tool for future accomplishments of most first year curricular units.

As a complement to the learner's profiles, a needs questionnaire was designed to probe into what the learners considered to be the most useful activities which required the command of English when performing jobs as biotechnologists in the first weeks of class of Module I. By asking students to choose from 14 activities mostly connected with scientific tasks (Table 29), I wanted to find out what they felt their top priorities in terms of future needs were and at the same time help them to reflect on the contribution of our tasks and modules to that future preparation.

Table 29. Prioritise your needs

To read a novel.

To elaborate a scientific poster.

To write an abstract for a scientific paper.

To speculate about causes and effects of hypothetical situations.

To write a motivation letter.

To keep a conversation about a great variety of subjects at a social event.

To read and understand a scientific article from your field of expertise.

To do a slideshow presentation explaining, not reading, your scientific work.

To write a scientific paper.

To read instructions on electrical appliances.

To read a newspaper.

To understand and give an oral account of a film.

To explain orally to a colleague a complex scientific process in your field of expertise.

To listen, understand, and orally summarise a scientific lecture.

So in the first module, as we were studying what scientists do in laboratories (revising laboratory vocabulary, experiments and measurements), the students were asked to take a leap of imagination and be one of those scientists, preferably graduated and working as biotechnologists, and to set up their top priorities for what would be their needs in the marketplace.

As the students attended the Communication Module for 10 weeks, their meta-cognition had already been worked towards what kind of skills they would need for their profession. They had conducted, among other activities, a role play of an interview for a job application, CV elaboration, etc, which I believe have brought some influence in their choices. The first six choices were the following:

- 1. To write a scientific paper.
- 2. To read and understand a scientific article from your field of expertise.
- 3. To do a slideshow presentation explaining your scientific work.
- 4. To elaborate a scientific poster.
- 5. To explain orally a complex scientific process in your field of expertise.
- 6. To listen, understand and orally summarise a scientific lecture.

It was interesting to find out that first year students realised that in their scientific field, the most important activity is to have work published. Although their expressed goals and study focus were not aimed at writing improvement, but mostly to expanding vocabulary, they clearly acknowledged here the cutting-edge field they were joining. The second choice was in accordance with what the students already did in class and will have to keep doing in their profession since little is translated in biotechnology. The third choice was also related to its importance to the present and how students manage anxiety over oral presentations with great scientific detail. Nevertheless, it is important to notice that they were aware that both orally and in the form of a written poster, scientific information needs to be presented and explained,

regardless of the students' less general aptitude for spoken interaction or spoken production.

3.8.5 Language learning histories and portfolio reflections

"You are what you think you are.

Think more of yourself and there is more of you."

(Schwartz, 1971)

The portfolio design comprehended a lot of information, mandatory and optional, as detailed in Table 17, in the portfolio matrix. Among the information included, all the students' four-weekly learning plans contained their reflections as well as their self-assessment, as has been previously analysed. Some students also included their language learning histories as a supplement to the biodata and learning styles, but it was an optional activity. Conversely, all portfolios had to present an overall reflection of each module. Some students opted for including part of their language histories in the reflection. On the whole, their efforts to reflect and assess their learning generated a large amount of data and comments that are idiosyncratic.

First I will discuss some of the language learning histories from the point of view of what they have in common and then single out particular aspects that some of the stories present. I will then present the reflections using the same methodology.

As Benson (2007) puts it, when we adopt an 'insider perspective', we seek to explore learners' understandings of the educational processes in which they are engaged and of the relevance of issues of autonomy to them. This insider perspective is closely associated with autobiographical and ethnographic methods; these allow a closer examination of what students have to say and present an alternative to the quantification of the answers in the questionnaires presented so far.

A great many students started their English language learning at primary school where the experience was positive because it was based on the learning of

vocabulary, songs, and games. In the 5th grade, they all started their formal learning of the language. For some it was the awakening of an interest to be carried until university; for others, who disliked the language, it was the beginning of a negative personal history. Some decided to interrupt their experience with English gave up learning this language and chose French instead after the 9th year:

At that time [9th grade] I felt quite relieved because I didn't like English and I thought I would never need it in my future life, so when I got to university I was terrified! And all my difficulties appeared again! I had to study a lot and I feel more confident now when I am doing exercises or tests, but I don't feel comfortable in speaking. T.R.

There are some negative histories which turned out to be histories of personal struggle against early difficulties, as in the following examples:

I have started to learn English in the 5th grade and I didn't like it because my teacher was horrible and me and my classmates didn't learn anything. After that I created a terrible feeling for the English class. After secondary school I started to appreciate to listen to music, to translate lyrics. But at this time I did not have English classes. Here I started to learn by myself and practised with my brother who helped me a lot. When I travelled abroad for the first time I saw that I can speak and people can understand me. This motivated me to learn more and use different ways to practise it... A.M.

Although I'm able now to speak English at least in an understandable way, I had several difficulties when I started to learn. I couldn't even do my self-presentation to others in English! I knew that I had to do something about it and I arranged to learn how to speak with a fancy and playful method by watching Disney movies in English with the translation in the same language. This way I developed my abilities, gained new vocabulary and started to understand how the language works! D.P.

Many of the histories where students have been successful describe the strategies they devised to learn beyond the classroom. Noteworthy in this process are the influence of cartoons with subtitles at primary school, and later the appeal of Anglo-American popular culture through music, films, and, in a few cases, books (J.K. Rowling's *Harry Potter* and Deborah Curtis´ *From a Distance*). The internet is also indicated as a source of interest which allows the development of the language, but it seems to be used by students, prior to their coming to university, mainly as a source of fun and of virtual social networking. Some students refer to the amount of time they used to spend updating their online profile in Hi5 in 2007 when this was the most popular website in Portugal⁵⁷.

Some of the students with previous rich educational experiences had attended private language schools, some had participated in student exchange programmes, some had visited relatives in foreign countries, all facts that motivated them to engage in relationships beyond the classroom that contributed a lot to their progress. Their attitude before classes began was already positive, predicting success due to their background. Only one related his success to his capacity to learn the language:

I have always had a good relation with the English language (...) I think I am an 'easy-learner' because it was always very easy for me to understand the rules of the language and gain new vocabulary. I never needed intensive study, I only need to pay attention to the first times and practise a little bit to learn. (...) I make some mistakes sometimes, but I face them without any problem and consider them as something that will help my learning. D.C.

⁵⁷ According to Wikipedia http://pt.wikipedia.org/wiki/Hi5, diffusing information about networking preferences from the world ranking site alexa.com.

The overall reflections of the portfolio are complex and extensive and encompass both the first and second module and all the work carried out be it during contact hours or independent work. Learners ponder on their strengths and weaknesses, whether they felt they had progressed in the semester or not and criticise particular aspects that did not work well. Almost all emphasised how the second module was more interesting than the first but how the workload made it difficult to meet the demands of the class assignments:

The first module was what I expected to revise grammar topics, to gain more practice in presentations, basic knowledge to improve our English. I liked the second module very much. I liked the idea to make a project with our own ideas, maybe one day it can become a real thing. I liked the lectures too and to learn technical terms. I think all the work was productive. M.M.

We did many exercises of grammar, vocabulary and also tried to improve our pronunciation in oral presentations. After all this time I realise that I still have difficulties in talking to an audience and my oral presentations were a disaster. Definitely it's easier to read texts just for me than to face the public. R.S.

I would have done more if I could. However, I think I have more vocabulary. I learnt new ways to learn English and also how to take advantage of this. L.A.

I have many difficulties but I tried to follow the lessons. I have more problems speaking than reading or writing, but I never gave up and carried out all the tasks. I hope in the end to see my work valued, because I know that I worked, even if I didn't achieve all my goals. R.C.

I think the portfolio was a great help for me, specially because I had to do a glossary of technical terms. I have also included basic documents about biotechnology that

complement the glossary and I intend to use it as a tool in the future.(...) I liked to do the poster very much, it was my first poster. I think the idea we presented was very original and the layout was very attractive. A.N.

With these modules I was expecting to recall issues forgotten and to deepen my knowledge, also adapting to biotechnology. I was very willing to engage in all projects. The first module went well. I achieved the objectives in my study plan and some grammar details were revised. The second module was more demanding, so I tried a lot more. I liked the fact that I had to work in a project like the poster. The teamwork, research, information treatment and the presentation, all contributed to an enrichment, not only of grammar and language, but also at a personal level. G.A.

Of all the reflections presented, one in particular was quite poignant (Annex 2) a 12-page commentary comprehending text and images of which this is an excerpt [translated from Portuguese]:

I never liked English. I think I got annoyed by not being able to translate word for word, the sentence was meaningless. And as it was the only way I was able to speak or write it was how it worked for me. Therefore in my secondary school I never got more than 14 or 13... and so on. And I only got these marks because I studied grammar... in reading comprehension there was always the annoying typical sentence 'M. J. reveals a lack of basic knowledge'.

When I realised I was going to study English in my first year of the course [biotechnology], I admit that I thought 'Well, I won't do English and then we'll see'. I still remember the first class... when the teacher said what we were going to do during the semester, the work we were going to have. I got very scared.

But then... I noticed she repeated the same sentence several times:' you are going to interact with me', and I don't know why, I kept wondering about it. In the beginning I joked with my classmates and spent my time saying 'I am going to pass in English because of the interaction'. I also admit that in the beginning I thought the teacher didn't like me (I always thought English teachers didn't like me), but then I overcame that small immature part of me and stopped thinking about it.

Classes went by and finally I noticed I liked English.

I don't know if it was the activities, the way of teaching, or my development. I liked the fact that a 3 hour class seemed like a 2 hour class.

... To conclude my reflection (I don't know whether it is important to mention it or not) the class I enjoyed the most was about connectives, the one I enjoyed the least was about diphthongs. Likewise, the most interesting activity was the e-mail exchange with Japan and the least interesting was the student presentation of verb tenses. Anyway, I enjoyed the Curricular Unit very much (specially the 2nd module), and without any doubt I have developed both orally and in writing. It doesn't seem so scary now to read a whole book in English in Microbiology or having an article in O.Tec.⁵⁸ to write a summary about. It was great to overcome that, mainly because it was at the right time, the first year.

I consider all this to have been a small, big path. Thank you. M.J.P.

In their reflections the students complained a lot about the many assignments they had at the end of the year, as one student called it 'a lot of everything', and how it was impossible to present quality work in such amount. Continuous assessment

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⁵⁸ A course unit entitled Technological workshops – Operações tecnológicas.

had brought an increase in the workload for both the students and teachers in our institution. A brief questionnaire was distributed (Appendix 2) trying to check whether these statements should be valued and also to establish a relationship between the frequency of the workload and its efficiency in terms of results. When questioned about the results of the continuous assessment, (Figure 10), 41% of the students answered that it was carried out in the right amount and the results obtained were worthwhile, 20% considered it was too frequent but the results were worthwhile, whereas 20% considered it was carried out in the right amount but the results were not worthwhile. 6% regarded it as too frequent and the results were not worthwhile. 13% expressed no opinion. So it can be concluded that the majority of the students considered the number of assessments to be balanced when taking into account their results. 23% found the results not worthwhile but not due to questions of assessment frequency.

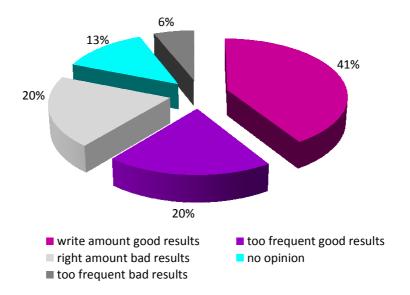


Figure 10. Was continuous assessment in the right amount?

Regarding all the work with the portfolio (Figure 11), 39% considered that it was too much work but the results were worthwhile, 24% believed it was not too much work and it was worthwhile, whereas 22% thought it was too much work and was not worthwhile. 2% claimed it did not involve much work nor did it improve

learning. 13% expressed no opinion. Although the majority of the students acknowledged that the portfolio elaboration involved a lot of work they showed that they were aware that the results outweighed the task input. A considerable part of the group never agreed with this tool of assessment or understood the goal of carrying out work outside the class, and in fact, 6 students, of the total 47, did not present a portfolio, regardless of the lowering of their scores by 20%. Yet they were outnumbered by those who enjoyed creating a portfolio without considering it too much work. Probably among those were the more involved and creative, trying for instance to find an image that would suit each part of the reflection as if it could mirror feelings about learning (Annex 2).

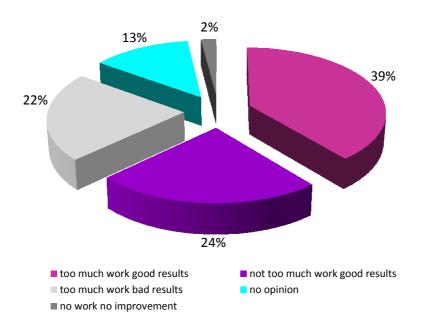


Figure 11. Was the portfolio work carried out in the correct amount?

Regarding the subject matter studied in the modules, there was great consensus: it was considered interesting and useful by 96% of the respondents (Figure 12). 2% considered that it was not interesting but might be useful, the other 2% found it interesting but not useful. The possibility 'not interesting and not useful', as well as 'expressing no opinion' had 0%.

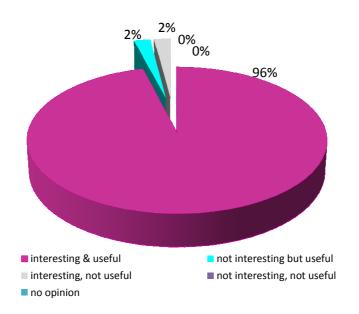


Figure 12. Was the subject matter of the English modules interesting and useful?

3.9 Results of learning

3.9.1. Placement test

In regard to the learners' profiles, their cognitive progression should be as monitored to the same extent as their metacognitive development. The tool used for the latter was the B2 questionnaire. Striving to use a tool that could also be reliable and objective for cognitive progression, a placement test was given to the students at two different times. The goal was to be able to distribute the different individuals according to the ECFRL levels and compare the results with their second performance at the end of the semester to check whether there had been any changes. 44 students did the first test at the beginning of classes and were classified as follows (Table 30).

Table 30. January proficiency results

Level	Number of students
A1	11
B1	18
B2	11
C1	4

In the second test 46 students were present and the classification was established as follows (Table 31).

Table 31. June proficiency results

Level	Number of students
A1	9
B1	15
B2	17
C1	5

Although only minor differences were visible in terms of results in proficiency, 3 students were able to pass from A1 (Basic User) to B1 (Independent User). The difference is more significant in the passing within the level of Independent User from Threshold level to Vantage (B1 to B2), from 11 to 17. In C1 there were no changes, despite having another student in this level, this was one of the learners who had missed the first test and had always revealed high levels of competence. On the whole, 9 students were 'upwardly mobile' regarding the second sitting of the test.

At the beginning of the semester the students had been challenged to check their level by undertaking an exam at a private language institute and use the certificate as evidence of their independent activity and for CV purposes as well. Due to last minute changes in the students' calendar, it was not possible to arrange a compatible timetable between the institute and our reassessment dates. Recently, in

2009, students underwent this test⁵⁹ and it was possible to verify that the majority were awarded a B1 level, not far from the B2 descriptor which underpins part of the new syllabus.

3.9.2. Measuring Proficiency

Comparing the results of the B2 questionnaire with the placement test, the analysis of it reveals a positive although less obvious progression in proficiency than in meta-cognitive awareness. The group of students shows itself to be highly motivated from the very beginning, capable of planning monitoring - and evaluating learning - and recognising progression. Progression both in the capacity to understand that they can carry out a task and to be more involved in it because the whole context is more demanding. However, the results in terms of assessment reflected their general intermediate level; a few weeks were not enough to make up for all the knowledge they had not acquired previously.

Notwithstanding the fact that very few students were able to show progression in the placement test, only two students out of the 47 attending ELC failed to pass the Technical English modules. The students were able to carry out the 8 tasks (4 in each module) which were the object of the continuous assessment with a final mean score of 11.7%. The mean score of the portfolio work was 10.2% in the first checking and it evolved to 12.2% in the second, showing greater concern from the students in preparing their materials, in seeking support from the teacher and also from their peers by learning from the best examples.

Finally, considering the 54 students enrolled, the final rate of success of the group was 83%. When considering only the students who really attended classes, the

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⁵⁹ A protocol was established between ESAC and a language institute to provide for such European level certificate at a symbolic fee. The test lasted approximately 3 hours. It was made up of a multiple choice on grammar, an essay with 3 topics to choose from, and an oral interview. Only 6 students took the test.

rate of success was 96%. The rate of success of the students can be an indicator of their capacity for hard work as well as a measure of their gains in autonomy, as it will be discussed further on.

3.10. Independent work samples

The third part of the portfolio is related to independent work and assembled all the data the student wished to show that represented an illustration of the work undertaken outside the classroom. Here many students also included work carried out in other course units, such as group presentations in Portuguese based on the reading and comprehension of scientific articles which were included in the portfolio and the vocabulary search was embodied in their technical glossary.

Many students opted for writing film synopses or commenting on their favourite television series. As downloading the synopses from the internet was much easier than writing them, the first portfolio samples include abundant downloaded examples and their marks reflect this lack of originality and responsible behaviour. As a response and a challenge all students had to write about the same film – Joe Wright's *Atonement* – and, briefly in a tutorial, discuss their feelings about this film and what aspects were going to be selected for the summary. Most of the students wrote this compulsory summary but many expressed orally their grievances about seeing a film without a happy ending, in British English, with many idiomatic expressions and with a very dense plot. There were no downloaded versions this time.

Occasionally, some students wrote summaries of books they had read. It can be said that almost all were in tune with the 34th 'can do' statement of the B2 questionnaire – I can write a critical summary of a book or a film. The great majority also used the lyrics of their favourite songs be it to translate them, to expand vocabulary or to comment on how the lyrics reverberated on their feelings. Many were those who included remedial work exercises on the grammar presented in class,

often by students, still others preferred to broaden the topics covered in class and added new units. A few included their online practice proficiency tests (Figure 13). The majority included pronunciation exercises, revealing that the oral presentations represented a great challenge to which they were not used to.

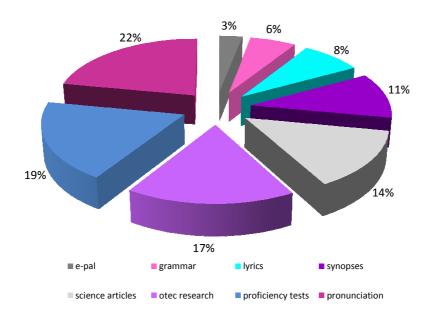


Figure 13. Independent work activities

3.10.1 E-pal project

The main goal of the ELC is to prepare students to read scientific texts, present their ideas orally and in writing but always within a very specific framework where general English is usually kept at bay, except for Toolkit 2 - "Learn how to interact in English", unit 2 of module 1, where interaction is at the core and everyday subjects the main study content.

To counterbalance this feature of ESP courses and give the possibility to students of improving their social and writing skills, the idea of an e-mail exchange with second year students of the University of Electro-Communications in Tokyo was presented. Having established a personal relationship with a teacher of English of

that university – Yoko Munezane – a calendar was established for the project to begin. Unfortunately, it could only be possible for a brief period at the end of the year when both groups of students were taking English.

This was an optional independent activity that was suggested to the students and was received with great enthusiasm. The Portuguese students were given the chance of corresponding with Japanese students through e-mail as a choice, something to enjoy, and hopefully gain in language knowledge. After the first exchange it was generally clear that the first trial for the Portuguese students was to find the meaning of the word sophomore, the other was to find synonyms for excited because it was the adjective massively chosen by the Asians regarding the project. This was a source of weekly amusement that aroused more involvement in the participants. Although the students made comments about their messages, their e-pals' likes, the idea that they were creating about that distant country, they were totally autonomous regarding the texts they were creating. I could only probe the depth of the cultural exchange when I had access to the students' portfolios.

The Japanese students were given our mails to start the exchange and all began by a brief introduction, hobbies and questions about Students' Week, held in the second week of May 2008. I had mentioned to Yoko that May was not a good month to start because the students had many extra-curricular activities, so they all wanted a description of what was this special week. And thus started information exchange about robot building, and the 'Queima das Fitas' parade or gadget building and the study of genetics. In some cases, this exchange evolved to the uploading of photos from their countries, and to the use of Skype, Hi5, and other forms of communication.

It is possible to analyse how they noticed differences, from the most simple and obvious, such as emoticons, or the fact that Japanese did not use MSN but Skype, to the fact that some universities are still for women only, and that most Japanese participants in the project were only-children. Furthermore, it was possible to see how these differences were enticing by reading about someone describing

Japanese rock music and sending files attached, explaining that the song 'Yubisaki' meant fingertip and 'Aoitori', blue bird. Then from this side of the world, the attached ballads of Sara Tavares and Rita Redshoes became ambassadors for Portuguese music.

Generally, the writing skills of both Portuguese and Japanese students were low, sentences like: 'Well, I wish I could have enough English skills to express my feeling...!' could fit almost all participants. Conversely, in a different register it could also be found: 'Do you like music? And poetry? I read a book of Japanese poetry by Matsuo Bashô. It's a different kind of poetry and I liked it very much.'

Among the many constraints we had, not all students who joined the project could contact their e-pal, the Japanese mails were all very similar as if the teacher had given them a model, they were usually short, and as soon as exams started the exchange dwindled.

However, the e-pal project brought another dimension to the portfolio that combined breadth and depth through cultural networking. To quote from one of the students' reflections it brought 'enrichment at a personal level'.

3.10.2 Poster elaboration

According to David Nunan, autonomy is not an absolute concept (1997:193). It may well be that the fully autonomous learner is an ideal and that there are degrees of autonomy. He then presents five levels of implementation of autonomy, i.e., awareness, involvement, intervention, creation, and transcendence as focussed in Chapter 2. In this case study I have tried to find my own way through autonomy, to contrive a preparatory training or pedagogy that would lead to autonomy, or to a certain degree of autonomy, given the new educational framework, keeping these concepts in the foreground.

First, there was the attempt to make the students aware of the goals expected from them and the materials they were using. More than just make them aware of who they are and what their diagnosis might be, it was a priority to get them

involved in finding a path to becoming who they want to be. On the other hand, by intervening and creating, learners can explore Kenny's definition of autonomy "[the] exploration of the self-concept and the realization of personal and group potential" (1993:431), allowing them the opportunity to generate knowledge, as opposed to being passive consumers of it. Finally, to achieve what Nunan terms transcendence – making links between content of classroom learning and the world beyond – can be put into practice by complying with Kenny's premise for more autonomy: "what learners must do is initiate, plan, organize and carry out work on their own" (*idem*).

In order to provide an environment for the students that would allow them more capacity of emancipation, the poster elaboration project brought together many of the aspects I wanted to explore in the context of learning with some degree of autonomy. As I have mentioned in redesigning the course unit, the challenge of the poster was set at the beginning of the 2nd module and attention was drawn that it would represent 40% of the assessment weight of the module. Basically, what the students had to do was a DIY 'toolkit' task: invent a product, treatment, or other, that would revolutionise their field of study and present their innovative idea in the form of a scientific poster.

The general aims of the poster elaboration were: to learn how to produce a scientific poster; to produce a project through collaborative work; to be creative and ambitious; to enjoy the work produced. As support for such general ideas, the students had to check material from the communication module about poster elaboration and transfer their prior knowledge; in ELC tutorials the group and the teacher discussed how their idea and the material research found on the subject could be adapted to their innovative idea and their needs. All the data results, graphs, etc. were invented by the students to justify their inventions and its results to their peers, i.e., their scientific community. In the last tutorial before presentation, which took a whole class, the abstract, introduction, materials and procedures, results and discussion, and conclusions were all checked, so that the posters had been proofread

by the teacher. It was only then that I was informed about the new products, treatments, or other, to arrive in the market.

The 'scientific meeting' brought all the groups, of up to three students, to present and defend orally how their products work, what is the need of the market for such a product, etc. The students were encouraged to take risks to impress their classmates who are also going to assess them, so it was quite common for students build prototypes, bring realia or demonstrate a process, going far beyond what was expected of them.

The more ambitious the project, the more the students searched for experts' advice from other departments who counselled and checked on the feasibility of concrete elements. There is a transdisciplinary feature, a cross- curricular dimension, that encompasses this project, as I have mentioned before. And there is also the transcendence dimension put forward by Nunan, since the students have to go beyond their traditional approach, have to transcend themselves to be able to achieve a task. They have to leave their secure and known path and venture into what I would call autonomous work.

There is also the important role of interdependence – being able to cooperate with others and solve conflicts in constructive ways – that is part of autonomy (Kohonnen, 1992: 19), where the team pools their expertise for the common benefit. This is also achieved in terms of language proficiency, where the more successful support the participation of the less competent speakers.

The possibility of poster elaboration allowed the students to develop their work into the realm of real job tasks not far from what their reality might be and highlighted and enhanced their motivation. It allowed them to apply what they had already learned and to understand that it is possible to achieve results, using some strokes of imagination in realms where science has not yet broken the path. Designing new inventions, solving problems in new ways, being able to choose

unconventional approaches leads to the exploitation of creativity, to critical thinking, divergent thinking, hence autonomy.

Underpinning the poster elaboration task was the attempt to develop in the students the capacity to discover that instead of assimilating knowledge created by others, they can create knowledge for themselves and develop their language skills to meet their needs accordingly. An interesting range of products and procedures deserved the attention of biotechnology students, ranging from cosmetics to environmental treatment, but the great majority focused on the use of biotechnology in medicine or pharmaceutical products that would enhance people's quality of life. The most voted poster was 'Surgery Absorbable Prosthetics', because of the dense scientific procedures it described, and how well the group was able to convince the audience of the benefits of avoiding a second removal surgery by having such compatible artificial tissue in the prosthetics. Although the presentations were audio recorded, increasing the level of nervousness, generally grammar mistakes were overshadowed by students' capacity to impress and communicate, through their professionalism and their supposed knowledge of the field.

3.11. The Virtual Resource Centre for the English Language at ESAC

Part of the original project for designing a pedagogy for autonomy involved a self-access resource centre at ESAC. In 2005/2006 negotiations were ongoing between the teachers of the Language and Communication Sector and the Board of the School to provide a room and collect the inventory of some basic material to start a potential resource bank. With severe budget cuts which suggested that even teachers wages were at risk, it became clear that the centre would have to be postponed and this project's sub-question - how to operationalise a self-access resource at ESAC to help implement a pedagogy for autonomy? would have a negative answer.

But what if the centre were virtual? A virtual resource centre could provide a solution for this constraint and so it began to be built in the academic year 2005/2006, as a complement and reinforcement of teaching hours (Bárbara, 2007) and a tool for autonomous learning. Two trainees of the Instituto Técnico Artístico e Profissional de Coimbra (ITAP) started a period of a two-month training in multimedia.

Although the product was never finished the structure was laid for a site whose general layout can be seen in Figure 14. As we had been promised a web platform when the Bologna courses started, the general aim was to give more information to the student about their courses, the course units and the descriptors, assessment guidelines and criteria, general legislation and, in the case of this course unit, particular details about the portfolio matrix, for example, and specific information about the English language, including a brief history of the language, some aspects of Anglo-American culture, support links, and the core of the site: English Street.

English Street had no pretension to be original but aimed to congregate in the same street, doors (buttons) to be pushed by the students according to their needs. In the street, there are seven locations: the casino, where can be found a collection of word games; the cinema, where there would be brief films from students' oral presentations and brief segments of lectures by teachers, guided tours from ecotourism students; the gymnasium, where students may find grammar exercises to keep them fit and links to other grammar sites; the library, where online dictionaries can be found, both monolingual or bilingual, and encyclopaedias; the post office, where different samples of formal letters can be found; the job centre, where examples of CVs can be found and where the future samples of e-portfolios would be; the studio, where some of the songs used in class are available. A student forum was designed but was something to be implemented in the future with some limitations due to probably scarce teacher response.



Figure 14. Layout of virtual resource centre page

Some parts of English Street were under study when we realised that we would not have a web platform in that academic year or in the near future. So the virtual centre remained a branch of an ambitious project that had to be cut or readjusted. In non-teaching hours or tutorials, all communication with the students was carried out by e-mail. The links that were in some of the doors of English Street were given to the students just the same. Judging from their portfolios some were opened and some remained shut.

Although the virtual site remained virtual, the links that were diffused in each module with a view to contributing to the exercise of autonomy have recently borne fruit. Some new students have taught me how they have been learning English on the internet through a site which brings together the learning of the language with social networking. Out of curiosity I have joined in to see how it works and brush up my French. Apparently, young people feel very attracted to this site in particular

(http://www.livemocha.com), as I have already mentioned in chapter 2, because, besides the interactive lessons and the normal contents of online courses, they can teach their native language to pen pals and exchange mail with real native speakers of the target language they want to learn.

From my latest self-awareness as a teacher-learner, I have fully understood Breen & Mann's assertion that "the teacher cannot teach learners to be autonomous, this would be a contradiction in terms. But I can *act* out the assumption that each learner is able to learn and is fully capable of taking an autonomous stance to their learning" (1997:146). This belief keeps pushing myself forward with the constant concern in sustaining the appropriate balance between being a resource and a guide.

I have to manage to consider the virtual centre as work in progress in parallel with my endeavours in designing a pedagogy for autonomy. Each time something new is tried, let us call it an innovation – a path to the unknown – if it does not work as expected it can be immediately read as failure, but in the future, hopefully, it can bear the seeds for many steps forward. One of the roles of the language teacher, to use the phrase of Breen & Mann, [is] "being a patient opportunist" (1997: 148).

3.12. Cross-curricular dimension

"I do not consider all of us who teach to be robots programmed to follow invisible rules we neither see nor understand (...) we tend to rebel against sameness and routine, always searching for ways to keep out of the proverbial rut." (Fanselow, 1987: 8-9)

Having seven bachelor degrees being taught at ESAC, ranging from food engineering to ecotourism, there is a rich pool of expertise to be tapped by the teacher of English for Specific Purposes. Towards the end of the academic year, the teachers of English ask for the participation of teachers of core units to introduce topics which are relevant to the students' future profession, presenting short lectures akin to the contents they are studying and interacting with the class in the target language (Bárbara, 2007a: 27).

The teaching collaboration among the departments of Agricultural Engineering, Forestry and Food Engineering and the teacher of English had started one year before the inception of the Bologna Process as a series of three lectures from different fields of expertise to minimise some hindrances in the implementation of the first year of the course of biotechnology (Bárbara, 2007b).

This collaboration has continued ever since, creating synergies among the departments and gaining new lecturers to refresh the subjects and stimulating new partnerships among colleagues. This collaborative project is multi-purpose from the perspective of English teaching and learning. First, the goal was to build three coherent units in which extensive reading, vocabulary and grammar exercises would be followed by listening to a *live* lecture. The second goal was, to present the students with the opportunity of listening to teachers who have difficulties in speaking in a foreign language and observe how they overcome them. Third, we aimed to foster the development of audio-oral skills as well as extend technical vocabulary in core areas. Finally, and always present, was the purpose of raising students'

motivation towards language learning by bringing it closer to real contexts of interest to the students.

Parallel to these main objectives, there was also the purpose of demystifying the idea that only very language proficient people carry out presentations, so that even the less skilled students could engage in post lecture discussions and lose part of their inhibition problems in speaking the language. At the same time, the lecturers would bring fresh perspectives on how to present issues in a specific field they would also serve as examples on how to present a slideshow.

Another underlying objective was to place students in learning situations in class where they would have to grapple with different ideas and contrasting perspectives and hope that their critical awareness on the subjects presented would be enhanced. All in all, the objectives clustered around content enhancement, language proficiency development, model supply, and promotion of critical thinking (Bárbara, 2007b: 79).

As the results of the B2 questionnaire show (see Chapter 3, Subchapter 3.8) the areas where students reveal that they feel less confident is in oral production and spoken interaction. The inclusion of guest lecturers was inserted in a wider strategy of developing audio-oral skills – language learning through language use – whilst fostering self-confidence.

This activity has also therefore been concerned in engaging students in oral interaction and debate. Thus, the lecturer presents a cutting-edge project that s/he is working on, how the product was registered in the scientific community, the advantages, the industry gains, the ethics behind the process. As biotechnology is very rich in controversy, the students are called upon to participate to in simple chemistry processes already studied or, on the other hand, to give their opinion on biotech industries' ethics.

As a short-term goal, this is just another opportunity to listen to and speak English with an expert. In the longer term goal, I hope the optional lectures might have been challenges, to prepare students to face difficult issues, question what they have been taught and prepare them also to face the unexpected when embracing the marketplace, and consequently to broaden their horizons beyond the ELC class.

Collaborative teaching fosters a *sense of community* of the teachers as well as the learners and develops a strong collegial relationship among teachers, enhancing the appraisal for the work carried out by the teachers of foreign languages at an institution where their visibility is dim. Objectively, the only support one gets for the risks taken in 'preparing' a different lecture every year – 'keeping out of the proverbial rut' to use Fanselow's words – in the hope of bringing innovation to class, is from our guest lecturer. One must keep the faith with the idea that widening the range of experiences and experiments carried in the classroom will foster motivation, especially for those students with such typologies as 'the player', who does not like to repeat the same tasks over and over in class and, who, in part, exists in almost all of us.

At the end of the lecture, the 46 attending students had to fill in a questionnaire on their experience of having a guest lecturer in class. As a result to the 5th statement: I can understand a lecture on issues of my field of expertise the result was as follows: 91% agreed with the statement, 7% disagreed, 2% had no opinion and 0% did not answer (Figure 15).

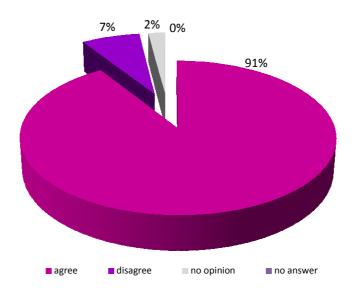


Figure 15. I can understand a lecture

Although the questionnaire followed the can do questionnaire of the European Portfolio, the results were much superior in class than in the B2 questionnaire for a similar question. However, when questioned if they were able to interact with the lecturer to clarify their doubts, only 40% said yes, 30% would not speak with the lecturer and 30% had no opinion (Figure 16).

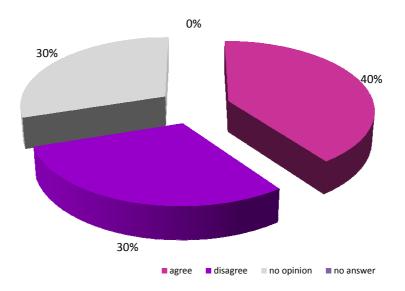


Figure 16. I can interact with the lecturer

When questioned whether the lecture had been understood by them the results were not as positive as before, 85% agreed, 7% disagreed, 7% had no opinion and 1% did not answer (Figure 17).

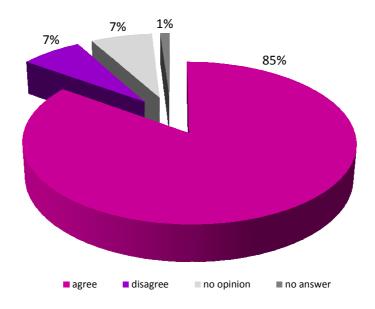


Figure 17. I understood the lecture

When questioned whether the lecture had given a clear perception of the application of biotechnology the results were the following: 82% were affirmative, 9% negative and 9% had no opinion (Figure 18).

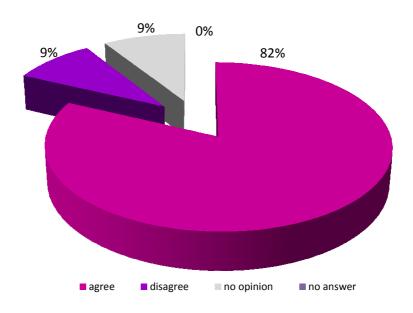


Figure 18. The application of biotechnology was clear

The 13th statement focused on how positive the contribution of the expert teacher had been to the English class and the results were as follows: 91% agreed, 7% disagreed and 2% had no opinion (Figure 19).

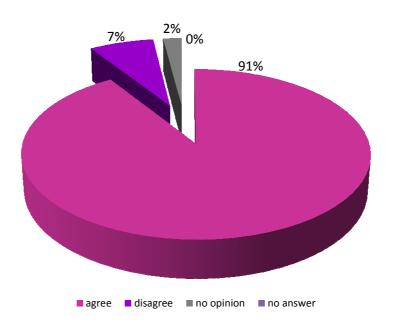


Figure 19. The collaboration was positive to the course unit

Finally, the last statement referred to the importance of independent work as help in assessment, having the following results: 84% agreed, 7% disagreed, and 9% had no opinion (Figure 20). Although, the majority agreed, still 16% of the students could not correlate extra work done out of class with having success in the classroom where they could have access to their portfolio work, classroom work, language dictionary, anything that might improve their note-taking into writing.

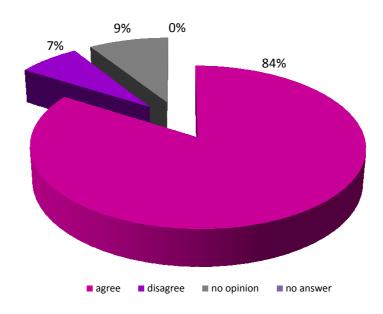


Figure 20. Independent work helped in my success

An important outcome of the Berlin Communiqué (2003) was to emphasise the importance of research and research training and the promotion of interdisciplinarity in maintaining and improving the quality of higher education. The framework relates to doctoral studies but it can be fostered at a lower level, such as the first cycle. As an illustration of this principle, the collaboration in biotechnology has given rise over time to other projects involving new models of synergies between the English language and the core subjects. Some teachers have asked their students to present the results of their projects in English as if it were in an international context in their second year. And in their final year some have encouraged students to

publish results of training placements experiences in English, in poster format or in paper presentations at conferences.

Proposals are under consideration to diminish the number of assessments student undertake by joining oral presentations in Biology and Microbiology with the first module of English in the two course units that are having the modules at the same time. The objective is to have the same student output being assessed by two different teachers in two different course units, involving more coordination and less time. What is more, instead of creating an oral presentation for ELC on a topic of science and technology at random, students' energies would be used twofold in a useful way. By making use of the domestic resources available, talented teachers have inspired and motivated others to collaborate and they have felt freer to ask for the correction of their own presentations which they rehearse with the ELC teacher.

According to Corbett, through the Bologna Process, we are witnessing a new kind of partnership, with state actors and with non-state actors, suggesting a new conception of European policy-making in higher education based on cooperation not legislation (2005:203). At a lower level, and from the bottom-up it is my belief that it will be the cooperation among individuals that will bring new ways of organising teaching, new modes of learning (Laurillard, 2002) instead of the bureaucratic nets we have been developing to implement change.

3.13. Discussion of results

First and foremost it must be pointed out that the learners were operating under extreme pressure having continuous assessment in all course units with the exception of mathematics and informatics. Nevertheless, they responded well to the challenges presented in the English modules of ELC, showed self-confidence to learn the language, were very cooperative in peer and group work, and were flexible in adapting to new ways of interacting with the teacher or invited guests. Most students were very active but not very keen on sharing or asking for help from the teacher in

certain tasks which became a hindrance when they were not clear about what was asked from them. Contact extra-class was scarce and was mainly by e-mail on the eve of some presentation. Although the weekly lesson plans may have included a previous discussion with the teacher, time constraints would always postpone it, except for the poster presentation because they had to show it for proofreading and print it one week before it was due.

From the results of the B2 questionnaire in January it is possible to acknowledge that the majority of the students were not certain they could do the tasks listed, especially regarding spoken production and spoken interaction, but they wished they could do so. Spoken production and spoken interaction are not priorities on a science course such as biotechnology, but have not been neglected as activities and it is possible to see the improvement in terms of what the students could do in these two categories, as in all the others, in the B2 questionnaire of June. In fact, to the extent that the twenty weeks allowed, all activities were practised be it in classroom or as independent work.

However, if the results of the B2 questionnaire of June were the outcome of a process of development, i.e., a net of personal knowledge, task knowledge and strategy knowledge (Flavell, 1979) unfolded over those weeks, the priorities chosen show acute awareness regarding their field of work. To have as the most voted need 'to write a scientific paper' shows an insight and maturity which is not very common with students at this stage, whereas 'to read and understand a scientific article from your field of expertise', the second choice, would be the most expected answer. So this was particularly interesting and came as a surprise for me among others along the semester.

My first reading of the personal histories was very linear: a bad history of learning equals bad results, whereas a good history of learning equals good results. In-between these poles, emerged rare histories of people who could overcome their first dislike of the language. After some careful reading, all the personal histories ended up being histories of personal struggle against different constraints. Even the

most successful decided that because they had become so proficient they had to use their spare time to study other subject matters where they sensed difficulties. These became some of the most problematic students in class because they did not realise what they did not know. As a result, they never paid much attention to the portfolio matrix so in the end got penalised for either missing classes or for not paying attention to requirements. Having around ten false beginners mingled with upper-intermediate students made tutorials and classes difficult to manage. Fortunately, what they lacked in knowledge of the language was compensated by hard work and some of the best portfolios came from the students whose heart-felt negative histories did not keep them from being responsible and responsive towards the challenge of passing in English.

Making learning explicit may be a fine principle when implementing a pedagogy for autonomy but the students did not find it particular motivating when comparing it with the second module which dealt only with technical texts and lectures, and they expressed their preference for the second module in their reflections. Personal knowledge, i.e., personal factors that facilitate or inhibit their learning (Cotterall, 2009b: 98) cannot motivate as much as diversified tasks carried out in class and beyond class about the course subject matter.

Regarding the portfolio reflections, almost all students acknowledge that a long path was trodden in very little time but that most could feel that they had evolved in their learning, though public presentations represented a serious hurdle. On the other hand, the questionnaire on continuous assessment shows that only 40% of the students considered the amount to be appropriate so one can only infer that this tool of assessment represented an excessive workload. Conversely, if it is only considered the percentage of the positive impact it had on assessment, 60% found it worthwhile. Thus, one can conclude that although 60% of the students found that the portfolio entailed a lot of extra work, 60% found that benefits could stem from it.

A great deal of effort must have been involved in the portfolios that were completed according to the matrix. The correction of the extra work produced by the

students was also an endurance test for the teacher who had about 150 portfolios to be corrected four times during the year, if we account for all the students enrolled in my classes. It was nevertheless rewarding to see how so many students took care in presenting the corrections of the assignments, of the synopses, the creative layout for the exchanged e-mails, the several steps for the elaboration of the poster. Many were the students who included work carried out in English for other curricular units, e.g. included short scientific articles for Operações Tecnológicas - (Otec) or Microbiology, word search and the end-product: a slideshow in Portuguese. The English-Portuguese glossary had entries which derived from research undertaken on texts from other course units. Hence, the portfolios of the students who really worked hard and made it a showcase of their independent work became thick, not easily-manageable dossiers because many students were ambitious and decided to take risks as they had been encouraged to.

Many were the constraints we had to face in the first year of the implementation of the Bologna model courses, but the results of this group of students do not reflect them. On the contrary, through the level of metacognitive development and the level of overall success suggests quite a positive environment. Objectively, only the placement test measurement did not show great progression in terms of proficiency, revealing that the students were able to pass but with great lack in basic knowledge that a 'semester' could not make up for.

Two positive notes to end this analysis: the first, the overwhelming 96% of student opinion manifesting the interest and usefulness of the materials created, of the classes that made up the subject-matter of the modules. The second, the illustrated reflection of a student who thoroughly analysed several aspects of the student-teacher relationship that came as a positive surprise and appeased so many of my doubts and sense of failure: failure for not implementing the full project, for not being able to reach transcendence and go beyond the school and get the students their independent level certificates, failure for being too close to the everyday experience to enjoy it. 'Classes went by and finally I noticed I liked English ... for

someone who never spoke English I started to speak English all the time everywhere' (M.J.Pereira, 2007; Annex 2. Student's reflection); classes went by and probably I was so busy 'shooting arrows at the sun' that I did not realise that some had actually almost reached it.

Conclusions

It is difficult to come up with concluding remarks regarding English language teaching and learning, particularly when the research has been framed in action research and has therefore evolved given the needs of the participants in the case study and the conclusions that may be drawn can refer only to the context and period under focus. First, therefore, conclusions that may be presented about the implementation of the Bologna Process in our institution will be outlined, the changes it brought and may be soundly documented, and the glimpses we can flashforward of the future. Second, the students will be the focus of some stocktaking, followed by the personal conclusions of the teacher and researcher. Finally, some concluding thoughts will be put forward considering the study of autonomy in the present and in the future, encompassing all the aforesaid elements and affording some words of prediction.

The Institution

Looking back at my SWOT analysis of the implementation of the Bologna Process, considered some years ago, besides the 'sound and fury' that the subject suggested I tended to see it, first and foremost, as an opportunity. It is too soon to analyse if the goals of higher education have been redefined or whether all institutions have implemented changes through appropriate curricular reform, but at least at the institution where I work this can be observable through the Assessment Guide (Guia de Avaliação) and the Bologna Implementation Report (Relatório de Concretização do Processo de Bolonha) 2007/08⁶⁰.

In Part 3 of the latter document - Mudanças Operadas/ Changes Carried Out - there were 8 such changes listed, of which I have only discussed the

⁶⁰ The report can be easily assessed in http://webmanager.esac.pt/mgallery/default.asp?obj=586

changes that affected ELC in 3.2 and 3.3. These changes focus on the curricular restructuring and the organisation and functioning of the courses and the institution, the evaluation system and the training placement. The indicators established as progress to change were the following: conditions for teaching and learning and for acquisition of competences; acquiring the expected competences; effort asked from students when assessing knowledge; matching the instruments of assessment with the contents, and conditions of learning.

To assess the evolution of the weight of the several components of the students' work, having as reference the total of contact hours, a survey was carried out in the institution into the total workload of the students, and its different components. The total of students that responded to this survey were as follows (Table 32)⁶¹.

Table 32. Total of respondent students of ESAC's survey

Courses	LEAP	LERF	LEAL	LEAM	LET	LAB	LBIO	Global
Responding students	20	54	27	43	30	18	35	227
Relation to enrolled students in 2007/08	45%	69%	66%	61%	61%	41%	71%	60%

Also included in this report are the global results, of the students enrolled in 2007/8 in the first year of the Bachelor degrees for the first time. The numbers of students who achieved success can be observed in Table 33, classified in accordance with the number of ECTS achieved in the first year.

⁶¹ The courses in table 34 refer to: LEAP- Licenciatura em Engenharia Agro-Pecuária; LERF - Licenciatura em Engenharia dos Recursos Florestais; LEAL - Licenciatura em Engenharia Alimentar; LET - Licenciatura em Ecoturismo; LAB - Licenciatura em Agricultura Biológica; LBIO - Licenciatura em Biotecnologia.

Table 33. Results of approval of 2007/08

Courses	LEAP	LERF	LEAL	LEAM	LET	LAB	LBIO	Global
Students enrolled in 2007/08	44	78	41	71	49	44	49	376
Failed students (%)	36%	38%	51%	46%	24%	45%	31%	39%
Students passed (≥30 ECTS) (%)	64%	62%	49%	54%	76%	55%	69%	61%
Students passed (≥36 ECTS) (%)	50%	58%	20%	51%	69%	23%	67%	50%
Students passed (≥48 ECTS) (%)	14%	41%	7%	18%	45%	5%	47%	27%

As can be observed by the results of the survey to students, not only the students of biotechnology did well in ELC, but they also did well generally, only surpassed by the students of LET – Ecotourism.

In the Bologna Implementation Report, the main issue, in my point of view, is the results of the survey to the students and to the teachers. The former is divided into 11 questions. The first question relates to the conditions of the course unit and inquires whether the acquisition of competences was adequate to what was contemplated in the descriptor. It inquires whether the classes and laboratories where adequate, (in terms of visual aids, lightning, etc.). But what is more, it inquires whether the instruments of assessment were adequate. Of the students on the Biotechnology programme, 21% answered No in comparison with the global figures for all courses: No = 17%, Yes = 83%. The 5th guestion asks about the pedagogical preparation, commitment and 'availability' of the teachers, to which 16% answered No counted and 84% Yes, whereas the global figure was 19% answered No and 81% Yes. When questioned whether the contact hours were sufficient or insufficient, the results were as follows: No = 17%, Yes = 83% for the biotechnology students; global results: No = 25%; Yes = 75%. To finish this summary of the survey, the most voted instruments of assessment were: 60% mini-test (30 minutes); 56% work (carried out beyond the classroom demanding up to 5 hours of commitment); 50% test (1 hour); 22% oral presentation (30 minutes); 19% report carried out in class; 16% project (carried out beyond the classroom demanding more than 5 hours of commitment).

Given the confusion established in periods when there were no available classrooms and the timetable could not meet the needs for the non-Bologna students and the Bologna students, I believe this survey is highly favourable to the institution. We faced many constraints, namely the lack of space to have the students carrying out work beyond the classroom. Our facilities were not enough, the library was always full to overflowing. Meanwhile, however, the Board came up with a solution that illustrates our capacity of improvisation: it transformed the canteen into a study room by installing extra sockets for laptops, so after meal times this large room was transformed into a place of cultural nourishment and group work. It was a provisional solution but it is what we still have to do. The budget is always small for culture and knowledge acquisition but an effort has been made so that students can have the library open for longer hours.

Unfortunately, no investment has been possible so far in Information Communication Technology, so the 'widespread use of IT to make up for contact hours' pointed out by me as a possibility has become a threat for we are lagging behind in having blended learning courses, in having more flexibility in our methodologies.

The failure rate in the first year is fairly high and although continuous assessment had as an objective to diminish the dropout and academic failure rates, this goal was not achieved. Even though I do not present percentages for other years for comparison, one course had more than 50% failure rate and two others had approximate figures. Considering that it takes 60 ECTS to have a full year complete, the percentage of students who nearly reached the 60 ECTS goal is far behind in almost all courses, except for Forestry – (LERF) 41%, Ecotourism (LET) 45% and Biotechnology (LBIO) 48%. Despite the results, part 6 of the report lists the measures to support success in learning, namely: making tutorial hours mandatory in all course units; giving priority to predominance of

theoretical/practical classes to motivate the students; ensuring the existence of tutors to help the student during his/her course; making class attendance compulsory and carrying out assessment during classes; planning of the minitests and tests at the beginning of the year with the Course Year Coordinator.

The report also notes that 49% of the students have chosen the item - subject-matter and exercises applied to the profession - as measures of success, and 28% - more relevance to practical and laboratorial classes during contact hours.

To comment on the report with my personal biography, i.e., of someone who also experienced this year and is part of the percentages, it was of the utmost importance that tutorials were aggregated to the contact hours. Each teacher interpreted these sessions freely, as more time to teach, as time to send the students to the library, as time to practise with the whole group, part of the group work, given the large classes. It should be mentioned that the Bologna model it makes almost impossible for working students to follow assessment and all the pointers that only contact with students may provide. On the other hand, tutorials may be a monopoly of working students if there are a lot in a particular class. In fact, the introduction of tutors did not work. The majority of students did not meet with their tutors nor did they think about establishing a different relationship and asking for help and advice. The goal of planning of the tests is to be praised, but in reality this initiative did not work because in the last two weeks of each semester there was an accumulation of presentations of final projects and tests that only make sense at the end of the modules. With two partial exams during the year, there was a period set for stress; with continuous assessment, stress is also continuous. Particularly, for first year students who have no break between semesters, classes and assignments never stop, imposing a rhythm where quality is lost because the pauses are not enough. What is important is to have another assignment completed and get prepared for the next. Therefore the mini-test was the best to deal within this flood of different tools of assessment, because in a 30 minute, or one hour test, the multiple choice plus a problem to be carried out was the best way for students to operate

in this system, whereas a project that involved more than 5 hours, like a poster, was difficult to insert in the planning. At least this is my interpretation of the students' choice.

Regarding the results to the teachers' survey (Annex 4), the first main question related to the conditions for teaching the course unit. Seven of the subquestions were related to the physical conditions of teaching, but sub-question number 8 regarded the number of students per class. 63% of the teachers considered it Excessive, 35% Adequate, and 2% Insufficient. Sub-question number 9 inquired if the previous preparation of the students was adequate, to which 56% responded Partly, 40% No, 5% Yes. The next sub-question inquired whether the motivation of the students was adequate. 66% responded Partly, 21% No, 13% Yes. Accounting for the number of contact hours, the results were as follows: 84% = Adequate, 14% = Insufficient, 2% = Excessive. Globally speaking, the teaching staff classified the existing conditions for teaching as Sufficient = 49%, Insufficient = 30%, Good = 21%.

The second question considered the methodologies of teaching and learning in the course unit. The first sub-question inquires whether the methodologies adopted promoted the development of competences of the students, to which the respondents – all the coordinators of the course units of the first year answered: Yes = 56%, Partly = 26%, and No = 15%. The second sub-question examined whether the methodologies adopted had promoted in the student the development of competences generic to the UC. 45% responded Yes, 40% Partly, and 15% No. The third sub-question, and the most relevant for my research, asked whether the adopted methodologies had promoted the development of autonomy in the student. Yes and Partly were considered equivalent in this answer, and only in this answer, reaching 79%; No obtained 21%.

Finally, in the fourth question, the issue of measures to promote success was approached. From the four choices offered the one that gathered more support, as with the students, was: subject-matter and exercises more attuned to

the profession with 20%. With the same rating (15%) came the suggestions to have complementary classes, possibly at night, and to give more relevance to practical and/or laboratorial classes. In last place was the suggestion of including propaedeutical classes in the first week of the academic year with 6%.

The teachers of the modules of Technical English wrote some suggestions about the physical conditions of the classrooms. Not that we had particular complaints to present though the number of student per classroom was excessive in some courses, but we did not have a particular classroom where to leave our materials or, more ambitiously, the possibility of transforming a classroom into an embryonic centre of self-access centre as had been promised.

In the case of ELC, the previous preparation of the students is always problematic because classes tend to be very heterogeneous, as has been mentioned before, so only part of the students are prepared to do the modules. However, the success rate did not reveal that, in part, because the module of Communication where the failure rate is low expunges our bad results in some courses. Such is not the case in biotechnology were, generally, the results are good in the three modules.

Regarding the motivation of the students, it is very difficult for a teacher to respond to this question, unless s/he has concrete data. In my case the percentage of motivation obtained in the class questionnaires was above the global value shown in this survey - 85%.

Quite surprisingly, considering all the internal debate at ESAC, 84% of the teachers considered the number of contact hours as adequate, which is proof that either they redesigned their old disciplines or found new methodologies, or both. Criticism of the physical conditions and all the logistics connected to quality teaching could be inferred from the global percentage with the close classification of sufficient 49% and 30% insufficient. One of the Bologna goals was to establish quality teaching at institutions, apparently hindrances which are not specified led to these results. One can conclude that in the first year of

implementation of such a complex change as those proposed by Bologna, it was to be expected that some aspects failed to be implemented successfully.

Clearly, the questions regarding methodologies were the hardest to answer. Despite the successful results, it was a leap of faith to answer that your students developed the desired competences due to the methodologies. Many teachers opted for group work as the main solution to deal with large groups, which was in turn questioned as a trustworthy successful methodology by many of the staff members.

One of the concerns of the institution, and of my project, the capacity to mobilise cross-curricular skills in the students was examined but with subjective results (45% responded Yes, 40% Partly) as if half the staff were sure that they had promoted the transversal dimension in their classes and the other half was not sure because being the first year of the course, students might not be very aware of the fact that most subjects would dovetail at some point of their curriculum and usually tended to see the course units as separate compartments.

Finally, the question of measuring autonomy through our methodologies altered even the pattern used throughout the questionnaire. To promote the development of autonomy was what the teacher attempted to do, if s/he succeeded or not is another issue. The 79% who answered Yes/ Partly probably felt that they had tried to change their students into more autonomous people. Since autonomy is not a clear-cut concept one does not know how much is reactive autonomy and how much is proactive autonomy. Nevertheless, with Bologna there is an accepted principle that students have to be more autonomous and teachers should be questioned about their work in order to promote it. I am pleased that so many, doubtful or not, have invested time and expertise so that the learners may improve heuristics and awareness to organise their learning experiences.

It would be unfair not to acknowledge that the institution changed a lot with the Bologna Process. The age of the students attending Agricultural Engineering, LEAP, for example, was much higher pushing the sixties. The phenomena can be explained both with the relation that old "regentes agrícolas", the first bachelors, still have with the institution attuned with a growing desire felt in the country to improve one's qualifications. The enrolment of former students in Agricultural Engineering to obtain their *licenciatura* was also a factor, with these students enrolling by the hundreds. It should be mentioned that for many who are pushing their sixties the new qualifications will not have any impact in their jobs but their knowledge will be updated, giving true meaning to the phrase lifelong learning. At the same time, the 2nd cycle masters degree has attracted many recent students because the laws of the marketplace are changing. On the other hand, Technological Specialisation Courses, CETs, are bringing very young young students into higher education. Definitely the scenario has changed. It is too soon to assess if the services we are providing have the appropriate quality given that the teaching staff has remained almost the same.

Another change brought to the institution was the number of teachers enrolled in doctoral programmes. Although we always had a very high rate of teaching members with doctorates, despite the long teaching hours imposed on polytechnic staff, new legislation has meant that almost all teachers are on the verge either of completing the 3rd cycle or beginning it.

The Research Project: the students

This was a very authoritarian project on autonomy, in that students were compelled to be autonomous, which of course, is a contradiction in terms. There was negotiation throughout the study programme, but also a clear matrix of which attitudinal change was an essential part. The holistic view of what is expected of the student was given right at the beginning of classes what might have made them nervous and fearful. As a first conclusion, I think I was successful in making my students understand that their fears were just insecurity before the task was carried out and I helped in building up their confidence.

Nevertheless, I have to admit that its authoritarian features may set this case study away from the usual autonomy projects, where students have much more freedom and instruments at their disposal to improve their learning. A pedagogy for autonomy was an ideal to be attained and I had to pay particular attention to the context, the framework of change where it was operating, so there was a strategy to make the ideal tangible even if it meant constant supervision of independent work.

Secondly, the students became aware that language learning is a strategy that is central to Europe and its institutions, and the fact that they study English at a higher education institution is part of a 'master plan' where their classification in levels is predicted and already set and that they are the ones who have to study to meet the demands of the study programmes. In a year where a new system was being implemented it was very important to show a clear cut plan and explain to them, though briefly, the Bologna Process, otherwise it would be just an empty label. Furthermore, it was important to show them the Language Passport and the European Language Portfolio to reinforce the idea that, throughout Europe, many students were building portfolios of different shapes and with different goals but also self-assessing their skills in the community of learning to which they belong.

Thirdly, by redesigning the materials and having such a great focus on the student and the strategies to gain self-confidence and autonomy, part of the subject matter of the first module was not taught anymore. This brought ambivalent feelings. If on the one hand, metacognition achieved great importance, on the other hand, it seemed as if the awareness of teaching and learning had more importance than grammar rules or reading of texts. To find a balance was a great challenge for the teacher. Besides, students were obliged to reflect, which is a contradiction in terms, something they were not very prone to. The same can be said for planning, setting priorities or writing biographical data. Despite all the doubts and resistance, I consider the experience quite positive.

Another very positive aspect of the study year was the e-mail exchange with Japan. It was an objective to make the students aware that Bologna is about trying to build a European Higher Education Area in 47 countries, for them to have notion that their horizons can be much broader and more exotic. This brought a touch of serendipity to the project and pleasure in autonomy was an ideal within fingertip reach. Moreover, the relationship between the teacher and the students became closer, I became their confidante and a culture referee.

At the core of my exercise to develop a pedagogy for autonomy were the poster projects. These put autonomy to the test and presented a real challenge for the students and the personal creation of knowledge, as well as marketplace-controlled creativity. It is the reification of my definition of autonomy as presented in chapter 2. The majority of students proved themselves to be fully committed from the beginning to team working, meeting deadlines and trying to "sell" a product, a revolutionary idea. They liked to surprise each other and the teacher by bringing realia to reinforce the message.

Another very dear dimension that I have been working on and perfecting through the years and has been always well received by students has been the collaboration with teachers of other scientific areas, allowing us several crosscurricular journeys, in the case of biotechnology. Usually we have a studentfriendly ambiance and the guest teachers ask help from the students with their English with great sense of humour for many of the students are more proficient. Working with colleagues of very different departments made me feel always insecure and dependent on their extra work for cross-disciplinary collaboration, but I always felt it as a very positive and collegial innovation. These synergies are understood by the students, bringing about moments when all makes sense; we are all integrated in the same project and school, showing our best projects to the first year students in harmony and giving them a sense of belonging to a community of knowledge where petty feelings have no part. In those moments we share more than a common language; English, we are also part of an institution where teachers of different areas have a clear cut plan regarding their learning of English for Specific Purposes.

Of course there were negative aspects and I will turn to now. The portfolios were a strategy to make autonomy work. To have a showcase of students' work outside the class. In my opinion, it was due to the portfolio marks that some very weak students were able to pass. On the other hand, it was due to the portfolio that very good students got average scores by refusing to have all the extra class commitment. At the end of the academic year, the three teachers of English met and decided that the portfolio had to be replaced by another strategy because it represented spending the whole year just correcting students' work, be it from portfolios or the normal continuous assessment. There was no time for research, for bureaucratic work and it became an instrument that disturbed the harmony among the teachers, particularly by imagining us keeping up at this rhythm and having no academic or scientific acknowledgment for such hard work. Some of the teachers had about 200 students and correcting word by word of each individual portfolio became a titanic activity. Unlike the students' opinion, the teachers believed it was too much work for such a small percentage in the global mark. As there was no consensus in allotting more percentage to the portfolio because in some cases students ask for external help and it could not be reliable or feasible to allow great part of their marks to be obtained from work carried out by private tutors, for example.

Although I decided not use the portfolio in the following years, I have kept some of the strategies that underpin it, e.g. I check my students' plans every four weeks and discuss informally the independent work they were doing without assessing them. Also, my teaching is supported by constantly challenging the students with possible new projects to be taken up by them or not, depending on the particular individuals or groups of that year or study programme. As I have already mentioned, I believe it is only by challenges that meet the interests of the students that autonomy, motivation, and creativity are unleashed.

Finally, the time available to carry out such a project was very little for so many objectives, challenges, presentations which did not allow for many students to engage in deep reflections because there was some other

assignment coming along the conveyor belt of continuous assessment of some other course unit. This system does not allow for lack of energy, doubts, or laziness, or may result in a year lost. On the other hand, it requires a lot of energy from the teacher as well and a full dedication to teaching. It was a very ambitious project that was only partially carried out, e.g. the virtual resource centre for the English language has never been tested by students, yet. None of the students found it compatible to complement their ELC mark with an independent certificate of their language level in 2007/08, but fortunately that became a reality in the following year. The clear gaining of proficiency in the language has to be as important as the gaining of autonomy skills and this very complete external exam helps in motivating the students to learn how to study for self-check of progress.

The Research Project: the teacher

From the analysed data in the case study, it is possible to conclude that a pedagogy for autonomy is in harmony with the Bologna Process. It was possible to develop competences in the English language learners in a variety of contexts, regarding comprehension, oral production and writing in less contact hours. As it has been just mentioned, not all objectives were reached, but most of them were and the result was positive which brings great satisfaction to the teacher. As we lost over 40 hours of contact with the students, to develop a pedagogy for autonomy, for me, was the answer to this new reality and therefore redesigning the whole course unit was compulsory. The implications of the Bologna Process for the learners of the English language at Escola Superior Agrária de Coimbra were many, as we have seen. They had to become more responsible, quick to produce work in time, deal with the stress of continuous assessment and have an active role in the classroom. Usually biotechnology students are highly competitive and hard-working and they did not fail to the expectations, although this was one of the less proficient group of students I had in this course since its inception. The strategies chosen to promote autonomy,

such as the portfolio or the e-pal project, were very satisfactory, taken as a whole, because some students were able to transcend their difficulties and present good work and great commitment, leaving some of the most proficient in their 'plateau' of knowledge and lack of risk taking. Although always in existential and professional anxiety, it was experimenting that brought me the greatest satisfaction, the 'leap into the unknown' when I clearly was not in control, such as with the cross-curricular dimension added to the project.

The teacher as researcher, although working with the same descriptor as her colleagues, interpreted it as guidelines and had the entire freedom to experiment, change, improvise and be as creative as the portfolio matrix and the planning would allow her. The teacher as observer, despite all preparation, many times felt classes were on the borderline of chaos, under the apparent shell of clear cut pedagogical samples. The teacher as exploratory teacher felt that she was helping the learners try out new ideas but also try to learn as much as possible by doing so (Allwright & Bailey, 1991). The teacher as facilitator felt like an aid whose purpose was to support the development of the learning and teaching process in the learner, especially by trying to be open, tolerant, patient, and having the capacity to motivate and create diversity in the tasks to be carried out in class (Volller, 1997).

Such a multiplicity of roles that Nunan calls *attention to*, enhances the importance of the work of the teacher (1999), but it also reminds me of a mad hatter changing hats so many times that only the right dose of humour and madness will make it work otherwise we would have to be a super-teacher. In this case the teacher researcher had to give classes to about 150 students and coordinate three curricular units and the sector of languages and communication. Sometimes there was too much proximity to have objectivity. Having an action research project, the qualitative gathering of data allowed for the building of meaning of the whole project, following the footprints of many researchers before (Barfield & Brown, 2007), trying to be as objective as possible in a study with these constraints.

Trying to answer one of the questions that led me to this study: what implication had the Bologna Process for the students? I have to acknowledge that the institution's internal legislation was sound in the changes that matter, namely assessment, tutorials and some concern for autonomy. A pedagogy for autonomy was possible in ELC or at least the seeds for autonomy were sown and I have tried to keep the ground fertile and improved for the next annual crop. I felt that I was part of the movement for change and I came out of the process changed.

Bibliography

AKBARI, Ramin & **HOSSEINI**, Kobra (2008) "Multiple Intelligences and Language Learning Strategies: Investigating Possible Relations". *System*, 36 pp.141-155.

ALARCÃO, Isabel (org.) (1996) – Formação Reflexiva de Professores. Estratégias de Supervisão. Porto: Porto Editora.

ALLWRIGHT, Dick & **BAILEY**, Kathleen (1991) – Focus on the Language Classroom: An Introduction to Classroom Research for Language Teachers. Cambridge University Press.

ALLWRIGHT, Dick & **HANKS**, Judith (2009) – *The Developing Language Learner. An Introduction to Exploratory Practice*. Basingstoke & New York: Palgrave Macmillan.

AOKI, Naoko & **KOBAYASHI**, Hiroaki (2009) – "Defending Stories and Sharing one: Towards a Narrative Understanding of Teacher Autonomy". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.199-216.

AOKI, Naoko (2002) – "Aspects of Teacher Autonomy: Capacity, Freedom, and Responsibility". In P. Benson & S. Toogood, *Learner Autonomy 7. Challenges to Research and Practice*. Dublin: Authentik, pp. 111-124.

AOKI, Naoko (2003) – "Expanding Space for Refection and Collaboration". In Barfield, A. & NIX, M. (ed.s), *Teacher and Learner Autonomy in Japan 1: Autonomy You Ask!* Tokyo: JALT. pp.189-196.

AMARAL, Alberto *et al.* (2002) — *O Ensino Superior pela Mão da Economia*. Coimbra: Edição da Fundação das Universidades Portuguesas.

AMARAL, Alberto (2005) – "Bolonha Tem Muito Mais a Ver com Questões Económicas do que Académicas" entrevista com Alberto Amaral. Público, 20 de Janeiro 2005, p. 23.

AMARAL, Alberto & **MAGALHÃES**, António (2004) – "Epidemology and the Bologna Saga". *Higher Education*, Vol. 48, Amsterdam: Kluwer Academic Publishers. pp. 79 - 100.

ANDRADE, Ana Isabel & **SÁ**, Cristina Manuela (2003) – *A Intercompreensão em Contextos de Formação de Professores de Línguas: Algumas Reflexões Didácticas.* Formação Didáctica, Série Línguas. Aveiro: Universidade de Aveiro Edições, Dezembro.

"A Report on the Harvard College Curricular Review". Faculty of Arts and Sciences: Harvard University, April 2004. http://www.fas.harvard.edu/curriulum-review. (accessed on 01-11-2005).

ARROTEIA, Jorge Carvalho (1996) – *O Ensino Superior em Portugal.* Aveiro: Universidade de Aveiro.

ARROTEIA, Jorge Carvalho (2002) – O Ensino Superior Politécnico em Portugal. Aveiro: Universidade de Aveiro.

AZEVEDO, Sebastião Feyo de (2005) – "Reflectir sobre o Processo de Bolonha: Entender e Agir". In F. Santos Neves (org.), *Quem Tem Medo da 'Declaração de Bolonha'? A 'Declaração de Bolonha' e o Ensino Superior em Portugal.* Lisboa: Edições Universitárias Lusófonas, pp. 11- 26.

BAILEY, Kathleen & **NUNAN**, David (1995) - *Voices from the Language Classroom*. Cambridge: Cambridge University Press.

BÁRBARA, Noémia (2005) – "Who's afraid of the Bologna Process? – Perspectives on ESP in Engineering Courses". In G. Moreira & S. Howcroft (coord.s), *Línguas e Mercado, Languages and the Marketplace*, Aveiro: University of Aveiro, pp. 275-283.

BÁRBARA, Noémia (2006) – "English 'a Language of no Importance': A Collaborative Approach in ESP". In S. Howcroft (coord.), *Actas do Encontro Internacional de Linguística Aplicada*. Aveiro: Universidade de Aveiro, pp.75-85.

BÁRBARA, Noémia (2007a) – "Autonomy in ESP: Solution or Recipe?". In D. Gálová (ed.), Languages for Specific Purposes in Higher Education – Searching for Common Solutions. Newcastle: Cambridge Scholars Publishing, pp. 18-31.

BÁRBARA, Noémia (2007b) – "Do It Yourself': Uma Metodologia para a Autonomia". In M.C. Ribeiro, E. Brito, G. Méndez (coord.s), *Aprender Ensinando. Dinâmicas Metodológicas no Ensino-Aprendizagem das Línguas Estrangeiras* Actas do VIII Encontro da Aprolíngu@s. Arthipol: Guarda, pp.149-160.

BÁRBARA, Noémia (2009) – "Language Portfolios in Engineering Courses: A Strategy Towards Autonomy". In *Proceedings of the Independent Learning Association 2007 Japan Conference: Exploring Theory, Enhancing Practice: Autonomy across the Disciplines.* Kanda University of International Studies, Chiba, Japan, October 2007, http://independentlearning.org/ILA/ila07/files/ILA2007_004.pdf

BÁRBARA, N.; **FERREIRA**, A.J.D.; **MORAIS**, J.P.F.; **LOPES**, M.A.R. (2006b) – "Preparing Professionals for the Future: Searching for a New Educational Paradigm". In L. PARDAL *et al.* (orgs.), *Educação e Trabalho. Representações Sociais, Competências e Trajectórias Profissionais*. Aveiro: Universidade de Aveiro, pp. 213- 231.

BARFIELD, Andy & **BROWN**, Stephen (2007) – *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan.

BARFIELD, Andy & **NIX**, Mike (ed.s) (2003) – Teacher and Learner Autonomy in Japan 1: Autonomy You Ask! Tokyo: JALT.

BARNES, Douglas (1982) – *From Communication to Curriculum.* Harmondsworth: Penguin Books.

BARNETT, Ronald (1994) – *The Limits of Competence: Knowledge, Higher Education and Society*. Buckingham: Open University Press.

BARNETT, Ronald (2000) – *Realizing the University in an Age of Supercomplexity.* Buckingham: Open University Press.

BARNETT, Ronald (2003) – Beyond All Reason: Living with Ideology in the University. Buckingham: Open University Press.

BARNETT, Ronald & **COATE**, Kelly (2005) – *Engaging the Curriculum in Higher Education*. Maidenhead: Open University Press.

BAUMAN, Zygmunt (1998) – *Globalization. The Human Consequences.* Cambridge: Cambridge: Polity Press.

BAUMAN, Zygmunt (2000) – *Liquid Modernity*. Cambridge: Polity Press.

BECK, Ulrich (1992) – *Risk Society. Towards a New Modernity.* London: Sage Publications.

BÉLLON, Francisco M. (1998) – *Descubrir la Creatividad. Desaprender para Volver a Aprender.* Madrid: Ediciones Pirâmide.

BENSON, Phil (2001) – *Teaching and Researching Autonomy in Language Learning*. Harlow: Pearson Education.

BENSON, Phil (2002) – "Autonomy and Communication". In P. Benson & S. Toogood (eds.), *Learner Autonomy 7: Challenges to Research and Practice*. Dublin: Authentik, pp. 10-28.

BENSON, Phil (2003) – "A Bacardi by the Pool". In A. Barfield & M. Nix (eds.), *Teacher and Learner Autonomy in Japan 1: Autonomy You Ask!* Tokyo: JALT, pp. 275-282.

BENSON, Phil (2006) – "Autonomy in Language Teaching and Learning". *Language Teaching* Vol. 40, 1, Cambridge: Cambridge University Press, pp.21-40.

BENSON, Phil (ed.) (2007) – *Learner Autonomy 8: Teacher and Learner Perspectives*. Dublin: Authentik.

BENSON, Phil (2008) – "Teachers' and Learners' Perspectives on Autonomy". In T. Lamb, T. & H Reinders (ed.s), *Learner and Teacher Autonomy. Concepts, Realities, and Responses*. AILA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp. 15-32.

BENSON, Phil (2009) – "Making Sense of Autonomy in Language Learning". In R. Pemberton, S Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp. 13-26.

BENSON, Phil & **VOLLER**, Peter (1997) - *Autonomy and Independence in Language Learning*. Harlow: Longman.

BENSON, Phil & **TOOGOOD**, Sarah (ed.s) (2002) – *Learner Autonomy 7: Challenges to Research and Practice*. Dublin: Authentik.

BIZARRO, Rosa (2006) – *Autonomia de Aprendizagem em Francês Língua Estrangeira. Contributos para a Educação do Século XXI.* Porto: Universidade Fernando Pessoa.

BIGGS, John (2003) 2nd edition - *Teaching for Quality Learning at University: What the Student Does*. Maidenhead: Open University Press.

BLIGHT, Denis; **DAVIS**, Dorothy; **OLSEN**; Alan (2000) - "The Globalization of Higher Education". In P. Scott (ed.), *Higher Education Re-formed.* New Millennium Series, London and New York: Falmer Press.

BLOCK, David & **CAMERON**, Deborah (eds.) (2002) – *Globalization and Language Teaching*. London and New York: Routledge.

BOCK, Derek (2003) – *Universities in the Marketplace. The Commercialization of Higher Education.* Princeton: Princeton University Press.

BOEKAERTS, Monique (1999) – "Self-Regulated Learning: Where We Are Today." *International Journal of Educational Research* 31, pp. 445-457.

BOGDAN, Robert & **BILKEN**, Sari (1994) – *Investigação Qualitativa em Educação*. Porto: Porto Editora.

Bologna Declaration: Joint Declaration of the European Ministers of Education Convened in Bologna on the 19th of June 1999.

BOUD, David (ed.) (1984) – *Developing Student Autonomy in Learning*. London/New York: Kogan Page.

BOUD, David (2004) – "Creating Assessment for Learning throughout Life". In G. M.S Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp. 39-50.

BOUD, David (2007) – "Reframing Assessment as If Learning Were Important". In Boud, D. & Falchikov, N. (eds.) *Rethinking Assessment in Higher Education. Learning for the Longer Term.* Oxon & New York: Routlege, pp. 14-24.

BOUD, David; **COHEN,** Ruth; **WALKER,** David (eds.) (1993) – *Using Experience for Learning.* Buckingham: Open University Press.

BOUD, David & **FALCHIKOV**, Nancy (eds.) (2007b) – *Rethinking Assessment in Higher Education. Learning for the Longer Term.* Oxon & New York : Routlege.

BURNS, Anne (1999) – *Collaborative Action Research for English Language Teachers*. Cambridge: Cambridge University Press.

BRAN, Ramona (2009) – "Do the Math: ESP + Web 2.0 = ESP 2.0". *Procedia. Social and Behavioral Sciences.* 1. pp. 2519-2523.

BRÄUER, Gerd (ed.) (2001) – *Pedagogy of Language Learning in Higher Education. An Introduction*. Vol. 2. Westport: Ablex Publishing.

BREEN, Michael P. (ed.) (2001) – Learner Contributions to Language Learning. New Directions in Research. Harlow: Pearson Education.

BRILL, Dick van Schenk & **KOLLENBURG**, Peter (2003) – "Two Models of Engineering Education. A First Step on the Way to Bologna?". In Gomes, J. F. (coord.), *Reflectir Bolonha: Reformar o Ensino Superior*. Porto: Universidade do Porto. CD-ROM, PDF.

BRUNER, Jerome (1977) – *The Process of Education*. Cambridge (Mass.): Harvard University Press.

BYRAM, Michael (2002) – "Politics and Policies in Assessing Intercultural Competence in Language Teaching". In Kohonen, V., P. Kaikkonen (eds), *Quo Vadis Foreign Language Education?* Tampere University: Publications of the Department of Teacher Education, pp.17-32.

CANDY, Phillip (1984) – "On the Attainment of Subject-matter Autonomy". In D. Boud (ed.) *Developing Student Autonomy in Learning*. London/New York: Kogan Page, pp. 59-76.

CARDOSO, Ana M. *et al.* (1996) – "O Movimento da Autonomia do Aluno: Repercussões a Nível da Supervisão". In I. ALARCÃO (org.) *Formação Reflexiva de Professores. Estratégias de Supervisão.* Porto: Porto Editora, pp. 65-88.

CARNOY, Martin (1997) – "The Great Work Dilemma: Education, Employment, and Wages in the New Global Economy". In *Economics of Education Review*, Vol. 16, No 3, 247-254.

CARVALHO, Arsélio Pato (2005) – "Repensar a Universidade Hoje". In F. Santos Neves (org.), *Quem Tem Medo da 'Declaração de Bolonha? A 'Declaração de Bolonha'* e o *Ensino Superior em Portugal*. Lisboa: Edições Universitárias Lusófonas.

CARVALHO, Rómulo de (2004) (3ªed.) – História do Ensino em Portugal. Desde a Fundação da Nacionalidade até ao Fim do Regime de Salazar e Caetano. Lisboa: Fundação Calouste Gulbenkian.

CAVACO, Fernando (2005) – "Bolonha e as Competências: Novos Desafios à Universidade". In F. Santos Neves (org.), *Quem Tem Medo da 'Declaração de Bolonha? A 'Declaração de Bolonha' e o Ensino Superior em Portugal.* Lisboa: Edições Universitárias Lusófonas.

CHAMBERS, Gary N. (1999) – *Motivating Language Learners*. Clevedon: Multilingual Matters.

CHAMOT, Anna U. (2001) – "The Role of Learning Strategies in Second Language Acquisition". In M. Breen (ed.), *Learner Contributions to Language Learning. New Directions in Research.* Harlow: Pearson Education, pp. 25-43.

CHANOK, Kate (2003) – "Autonomy and Responsibility: Same or Different?". In Proceedings of the Independent Learning Conference 2003, Australia http://www.independentlearning.org/proceedings (accessed on 01-11-2005)

CHIA, Christian (2007) – *Autonomy in Language Learning. The Use of IT and Internet Resources*. Singapore: McGraw-Hill Education.

CHIK, Alice (2007) – "From Learner Identity to Learner Autonomy: A Biographical Study of Two Hong Kong Learners of English". In P. Benson (ed.), *Teacher and Learner Perspectives*. Learner Autonomy 8. Dublin: Authentik, pp. 41-60.

CIEL Language Support Network (2000) – "Integrating Independent Learning with the Curriculum". In *Guide to Good Practice for Learning and Teaching Languages, Linguistics and Area Studies*

http:// <u>www.lang.ltsn.ac.uk/resources/goodpractice.aspx?resourceaid=1400</u> (c.14-06-2005).

COHEN, Andrew D. (1998) – *Strategies in Learning and Using a Second Language*. London & New York: Longman.

CONCEIÇÃO, Pedro; **DURÃO**, Diamantino; **HEITOR**, Manuel; **SANTOS**, Filipe (1998) – *Novas Ideias para a Universidade.* Lisboa: Instituto Superior Técnico.

"Concretização do Processo de Bolonha no Ensino da Engenharia em Portugal: Posição do Instituto Superior Técnico". http://www.ist.utl.pt/html/spot/bolonha, pdf, (accessed on 17/11/04).

Council of European Publishing (1996) – *Strategies in Language Learning and Use: Modern Languages.* Strasbourg.

Council of Europe (1993) – Autonomy and Self-directed Learning: Present Fields of Application. Modern Languages. Strasbourg.

Council of Europe (2001) – Common European Framework of Reference for Languages: Learning, Teaching, Assessment. Cambridge: Cambridge University Press.

Council of Europe (2009) – *Improving Recognition in the European Higher Education Area: An Analysis of National Action Plans.* Strasbourg: Council of Europe Publishing Editions: Higher Education Series 12.

Conseil Européen pour les Langues/European Language Council(CEL/ELC) (2002) – "The Bologna Process and the Issue of Languages". Brussels

Comission of the European Communities (2005) – Building the ERA of Knowledge for Growth. Brussels.

COOK, Guy (2000) – *Language Play, Language Learning.* Oxford: Oxford University Press.

CORDER, Debbie & **WALLER**, Grant (2007) – "Using a CALL Package as a Platform to Develop Effective Language Learning Strategies and Facilitate Autonomous Learning". In L. Miller, *Learner Autonomy 9: Autonomy in the Classroom.* Dublin Authentik, pp.7-26.

CORREIA, Ana Maria Ramalho & **MESQUITA**, Anabela (2006) – *Novos Públicos no Ensino Superior - Desafios da Sociedade do Conhecimento*. Lisboa: Edições Sílabo.

COTTERALL, Sara (1998) – "Developing a Course Strategy for Learner Autonomy". In M. Wallace, *Action Research for Language Teachers*. Cambridge: Cambridge University Press, pp172-180.

COTTERALL, Sara (2000) – "Promoting Learner Autonomy Through the Curriculum: Principles for Designing Language Courses." *ELT Journal 54/2* April. Oxford: Oxford University Press.

COTTERALL, Sara (2003) – "Learner Independence: Reflecting on Experience". In Proceedings of the Independent Learning Conference 2003, Australia http://www.independentlearning.org/proceedings (accessed 01-11-2005)

COTTERALL, Sara (2009) – "Learner Autonomy in a Mainstream Writing Course: Articulating Learning Gains". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning.* Hong Kong: Hong Kong University Press, pp.87-107.

COTTERALL, Sara & **CRABBE**, David, (eds.) (1999) – Learner Autonomy in Language Learning: Defining the Field and Effecting Change. Bayreuth Contributions to Glottodidactics, vol 8. Frankfurt am Maim: Peter Lang.

COTTERALL, Sara & **CRABBE**, David (2008) – "Learners Talking: From Problem to solution". In T. Lamb, & H. Reinders (ed.s), *Learner and Teacher Autonomy. Concepts, Realities, and Responses.* AlLA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp.125-140.

COTTERALL, Sara & **MURRAY**, Garold (2009) – "Enhancing Metacognitive Knowledge: Structure, Affordances and Self". *System* 37, pp. 34-45.

COWAN, John (1981) – "Struggling with Self-Assessment". In D. Boud, *Developing Student Autonomy in Learning*. London/New York: Kogan Page, pp.192-210.

COWAN, John (1998) - *On Becoming an Innovative University Teacher.* Buckingham: Open University Press.

COWAN, John (2004) – "Education for Higher Capabilities. Beyond Alignment to Integration?". In G. M.S Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp. 53-76.

CRESPO, Vitor (2003) – Ganhar Bolonha, Ganhar o Futuro. O Ensino Superior no Espaço Europeu. Lisboa: Gradiva.

CRYSTAL, David (1990) - The English Language. London: Penguin Books.

DAM, Leni (1995) – *Learner Autonomy 3: From theory to Classroom Practice.* Dublin: Authentik.

DAM, Leni (2009) – "The Use of Logbooks – a Tool for Developing Learner Autonomy" In R. Pemberton, S. Toogood, A. Barfield (eds.) *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.125-144.

de GROOT, Dick; **Hooghoff**, Hans; **van Hout**, Ad; **WARPS**, Jules (2004) – "Articulation of Upper Secondary and Higher Education in the Netherlands". In G. M.S Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp.17-38.

DER WENDE, Marijk (2000) – "The Bologna Declaration: Enhancing the Transparency and Competitiveness of European Higher Education". *Higher Education in Europe*, Vol. XXV, N.o 3.

DELILLE, Karl H. & **CHICHORRO** Adelaide (coord.s) (2002) – *Aprendizagem Autónoma de Línguas em Tandem.* Lisboa: Edições Colibri.

Department of Education, Science and Training of Australia (2006) – "The Bologna Process and Australia: Next Steps". http://www.dest.gov.au/NR/rdonlyres/D284E32F-98DD-4A67-A3C2-D5B6F3F41622/9998/BolognaPaper.pdf > (accessed 19/08/2010)

DEWEY, John (2002) – A Escola e a Sociedade e A Criança e o Currículo. Lisboa Relógio D'água.

DEWEY, John (2007) – *Democracia e Educação*. Lisboa: Didáctica Editora.

DICKINSON, Leslie (1987) – *Self Instruction in Language Learning*. Cambridge: Cambridge University Press.

DICKINSON, Leslie (1992) – *Learner Autonomy 2: Learner Training for Language Learning.* Dublin: Authentik.

DICKINSON, Leslie (1995) – *Learner Autonomy 3: Definitions, Issues and Problems.* Dublin: Authentik.

DIXON, David; **BABA**, Heather; **COZENS**, Phil; **THOMAS**, Mairi (eds.) (2006) – *Independent Learning Schemes : A Practical Approach*. Dubai: TESOL Arabia.

DÖRNYEI, Zoltán (2001) – *Motivational Strategies in the Language Classroom*. Cambridge: Cambridge University Press.

DUDLEY-EVANS, Tony & **ST JOHN**, Mary Jo (1998) – *Developments in English for Specific Purposes: A Multidisciplinary Approach.* Cambridge: Cambridge University Press.

DUDLEY-MARLING, Curt & **SEARLE**, Dennis (1993) – *Who Owns Learning: Questions of Autonomy Choice & Control.* Greenwood Press.

DWORKIN, Gerald (1988) – *The Theory and Practice of Autonomy.* Cambridge: Cambridge University Press.

EASTCOTT, Diana; **BRAND** Stuart; **WYNNE,** Nigel; **MILLARD,** Luke (2004) – "Fostering Innovation and Embedding Change". In G. M. S. Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education.* Aveiro: University of Aveiro Publishers, pp. 167-180.

EDGERTON, Russel (2004) – "From Here to There or the Strategy of Change". In G. M.S Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp.103-116.

EHRMAN, Madeline E.; **LEAVER,** Betty, L.; **OXFORD, Rebecca** (2003) – "A Brief Overview of Individual Differences in Second Language Learning". *System* 31 pp. 313-330.

ELLIS, Gail & **SINCLAIR**, Barbara (1989) – *Learning to Learn English; A Course in Learner Training.* Cambridge: Cambridge University Press.

ERREY, Lynn & **SCHOLLAERT**, Ruddi (2003) – *Whose Learning Is It Anyway?* Developing Learner Autonomy through Task-Based Language Learning. Antwerp: Garant Publishers.

ESCH, Edith (2009) – "Crash or Clash? Autonomy 10 years on". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.27-44.

ESCOLA SUPERIOR AGRÁRIA DE COIMBRA (2008) – *Relatório de Concretização do Processo de Bolonha 2007/08.* available in http://webmanager.esac.pt/mgallery/default.asp?obj=586

ESTRELA , Albano & **NÓVOA** António (1992) – *Avaliações em Educação: Novas Perspectivas.* Lisboa: Educa-Currículo.

FABER, Pamela; **WOLF** Gewehr; **JIMÉNEZ RAYA**; Manuel, **LAMB**, Terry (eds.) (2007) – Challenges In Teacher Development: Learner Autonomy and Intercultural Competence. Frankfurt am Main: Peter Lang.

FANSELOW, John (1987) – *Breaking the Rules: Generating and Exploiting Alternatives in Language Teaching*. Harlow: Longman Publishing Group.

FAIRe (Fórum Académico para a Informação e Representação Externa) (2001) – *Manual de Sobrevivência ao Processo de Bolonha.* Cadernos do Ensino Superior (2), Leiria: Instituto Superior de Leiria.

FEAR, Frank *et al.* (2003) – "Meaning Making and 'The Learning Paradigm': A Provocative Idea in Practice". *Innovative Higher Education*. Human Sciences Press: vol.27, no.3, Spring, pp. 151-168.

FELDER, Richard (1993) – "Reaching the Second Tier: Learning and Teaching Styles in College Science Education". *Journal of College Science Teaching*, 23(5) pp. 286-290.

FELDER, Richard & **BRENT**, Rebecca (2006) – *Effective Teaching: A Workshop.* Aveiro: Universidade de Aveiro.

FIGUEIREDO, Vivina; **GONÇALVES**, José; **COSTA**, Rui (2007) – *Guia de Avaliação*. ESAC, 1-42. http://www.esac.pt/qualidade/.

FLAVELL, John H. (1979) – "Metacognition and Cognitive Monitoring: a New Area of Cognitive Developmental Inquiry". *American Psychologist* 34. pp. 906-911.

FREIRE, Paulo (1996) – *Pedagogia da Autonomia. Saberes Necessários à Prática Educativa.* S. Paulo: Editora Paz e Terra.

FRIEDMAN, Thomas L. (1999) – *The Lexus and the Olive Tree – Understanding Globalization*. New York: Straus Giroux.

GARDNER, David (ed.) (2007) – *Learner Autonomy 10: Integration and Support.* Dublin: Authentik.

GASTON, Paul L. (2010) – The Challenge of Bologna. What the United States Higher Education Has to Learn From Europe, and Why it Matters That We Learn It. Sterling: Stylus Publishing.

GIBBS, Graham (2004) – "Improving University Teaching and Learning through Institution-wide Strategies". In G. M.S Victor, I. Alarcão, H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp. 149-166.

GHIGLIONE, Rodolphe & **MATALON** Benjamin (1997) – O *Inquérito. Teoria e Prática.* Oeiras: Celta Editora.

GIL, VICTOR M.S.; I. Alarcão; H. Hooghoff (eds.), (2004) – *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers.

GOMES, José Ferreira (coord.) (2003) – *Reflectir Bolonha: Reformar o Ensino Superior*. Porto: Universidade do Porto. CD-ROM.

GONÇALVES, Lucília (1999) – A Investigação-Acção como Estratégia Colaborativa de Professores. Um Projecto Focalizado na Exploração Didáctica de Estratégias de Aprendizagem e Uso de Inglês Língua Estrangeira. Masters Dissertation Universidade de Aveiro, photocopied text.

GONÇALVES, Maria Eduarda (2001) – "Europeização e Direitos dos Cidadãos". In B. Sousa Santos, (org.) *Globalização: Fatalidade ou Utopia?* Porto: Edições Afrontamento.

GONÇALVES, Lurdes (2007) – "Connecting Languages: The Use of Portfolio as a Means of Exploring and Overcoming Frontiers within the Curriculum". In *European Journal of Teacher Education*. Vol.30.No.2, May 2007, pp. 195-213.

GONZALEZ, Julia & **WAGENAAR**, Robert (eds.) (2003) – *Tuning Educational Structures in Europe. Final Report – Phase One*. Bilbao and Groningen.

GREMMO, Marie-José & **RILEY**, Philip (1995) – "Autonomy, Self-Direction and Self Access in Language Teaching and Learning: The History of an Idea". *System* 23, n.2, pp.151-164.

GREEN, Simon (2000) – *New Perspectives on Teaching and Learning Modern Languages.* Clevedon: Multilingual Matters.

GRAUERHOLZ, E. (2001) – "Teaching Holistically to Achieve Deep Learning". *College Teaching* 49, pp. 44-50.

GRENFELL, Michael (ed.) (2002) – *Modern Languages Across the Curriculum.* New York: Routledge Falmer.

HALL, David & **HEWINGS**, Ann (2001) – *Innovation in English Language Teaching*. New York: Routledge.

HALLIDAY, M.A.K. (1978) – Language as Social Semiotic. The Social Interpretation of Language and Meaning. London: Edward Arnold Publishers.

HAMILTON, Judith (1996) – *Inspiring Innovations in Language Teaching.* Clevedon: Multilingual Matters.

HAMP-LYONS, Liz; **CONDON**, William (1999) – Assessing the Portfolio. Principles for Practice, Theory, and Research. Cresskill: Hampton Press.

HARMER, Jeremy (2010) 4th edition – *The Practice of English Language Teaching*. Harlow: Pearson Longman Education.

HAUCK, Mijam & **HAMPEL**, Regine (2008) – "Strategies for Online Learning Environments", In S. Hurd, T. Lewis (eds.), *Language Learning Strategies in Independent Settings*. Bristol: Multilingual Matters. pp. 283-302.

HILL, Dave (2003) – "O Neoliberalismo Global, a Resistência e a Deformação na Educação". *Currículo sem Fronteiras*, v.3, n.1, Jul/Dez pp.24-59. www.curriculosemfronteiras.org

HILLS, Graham (2003) – "The New Learning Paradigm and the Importance of Technology". In Gomes, José Ferreira (coord.), *Reflectir Bolonha: Reformar o Ensino Superior*. Porto: Universidade do Porto. CD-ROM, PDF.

HOLEC, Henri (1981) – *Autonomy and Foreign Language Learning* – Oxford: Pergamon Press.

HOLEC, Henri (1988) – *Autonomy and Foreign Language Learning – Present Fields of Application*. Strasbourg: The Council of Europe.

HOLEC, Henri (2008) – "A Brief Historical Perspective on Learner and Teacher Autonomy". In T. Lamb & H. Reinders (eds.), *Learner and Teacher Autonomy. Concepts, Realities, and Responses.* AlLA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp. 3-4.

HOLEC, Henri; **LITTLE**, David; **RICHTERICH**, René (1996) – *Strategies in Modern Language Learning and Use. Studies towards a Common Framework of Reference for Language Learning and Teaching.* Strasbourg: Council of Europe Publishing.

HOLEC, Henri & **HUTTUNEN**, Irma (1997) – *Learner Autonomy in Modern Languages. Research and Development.* Strasbourg: The Council of Europe.

HOUAISS, Antônio & **VILLAR** Mauro (2002) – *Dicionário Houaiss de Língua Portuguesa*. 6 Vols. Lisboa: Círculo de Leitores.

HOWCROFT, Susan (2007) – "English for Specific Purposes: Promoting Student Autonomy". In M.C.Ribeiro, E. Brito, G. Méndez (coord.s), *Aprender Ensinando. Dinâmicas Metodológicas no Ensino-Aprendizagem das Línguas Estrangeiras.* Actas do VIII Encontro da Aprolíngu@s. Arthipol: Guarda, pp.173-182.

HUTCHINSON, Tom & **WATERS**, Alan (1987) – *English for Specific Purposes: A Learning-Centred Approach*. Cambridge: Cambridge University Press, 1987.

HURD, Stella (2008) – "Affect and Strategy Use in Independent Language Learning". In S. Hurd, T. Lewis (eds.), *Language Learning Strategies in Independent Settings*. Bristol: Multilingual Matters, pp-218-236.

JAMES, Mary & **McCORMICK**, Robert (2009) – "Teachers Learning How to Learn" *Teaching and Teacher Education*. Doi:10.1016/jtate.2009.02.023.

JEFFREY, Lynn M. (2008) – "Learning Orientations: Diversity in Higher Education". *Learning and Individual Differences*. Doi:10.1016/j.lindif.2008.09.004.

JIMENEZ RAYA, Manuel; **LAMB**, Terry; **VIEIRA**, Flávia (2007) — *Pedagogia na Autonomia na Educação em Línguas na Europa. Para um Quadro de Referencia do Desenvolvimento do Aluno e do Professor.* Dublin: Authentik.

JORDAN, Robert R. (1997) – *English for Academic Purposes. A Guide and Resource Book for Teachers*. Cambridge: Cambridge Language Teaching Library.

JORDÃO, Pedro (2006) – "A Secundarização da Europa", *Visão* no. 710, 12th October 2006, p.88.

KARLSSON, Leena & **KJISIK**, Felicity (2007) – "The Role of Autobiography in Fostering Learning and Reflective Thinking". In A. Barfield, S. Brown (eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation.* New York: Palgrave Macmillan, pp.30-42.

KENNY, Brian (1993) – "For more Autonomy". *System*. Pergamon Press, vol. 21, 4. pp. 431-442.

KENNEDY, Chris & **BOLITHO**, Rod (1984) – *English for Specific Purposes.* London: Macmillan.

KENT, Richard (1997) – *Room 109: the Promise of a Portfolio Classroom.* Portsmouth: Cook Publishers.

KEZAR, Adrianna (2001) – "Theory of Multiple Intelligences: Implications for Higher Education". *Innovative Higher Education*, v.26, n.2 winter, pp.141-154.

KIERKEGAARD, Søren (1848) - http://en.wikiquote.org/wiki/S%C3%B8ren_Kierkegaard (accessed on 12th February 2012).

KINCHELOE, Joe L. (2003) – *Teachers as Researchers. Qualitative Inquiry as a Path to Empowerment.* London: Routledge.

KINCHELOE, Joe (2006) – *Construtivismo Crítico*. Mangualde, Edições Pedagogo.

KJISIK, Felicity (2007) – "Ten Years in Autonomy: Reflections and Research on the ALMS Programme". In Gardner, D. *Integration and Support.* Learner Autonomy 10. Dublin: Authentik, pp. 113-126.

KLENOWSKI, Val (2002) – *Developing Portfolios for Learning and Assessment: Processes and Principles.* Oxen & New York: RoutlegeFalmer.

KNOWLES, Malcolm S. (1975) – *Self-Directed Learning. A Guide for Learners and Teachers*. New Jersey: Cambridge, the Adult Education Company.

KNIGHT, J. (1997) – "Internationalisation of Higher Education: A conceptual Framework". In J. Knight, H. de Wit (eds.) *Internationalisation of Higher Education in*

Asian Pacific Countries. Amsterdam: European Association for International Education/IDP Education Australia.

KOHONEN, Viljo (1992) – "Experiential Language Learning: Second Language Learning as Cooperative learner Education". In D. Nunan (ed.), *Collaborative Language Learning and Teaching*. Cambridge: Cambridge University Press, pp. 14-39.

KOHONEN, V. (2002) – "The European Language Portfolio: from Portfolio Assessment to Portfolio-oriented Language Learning." In V. Kohonen, P. Kaikkonen (eds.), *Quo Vadis Foreign Language Education?* Tampere University: Publications of the Department of Teacher Education, pp. 77-95.

KOLB, David A. (1984) – Experiential Learning. Experience as the Source of Learning and Development. New Jersey: Prentice Hall.

KOLMOS, Anette & **KOFOED**, Lise (2004) – "Development of Process Competences by Reflection and Experimentation". In G. M.S Victor, I. Alarcão; H. Hooghoff (eds.), *Challenges in Teaching & Learning in Higher Education*. Aveiro: University of Aveiro Publishers, pp. 77-90.

KUFI, Elmaziye & **OZGUR**, Birikim (2009) – "Web 2.0 in Learning English: The Student Perspective". *Procedia. Social and Behavioral Sciences.*1, pp. 326-330.

ILTE nº 56290-CP-3 2002 LINGUA-LA – *Intercomprehension in Language Teacher Education* 1998-2002. Aveiro: Universidade de Aveiro.

LA GANZA, William (2008) – "Learner Autonomy – Teacher Autonomy. Interrelating and the Will to Power". In T. Lamb, H. Reinders *Learner and Teacher Autonomy. Concepts, Realities, and Responses.* AILA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp.63-79.

LAMB, Terry (2003) – "Learning independently? Pedagogical and Methodological Implications of New Learning Environments. (Keynote Address) Proceedings of the Independent Learning Conference 2003, Australia http://www.independentlearning.org/proceedings > (accessed 01-11-2005).

LAMB, Terry & **REINDERS** Hayo (eds.) (2006) – *Supporting Independent Language Learning. Issues and Interventions.* Bayreuth Contributions to Glottodidactics, vol. 10.Frankfurt am Main: Peter Lang.

LAMB, Terry & **REINDERS** Hayo (eds.) (2008) – *Learner and Teacher Autonomy. Concepts, Realities, and Responses.* AILA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company.

LAMB, Terry (2009) – "Controlling Learning: Learner's Voices and Relationships between Motivation and Learner Autonomy". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp. 67-86.

LANTOLF, James P. (ed.) (2000) – *Sociocultural Theory and Second Language Learning*. Oxford: Oxford University Press.

LAURILLARD, Diana (2002) – Rethinking University Teaching. A Conversational Framework for the Effective Use of Learning Technologies. Oxon: RoutledgeFalmer, 2nd edition.

LCR Project Partners (2003) - The Language Resource Centre Handbook: Guidelines for Setting Up, Running and Expanding Language Resource Centres. Athens: Kastaniotis Editions.

LEGUTKE, Michael & **THOMAS**, Howard (1991) – *Process and Experience in the Language Classsroom.* London & New York: Longman.

LITTLE, David (1991) – *Learner Autonomy 1: Definitions, Issues and Problems.* Dublin: Authentik.

LITTLE, David (1999) – "Learner autonomy is more than a Western Cultural Construct". In S. Cotterall, D. Crabbe (eds.), *Learner Autonomy in Language Learning: Defining the Field and Effecting Change.* Bayreuth Contributions to Glottodidactics, vol. 8. Frankfurt am Lang. pp. 11–18.

LITTLE, David (2000) – "Learner Autonomy: Why foreign Languages Should Occupy a Central Role in the Curriculum". In S. Green (ed.), *New Perspectives on Teaching and Learning Modern Languages*. Clevedon: Multilingual Matters, pp.24-45.

LITTLE, David (2003) – "Learner Autonomy and Public Examinations". In *Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment.* Dublin: Authentik, pp. 223-233.

LITTLE, David (2007) – "Introduction: Reconstructing Learner and Teacher Autonomy in Language Education" In A. Barfield, S. Brown (eds.), *Reconstructing Autonomy in*

Language Education. Inquiry and Innovation. Hampshire & New York: Palgrave MacMillan, pp.1-12.

LITTLE, David (2009) – "Learner Autonomy, the European Language Portfolio and Teacher Development". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.147-173.

LITTLE, David; **DAM**, Leni; **TIMMER**, Jenny (2000) – *Focus on Learning Rather Than Teaching: Why and How? Papers from the IATEFL Conference on Learner Independence, Kraków 14-16 May 1998.* Dublin: Centre for Language and Communication Studies.

LITTLE, David, **RIDLEY**, Jennifer; **USHIODA**, Ema (2002) - *Towards Greater Learner Autonomy in the Foreign Language Classroom*. Dublin: Authentik.

LITTLE, David; **RIDLEY**, Jennifer; **USHIODA**, Ema (2003) – *Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment.* Dublin: Authentik.

LITTLE, David et al. (2007) – Preparing Teachers to Use the European Language Portfolio – Arguments, Materials and Resources. Strasbourgh: Council of Europe Publishing.

LITTLEWOOD, William (1996) – 'Autonomy': An Anatomy and Framework. *System* 24, 4, pp. 427-435.

LOURENÇO, Eduardo (1994) – *A Europa Desencantada - Para uma Mitologia Europeia.* Lisboa: Visão.

LOURENÇO, Júlia M. & **GUEDES**, M. GRAÇA (2007) – *Bolonha Ensino e Aprendizagem por Projecto*. Lisboa: Centro Atlântico.

LOURTIE, Pedro (2001) – "Furthering the Bologna Process. Report to the Ministers of Education of the Signatory Countries". Prague. In www.bologna-berlin2003.de.

MACARO, Ernest (1997) – *Target Language, Collaborative Learning & Autonomy (Modern Language in Practice)*. Multilingual Matters.

MACARO, Ernest (2008) – "The Shifting Dimensions of Language Learner Autonomy". In T. Lamb, H. Reinders (eds.), *Learner and Teacher Autonomy. Concepts, Realities, and Responses*. AILA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp. 33-46.

MACHADO dos SANTOS, Sérgio (2002) – "As Consequências Profundas da Declaração de Bolonha". In A. Pouzada, L. S. Almeida, R. M. Vasconcelos (eds.), *Contextos e Dinâmicas da Vida Académica*. Guimarães: Universidade do Minho, pp. 69-78.

MASTER, Peter & **BRINTON**, Donna (eds.) (1998) – New Ways in English for Specific Purposes. New Ways in TESOL Series II. Alexandria: TESOL.

McGARRY, Dee (1995) – Learner Autonomy 4: The Role of Authentic Texts. Dublin: Authentik.

Magna Charta Universitatum http://www.aic.lv/bolona/Bologna/maindoc/magna_carta_univ_.pdf.

MENDONÇA, Maria Manuela (2000) – "A Língua de Especialidade e a Língua para Fins Específicos – Uma Estratégia para o Ensino/Aprendizagem de uma Terminologia". In *Actas* do X *Congresso Luso/Espanhol de Línguas Aplicadas às Ciências e Tecnologias*, pp. 344 – 352.

MILLER, Lindsay (2009) – "Reflective Lesson Planning: Promoting Learner Autonomy in the Classroom". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.109-124.

MILLER, Lindsay (ed.) (2007) – *Learner 9: Autonomy in the Classroom.* Dublin: Authentik.

MILLER GUERRA, J. P. & **SEDAS NUNES**, Adérito (1970) – "A Crise da Universidade em Portugal: Reflexões e Sugestões. In A. Sedas Nunes, *O Problema Político da Universidade*. Lisboa: Publicações D. Quixote.

MOZZON-McPHEARSON Marina & **DANTEC**, Cathy (2006) – "Managing Language Learning at University: An Analysis of A Strategy-Based Training Programme". In T. Lamb, H. Reinders (eds.) *Supporting Independent Language Learning. Issues and Interventions.* Bayreuth Contributions to Glottodidactics, vol 10.Frankfurt am Main: Peter Lang, pp.141-168.

MOREIRA, Gillian & **HOWCROFT** Susan (coord.s) (2005) – *Línguas e Mercado*. Aveiro: Edição Universidade de Aveiro.

MOREIRA, Gillian (1990) – *English for Teachers. A Study in Language Needs of Future Teachers of English.* Masters Dissertation in Sciences of Education in the Speciality of English Didactics, Universidade de Aveiro.

MOREIRA, Gillian (2001) – "In Search of Europe - The European Union's Identity's Project". In, A. Barker (dir.), *A Europa. Realidade e Fantasia/ Europe: Fact and Fiction.* Aveiro: Universidade de Aveiro.

MOREIRA, Vital (2006) – "É desta?" Público, 11th April January 2006, p.7.

MOREY, Ann I. (2004) – "Globalization and the Emergence of for-Profit Higher Education" In *Higher Education*, vol. 48, 131-150.

MORGADO, Fátima *et al.* (2003) – "Paradigma da Aprendizagem: Universidade e Politécnico (Ciências e Engenharia)". In J. Ferreira Gomes (coord.) – *Reflectir Bolonha: Reformar o Ensino Superior. Um Arquivo Documental sobre a Construção do Espaço Europeu do Ensino Superior.* Porto: Universidade do Porto. CD-ROM

MURPHY, Linda (2008) – "Integrating Strategy Instruction into Learning Materials" In S. Hurd, T.Lewis (eds.), *Language Learning Strategies in Independent Settings.* Bristol: Multilingual Matters, pp.303-320.

NATRI, Teija (2007) – "Active Learnership in Continuous Self-and Peer-evaluation". In A. Barfield, S. Brown(eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan, pp.108-119.

NEVES, Fernando dos Santos (org.) (2005) — *Quem Tem Medo da "Declaração de Bolonha"? A Declaração de Bolonha e o Ensino Superior em Portugal.* Lisboa: Edições Universitárias Lusófonas.

NICOLL, Hugh (2007) – "Seeking Autonomy in a Lecture Course". In A. Barfield, S. Brown (eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan, pp.120-130.

NIX, Mike & **BARFIELD**, Andy (eds.) (2009) – 'Autonomy and Control in Curriculum Development: Are you Teaching What We All Agreed?'. In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp. 217-238.

NIX, Mike (2007) – "Telling Tales of Transformation". In A. Barfield, S. Brown (eds.) *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan, pp.143-155.

NUNAN, David (1988) – *The Learner-Centred Curriculum*. Cambridge: Cambridge University Press.

NUNAN, David (1989) – *Understanding Language Classrooms. A Guide for Teacher-Initiated Action.* New York: Prentice Hall.

NUNAN, David (1992a) – "Toward a Collaborative Approach to Curriculum Development: a Case Study". In D. Nunan (ed.) *Collaborative Language Learning and Teaching*. Cambridge: Cambridge University Press, pp. 230-253.

NUNAN, David (1992b) – *Research Methods in Language Learning*. Cambridge: Cambridge University Press.

NUNAN, David (1998) – *Understanding Language Classrooms. A Guide for Teacher-Initiated Action.* New York: Prentice Hall.

NUNAN, David (1999) – Second Language Teaching and Learning. Ontario: Heinle & Heinle Publishers.

NUNAN, David (ed.) (2003) – *Practical English Language Teaching*. New York: McGrawHill/Contemporary.

OECD (2006) - Reviews of National Policies for Education – Tertiary Education in Portugal. EDU/EC 25.

OLIVEIRA, Lia R. (2005) – "Um Dispositivo de eLearning no Ensino Presencial Universitário: Avaliação do seu Valor Educativo". *Currículo sem Fronteiras*, v.5,n.1, Jan/Jun pp.49-69. www.curriculosemfronteiras.org

O'MALLEY, J. Michael & **CHAMOT**, Anna Uhl (1995) – *Learning Strategies in Second Language Acquisition*. Cambridge: Cambridge University Press.

OXFORD, Rebecca L. & **BURRY-STOCK**, Judith A. (1995) – "Assessing the Use of Language Learning Strategies Worldwide with the ESL/EFL Version of the Strategy Inventory for Language Learning (SILL)". *System* 23 (1), pp.1-23.

OXFORD, Rebecca L. (1990) - Language Learning Strategies. What Every Teacher Should Know. Boston: Heinle & Heinle Publishers.

OXFORD, Rebecca L. (1996) - *Language Learning Strategies around the World: Cross-Cultural Perspectives*. Honolulu: University of Hawai'i Press.

OXFORD, Rebecca L. (2002) – "Language Learning Strategies in a Nutshell: Update and ESL Suggestions". In J. Richards, W. Renandya (eds.), *Methodology in Language Teaching. An Anthology of Current Practice*. Cambridge: Cambridge University Press, pp.124-132.

OXFORD, Rebecca L. (2003) – "Towards a More Systematic Model of L2 Learner Autonomy". In D. Palfreyman, R. C. Smith (eds.), *Leaner Autonomy Across Cultures. Language Perspectives.* Basingstoke: Palgrave MacMillan, pp75-91.

OXFORD, Rebecca L. (2008) – "Hero with a Thousand Faces: Learner Autonomy, Learning Strategies, and Learning Tactics in Independent Language Learning". In T. Lewis, S. Hurd (eds.), *Language Learning Strategies in Independent Settings*. (Clevedon, U.K.: Multilingual Matters).

PAUL, Martin (2011) – "Moving beyond the Bologna Process: Europe as one Higher-education Space". In http://www.guardian.co.uk/higher-education-network/blog/2011/nov/09/europe-higher-education-bologna-process?newsfeed=true (accessed on 9/11/11).

PALFREYMAN, David & **SMITH**, Richard C. (2003) – *Leaner Autonomy Across Cultures. Language Perspectives.* Basingstoke: Palgrave MacMillan.

PEMBERTON, Richard; **LI**, Edward; **OR**, Winnie; **PIERSON**, Herbert (eds.) (1996) – *Taking Control: Autonomy in Language Learning*. Hong Kong: Hong Kong University Press.

PEMBERTON, Richard; **TOOGOOD**, Sarah; **BARFIELD**, Andrew (eds.) (2009) – *Maintaining Control: Autonomy and Language Learning.* Hong Kong: Hong Kong University Press.

PERRENOUD, Philippe (1992) – "Não Mexam na Minha Avaliação! Para uma Abordagem Sistémica da Mudança Pedagógica". In A. Estrela, *Avaliações em Educação: Novas Perspectivas*. Lisboa: Educa-Currículo.

PERRENOUD, Philippe et al. (2002) – As Competências para Ensinar no Século XXI. A Formação dos Professores e o Desafio da Avaliação. S. Paulo: Artmed Editora.

PHIPPS, Alison & **GONZALEZ**, Mike (2004) – *Modern Languages. Learning & Teaching in an Intercultural Field.* London: Sage Publications.

POUZADA, António; **ALMEIDA** Leandro. S.; **VASCONCELOS**, Rosa (eds.) (2002) – *Contextos e Dinâmicas da Vida Académica*. Guimarães: Universidade do Minho.

POWELL, Peter. C. (2002) – "Methods for Improving Student Motivation in University Programmes". In A. Pouzada, L. S. Almeida, R. M. Vasconcelos (eds.), *Contextos e Dinâmicas da Vida Académica*. Guimarães: Universidade do Minho, pp. 13-22.

PROSSER, M. & **TRIGWELL**, K. (2000) – *Understanding Learning and Teaching. The Experience in Higher Education*. SRHE & Open University Press.

RAAPPANAB, Sinikka (1997) – "Metacognitive Skills, Planning, and Self-Assessment as a Means towards Self-Directed Learning". In H. Holec , I. Huttunen *Learner Autonomy in Modern Languages. Research and Development.* Strasbourg: The Council of Europe, pp.123-137.

RAMSDEN, P. (2000) – Learning to Teach in Higher Education. London & New York: Routledge.

"Realising the European Higher Education Area". Communiqué of the Conference of Ministers responsible for Higher Education in Berlin on 19th September 2003. http://www.bologna-berlin2003.de/pdf/Communique1.pdf.

REINALDA, Bob & **KULESZA**, Eva (2005) – *The Bologna Process – Harmonizing Europe's Higher Education*. Opladen & Bloomfield Hills: Barbara Budrich Publishers.

REINDERS, Hayo (2000) – *Do It Yourself? A Learner's Perspective on Learner Autonomy and Self-access Language Learning*. MA Dissertation. Groningen: University of Groningen.

REIS MONTEIRO, A. (2005) – *História da Educação. Uma Perspectiva.* Porto: Porto Editora.

RHEM, J. (1995) – "Deep/Surface Approaches to Learning: an Introduction." In *The National Teaching and Learning Forum*, Vol. 5, 1, 1-3.

RIBÉ, Ramon (2003) – "*Tramas* in the Foreign Language Classroom: Autopoietic Networks for Learner Growth". In D. Little, J. Ridley, E. Ushioda, (eds.), *Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment.* Dublin: Authentik, pp.11-28.

RIBEIRO, Maria del Carmen (2007) – "O Efeito Bolonha: Uma Nova Caminhada para as Línguas Estrangeiras no Ensino". In M.C.Ribeiro, E. Brito, G. Méndez (coord.s) *Aprender Ensinando. Dinâmicas Metodológicas no Ensino-Aprendizagem das Línguas Estrangeiras* Actas do VIII Encontro da Aprolíngu@s. Arthipol: Guarda, pp. 9-23.

RICHARDS, Jack C. & **RENANDYA**, Willy A. (eds.) (2003) – *Methodology in Language Teaching. An Anthology of Current Practice*. Cambridge: Cambridge University Press.

RIDLEY, Jennifer (1997) – *Learner Autonomy 6: Developing Learners' Thinking Skills.* Dublin: Authentik.

RILEY, Philip (1997) – "The Guru and the Conjurer: Aspects of Counselling for Self-Access". In P. Benson, P. Voller (eds.), *Autonomy and Independence in Language Learning*. Harlow: Longman, pp.114-131.

RILEY, Philip (2009) – "Discursive Dissonance in Approaches to Autonomy". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.45-63.

ROBINSON, Pauline C. (1980) – *ESP* (English for Specific Purposes): The Present Position. Oxford: Pergamon Press.

ROBINSON, Pauline C. (1991) – *ESP Today: A Practioner's Guide*. New York: Prentice Hall.

ROCHA, Filipe (1988) – *Correntes Pedagógicas Contemporâneas*. Aveiro: Livraria Estante Editora.

ROGERS, Carl R. (1983 6ª edição) - Tornar-se Pessoa. Lisboa: Moraes Editores.

ROTHBLATT, Sheldon (2000) – "A Connecticut Yankee? An Unlikely Historical Scenario" In, P. Scott (ed.) – *Higher Education Re-formed.* New Millennium Series, London & New York: Falmer Press, pp.2 -26.

ROUSSEAU, Jean-Jacques (1969) - Émile ou De l'éducation. Paris :Gallimard.

SÁ, Helena Araújo e & **ANDRADE**, Ana Isabel (2002) – *Processos de Interacção Verbal em Aula de Línguas: Observação e Formação de Professores.* Lisboa: Instituto de Inovação Educacional.

SAGER, Juan; **DUNGWORTH**, David; **MCDONALD**, Peter F. (1980) – *English Special Languages. Principles and Practice in Science and Technology.* Wiesbaden: Oscar Brandstetter Verlag.

SCHAUBLE, Leona & **GLASER**, Robert (1996) – *Innovations in Learning. New Environments for Education.* New Jersey: Lawrence Erlbaum Publishers.

SCHöN, Donald A. (1987) – Educating the Reflective Practitioner. Toward a New Design for Teaching and Learning in the Professions. S. Francisco: John Wiley & Sons.

SCWIENHORST, Klaus (1998) – "Teacher Autonomy in MOOs – Supporting Language Teaching in Collaborative Virtual Environments." *Journal of Information Technology for Teacher Education* . 8 (2) http://www.tcd.ie/CLCS/kscwien/Publications/JITTE.htm

SCOTT, Peter (ed.) (2000a) – *Higher Education Re-formed.* New millennium Series, London and New York: Falmer Press.

SCOTT, Peter" (2000b) – "A Tale of Three Revolutions? Science, Society and the University". In P. Scott (ed.), *Higher Education Re-formed*. New Millennium Series, London and New York: Falmer Press.

SERGEANT, Simon (2001) – "CALL Innovation in the ELT Curriculum". In D. Hall & A. Hewings (eds.), *Innovation in English Language Teaching*, pp. 240-249.

SERRALHEIRO, João Paulo (org.)(2005) – O Processo de Bolonha e a Formação dos Educadores e Professores Portugueses. Porto: Editora Profedições.

SHARLE, Ágota & SZABÓ, Anita (2000) – *Learner Autonomy a Guide to Developing Learner Responsibility*. Cambridge: Cambridge University Press.

SHAO, Huijuan & **WU**, Zongjie (2007) – "Nurturing Learner Autonomy through Caring Pedagogic Practice". In A. Barfield, S. Brown (eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan, pp.95-107.

SIGUAN, Miquel (1996) - A Europa das Línguas. Lisboa : Terramar.

SINCLAIR, Barbara & **PROWSE**, Philip (1996) – *Activate your English. Intermediate Coursebook: A Short Course for Adults.* Cambridge: Cambridge University Press.

SINCLAIR, Barbara (2000) – "Learner Autonomy: the Next Phase?". In B. Sinclair, I. McGrath, T. Lamb (eds.), *Learner Autonomy, Teacher Autonomy: Future Directions.* London: Longman, pp. 4-14.

SINCLAIR, Barbara & **McGRATH**, Ian & **LAMB**, Terry (2000) – *Learner Autonomy, Teacher Autonomy: Future Directions.* London: Longman.

SINCLAIR, Barbara (2009) – "The Teacher as Learner: Developing Autonomy in an Interactive Learning Environment". In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp. 175-198.

SKIER, Eric & **KOHYAMA**, Miki (2006) – Learner and Teacher Autonomy in Japan 2: More Autonomy You Ask! Tokyo: JALT.

SMITH, Richard C. (2003) – "Pedagogy for Autonomy as (Becoming) Appropriate Methodology". In D. Palfreyman, R. C. Smith, (eds.), *Leaner Autonomy Across Cultures. Language Perspectives.* Basingstoke: Palgrave MacMillan, pp.129-146.

SMITH, Richard & **USHIODA**, Ema (2009) – "Autonomy: Under whose Control" In R. Pemberton, S. Toogood, A. Barfield (eds.), *Maintaining Control: Autonomy and Language Learning*. Hong Kong: Hong Kong University Press, pp.241-253.

"Sorbonne Joint Declaration". Joint Declaration on Harmonization of the Architecture of the Higher Education System on 25th May 1998. In J.F. Gomes, (coord.) (2003) – *Reflectir Bolonha: Reformar o Ensino Superior*. Porto: Universidade do Porto. CD-ROM.

SOMEK, B. & **Davies**, R. (1991) - "Towards a Pedagogy for Information Technology", *Curriculum Journal*, Vol. 2, N°2, Summer, 153-170.

SOUSA SANTOS, Boaventura de (org.) (2001) — *Globalização: Fatalidade ou Utopia?* Porto: Edições Afrontamento.

SOUSA SANTOS, Boaventura de (2002) 8ª edição – *Pela Mão de Alice. O Social e o Político na Pós-Modernidade.* Porto: Edições Afrontamento.

SPRING, J. (2004) - "O Futuro da Educação na Sociedade Global" In *Currículo sem Fronteiras*, v.4,n.2, pp.71-91, Jul/Dez. www.curriculosemfronteiras.org

STEINMAYR, Ricarda & SPINATH (2009) – 'The Importance of Motivation as Predictor of School Achievement' *Learning and Individual Differences 19*, pp.80-90.

STOER, Stephen R. (2008) – "A Reforma de Veiga Simão no Ensino: Projecto de Desenvolvimento Social ou Disfarce Humanista?". In *Educação Sociedade e Culturas*, 26, pp. 17-48.

STRINGER, Ernest T. (1999) – *Action-Research*. Thousand Oaks: Sage Publications, 2nd Edition.

SUÁREZ, Benjamin (2003) – "Las Enseñanzas Técnicas y el Espacio Europeo de Educación Superior". In J. F. Gomes (coord.) *Reflectir Bolonha: Reformar o Ensino Superior*. Porto: Universidade do Porto. CD-ROM.

TAVARES, José (2003) - Formação e Inovação no Ensino Superior. Porto: Porto Editora.

TANNER, Rosie (2001) – "Teaching Intelligently". *English Teaching Professional 20.* July, pp. 40-41.

TANNER, Rosie (2001) – "MI and you". *English Teaching Professional 21*. October, pp. 57-58.

TEICHLER, Ulrich (2003) – "The Future of Higher Education and the Future of Higher Education Research". *Tertiary Education and Management* 9. Kluwer Academic Publishers, pp.171-185.

TERÇA, Olga (2002) – Da organização dos Sistemas Educativos na União Europeia. Cadernos do Ensino Superior (3). Leiria: Instituto Politécnico de Leiria.

TEODORO, António (2005) – "O Processo de Bolonha e a Reforma Universitária: dos Riscos Potenciais às Possibilidades Reais de Mudança". In F. Santos Neves (org.) – Quem Tem Medo da 'Declaração de Bolonha? A 'Declaração de Bolonha' e o Ensino Superior em Portugal. Lisboa: Edições Universitárias Lusófonas.

TOOGOOD, Sara & **PEMBERTON**, Richard (2002) – "Integrating Self-Access Language Learning into the curriculum: A Case Study". In P. Benson, S. Toogood, (eds.), *Learner Autonomy 7:Challenges to Research and Practice*. Dublin: Authentik, pp.86-110.

TOOGOOD, Sara & **PEMBERTON**, Richard (2007) – "Support Structures for Self-Access Learning". In A. Barfield, S. Brown, (eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation.* New York: Palgrave Macmillan, pp.180-195.

TOOHEY, Susan (1999) – *Designing Courses for Higher Education.* Buckingham: Open University Press.

TUCKMAN, Bruce W. (2005) 3ª ed. – *Manual de Investigação em Educação. Como Conceber e Realizar o Processo de Investigação em Educação.* Lisboa: Fundação Calouste Gulbenkian.

TREBBI, Turid (2003) - "Curriculum Development and Learner Autonomy in the Foreign Language Classroom: Constraints and possibilities". In D. Little, J. Ridley, E. Ushioda, (eds.) — Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment. Dublin: Authentik. pp.166-184.

TREBBI, Turid (2008) – "Freedom - a Prerequisite for Learner Autonomy?: Classroom Innovation and Language Teacher Education". In T. Lamb, H. Reinders (eds.) *Learner and Teacher Autonomy. Concepts, Realities, and Responses*. AILA Applied Linguistics Series 1. Amsterdam: John Benjamins Publishing Company, pp. 33-46.

"The European Higher Education Area". Joint Declaration of the European Ministers of Education Convened in Bologna on 19th June 1999. http://www.bologna-berlin2003.de/pdf/bologna_declaration.pdf

"Towards the European Higher Education Area". Communiqué of the Meeting of European Ministers in charge of higher Education in Prague on19th May 2001. http://www.bologna-berlin2003.de/pdf/Prague communiqueTheta.pdf

TRIMBLE, Louis (1985) – *English for Science and Technology*. Cambridge: Cambridge University Press.

VAN DER WENDE, Marijk (2000) – "The Bologna Declaration: Enhancing the Transparency and Competitiveness of European Higher Education". *Higher Education in Europe*, Vol. XXV, No.3. pp. 305-310.

VAN ESCH, Kees & **ST. JOHN**, Olivier (eds.) (2003) – A Framework for Freedom. Learner Autonomy in Foreign Language Teacher Education. Vol. 8, Frankfurt am Maim: Peter Lang.

VAN LIER, Leo (1996) – *Interaction in the Language Curriculum: Awareness, Autonomy & Authenticity.* Harlow: Longman.

VASCONCELOS COSTA, João (2001) – *A Universidade no seu Labirinto.* Lisboa: Editorial Caminho.

VASCONCELOS COSTA, João (2004) – "Bolonha em Portugal: Bolonha e a Jangada de Pedra". *Público*, 19th August 2004, p.6.

VASCONCELOS COSTA, João – (2005a) "Bolonha e a Educação Superior Privada". In F. Santos Neves (org.) – *Quem Tem Medo da 'Declaração de Bolonha'? A 'Declaração de Bolonha' e o Ensino Superior em Portugal.* Lisboa: Edições Universitárias Lusófonas. pp. 41-48.

VASCONCELOS COSTA, João (2005b) – "Bolonha em Portugal: a Grande Confusão". *Público*, 25th January 2005, p.7.

VEIGA, Amélia *et al.* (2008) "Implementing Bologna in Southern European Countries: Comparative Analysis of some Research Findings". *Education for Chemical Engineers*, pp. 1-10.

VEIGA SIMÃO, José (1998) – "Os Conflitos entre Poderes Académicos, do Estado e da Sociedade Civil". In P. Conceição, D. Durão, M. Heitor, F. Santos (eds.), *Novas Ideias para a Universidade*. Lisboa: Instituto Superior Técnico.

VEIGA SIMÃO, José & **ALMEIDA COSTA**, António de (2000) — *O Ensino Politécnico em Portugal*. Braga: Conselho Coordenador dos Institutos Superiores Politécnicos.

VEIGA SIMÃO, José; **MACHADO dos SANTOS**, Sérgio; **ALMEIDA COSTA**, António de (2002) – *Ensino Superior: Uma Visão para a Próxima Década*. Lisboa: Gradiva.

VEIGA SIMÃO, José; **MACHADO dos SANTOS**, Sérgio; **ALMEIDA COSTA**, António de (2005) – *Ambição para a Excelência. A Oportunidade de Bolonha.* Lisboa: Gradiva.

VIEIRA, Estela (1993) – Desenvolvimento Curricular em Inglês – Autonomia e Aprendizagem Autodirigida. Lisboa: Texto Editora.

VIEIRA, Flávia & **MOREIRA**, Maria Alfredo (1993) – *Para Além dos Testes... A Avaliação Processual na Aula de Inglês.* Braga: Universidade do Minho.

VIEIRA, Flávia (1998) — *Autonomia na Aprendizagem de Língua Estrangeira. Uma Intervenção Pedagógica em Contexto Escolar.* Dissertação de Doutoramento da Universidade do Minho em Metodologia e Ensino de Inglês. Braga: Instituto de Educação e Psicologia.

VIEIRA, Flávia (org.) (1999a) — *Educação em Línguas Estrangeiras. Investigação, Formação, Ensino.* Braga: Universidade do Minho, Setembro.

VIEIRA, Flávia (org.) (1999b) – Grupo de Trabalho – Pedagogia para a Autonomia *Cadernos 1*, Braga: Universidade do Minho, Outubro.

VIEIRA, Flávia (1999c) – "Pedagogy for Autonomy: Teacher Development and Pedagogical Experimentation". In S. Cotterall, D. Crabbe (ed.s), *Learner Autonomy in Language Learning: Defining the Field and Effecting Change*. Bayreuth Contributions to Glottodidactics, vol 8. Frankfurt am Maim: Peter Lang, pp. 149 – 158.

VIEIRA, Flávia, **MOREIRA** Maria Alfredo, **BARBOSA**, Isabel, **PAIVA**, Madalena (orgs.) (2002) – *Pedagogy for Autonomy and English Learning*. Proceedings of the 1st Conference of the Working Group - Pedagogy for Autonomy. Braga: Universidade do Minho.

VIEIRA, Flávia (org.) (2002b) - Grupo de Trabalho – Pedagogia para a Autonomia *Cadernos 2.* Braga: Universidade do Minho, Março.

VIEIRA, Flávia (coord.) (2003) – Grupo de Trabalho – Pedagogia para a Autonomia *Cadernos 3.* Braga: Universidade do Minho, Maio.

VIEIRA, Flávia et al. (2004) — *Transformar a Pedagogia na Universidade. Experiências de Investigação do Ensino e da Aprendizagem.* Braga: Centro de Investigação em Educação, Universidade do Minho.

VIEIRA, Flávia (2005) – "Transformar a Pedagogia na Universidade?" *Currículo sem Fronteiras*, v.5,n.1, Jan/Jun pp.10-27. <u>www.curriculosemfronteiras.org</u>

VIEIRA, Flávia coord. (2006a) - Grupo de Trabalho - PA *Cadernos 4.* Braga: Universidade do Minho, Maio.

VIEIRA, Flávia (2006b) – "Para a Compreensão do Portefólio de Aprendizagem". In L. Oliveira, P. Alves (orgs), *Actas do I Encontro sobre e-Portefólio. – Aprendizagem formal e Informal.* Braga, pp.1-8.

VIEIRA, Flávia (2007a) – "Teacher Development through Inquiry: Getting Started." In A. Barfield, S. Brown (eds.), *Reconstructing Autonomy in Language Education. Inquiry and Innovation*. Hampshire & New York: Palgrave MacMillan, pp.15-29.

VIEIRA, Flávia (2007b) – "Reflective Teacher Development towards Pedagogy for Autonomy in Schools: Promoting and Understanding Change through Pedagogical Inquiry". In M. Jimenez Raya, L. Sercu (eds.) *Challenges in Teacher Development: Learner Autonomy and Intercultural Competence.* Frankfurt am Main: Peter Lang, pp.147-167.

VIEIRA, Flávia (org.) (2009a) – *Transformar a Pedagogia na Universidade. Narrativas da Prática.* Santo Tirso: De Facto Editores.

VIEIRA, Flávia (ed.) (2009b) – *Struggling for Autonomy in Language Education. Reflecting, Acting, and Being.* Frankfurt am Main: Peter Lang.

VYGOSTSKY, L.S. (1978) – *Mind in Society. The Development of Higher Psychological Processes.* Cambridge: Harvard University Press.

VOLLER, Peter (1997) – "Does the Teacher Have a Role in Autonomous Language Learning?". In P. Benson, P. Voller (eds.), *Autonomy and Independence in Language Learning*. Harlow: Longman, pp. 98-113.

WALLACE, Michael (1998) – *Action Research for Language Teachers.* Cambridge: Cambridge University Press.

WANG, Jinghui *et al.* (2009) – "Metacognitive Beliefs and Strategies in Learning Chinese as a Foreign Language". *System* 37, pp. 46-56.

WARBURTON, Kevin (2003) – "Deep Learning and Education for Sustainability" In *International Journal of Sustainability in Higher Education*, Vol. 4, 1, pp. 44-56.

WENDEN, Anita & **RUBIN**, Joan (1987) – *Learner Strategies in Language Learning.* Hemel Hempstead: Prentice Hall International.

WENDEN, Anita (1991) – *Learner Strategies for Learner Autonomy*. Hemel Hempstead: Prentice Hall International.

WENDEN, Anita (1997) – "Book Reviews". *Systems* 25, 4, pp.585-588.

WENDEN, Anita (1999) – "An Introduction to Metacognitive Knowledge and Beliefs in Language Learning: beyond the Basics". *System* 27, pp.435-441.

WENDEN, Anita (2001) – "Metacognitive Knowledge in SLA: The Neglected Variable". In M. Breen, (ed.), *Learner Contributions to Language Learning. New Directions in Research.* Harlow: Pearson Education, pp.44-64.

WHEELER, S. (2001) – "Information and Communication Technologies and the Changing Role of the Teacher". *Journal of Educational Media*, 26, 1, pp. 7-17.

White Paper on Education and Training (1995) – *Teaching and Learning: Towards a Learning Society.* European Commission, Luxembourg: Office for Official Publications of the European Communities.

WHITE, Carmel P. (2004) – "Student Portfolios: An Alternative Way of Encouraging and Evaluating Student Learning". In *New Directions for Teaching and Learning* 100, Winter 2004, Wiley Periodicals, pp. 37-42.

WITTE, Johanna (2004) – "The Introduction of Two-Tiered Study Structures in the Context of the Bologna Process: A Theoretical Framework for an International Comparative Study of Change in Higher Education Systems". In *Higher Education Policy*, 17, pp. 405-425.

WHITEHEAD, Russell (2000) – "Between a Rock and a Hard Place: the Interdependent Classroom". In D. Little, L. Dam, J. Timmer, (eds.), Focus on Learning Rather Than Teaching: Why and How? Papers from the IATEFL Conference on Learner

Independence, Kraków 14-16 May 1998. Dublin: Centre for Language and Communication Studies, Trinity College, pp. 87-92.

WIKIPEDIA (2010a) – "Autonomy". < http://en.wikipedia.org/wiki/Autonomy> (accessed 19/08/2010).

WIKIPEDIA (2010b) – "VoiceThread". < http://en.wikipedia.org/wiki/Voicethread (accessed 19/08/2010).

WIKIPEDIA (2010c) – "Livemocha". < http://en.wikipedia.org/wiki/Livemocha> (accessed 19/08/2010).

WOLFF, Dieter (2003) – "Content and Language Integrated Learning: a Framework for the Development of Learner Autonomy". In D. Little, J. Ridley, E. Ushioda (eds), *Learner Autonomy in the Foreign Language Classroom: Teacher, Learner, Curriculum and Assessment.* Dublin: Authentik, pp. 211-222.

WOLFF, Leslie Bobb (2000) – "Changing Attitudes towards Treatment of Mistakes" In D. Little, L. Dam, J. Timmer, (eds.), *Focus on Learning Rather Than Teaching: Why and How? Papers from the IATEFL Conference on Learner Independence, Kraków 14-16 May 1998.* Dublin: Centre for Language and Communication Studies, pp.100-112.

WONG, Lillian C & **NUNAN**, David (2011) – "The Learning Styles and Strategies of Effective Language Learners". *System* 39, pp. 144-163.

WOODS, D. *et al.* (2000) - "The Future of Engineering Education: Developing Critical Skills". *Chemical Engineering Education*, 34 (2), pp.108-117.

WOODWARD, Tessa (2001) – *Planning Lessons and Courses. Designing Sequences of Work for the Language Classroom.* Cambridge: Cambridge University Press.

YIN, Robert K. (2009) 4th edition – Case Study Research. Design and Methods. Thousand Oaks: Sage.

Appendices

Appendix 1. Descriptor of English Language and Communication BSc Biotechnology

First-cycle Degree in BIOTECHNOLOGY

3.1.1.1.1 Description of Course unit

ENGLISH LANGUAGE AND COMMUNICATION

1. Course Unit:

1.1 Scientific area: 22/Humanities

1.2 Type (Time required): Year

1.3 Year/Semester: 1st Year

1.4 Workload (hours) (1): 160

		Contact hours (2)						Projects Field	Field	Study	Assessment	Total
TT	TP	PL	FW	S	Tr	Tu	0	,	Work	•		
						22.2				40.0		400
	72,0					36,0				48,0	4,0	160,

1.5 ECTS Credits: 6

2. Requirements and Prerequisites

Does not apply

 [&]quot;The student's workload includes all types of anticipated work, namely contact hours as well as hours dedicated to training placements, projects, field work, study and assessment"
 For each activity state the total contact hours [theoretical teaching (TT), theoretical and practical teaching (TP) practical and laboratory (PL), field work (FW), seminar (S), training placement (Tr), tutorial (Tu), other (O)]"

3. Context

The Course Unit of English Language and Communication is part of the curricula of scientific and technical courses and aims at providing learners with the appropriate competences to have access to information as well as select and convey information in the scope of their scientific domain, both in Portuguese and in English. The Course Unit also intends to lay the foundations for a lifelong learning process with a high degree of autonomy.

4. Competences

The learner should be able to:

- 1. Recognise the scientific and technical discourse specifics both in Portuguese and in English .
- 2. Collect, analyse, and select information in both languages.
- 3. Identify and use creatively the syntax , the rhetoric, and the structure of scientific and technical discourse to write texts in both languages.
- 4. Identify and use appropriate grammar structures.
- 5. Present and explain orally relevant topics of his/her scientific domain.
- 6. Collect, edit, utilize and produce information.

5. Contents and Teaching Methodologies

In order to accomplish the goals of the Course Unit and the acquisition of the expected competences, individual and group activities are carried out so as to allow the learner to:

- Develop reading and listening skills of the scientific domain texts.
- Develop written and oral skills in specialised contexts.
- Expand lexical fields in specific scientific domains.
- Review and enhance Portuguese and English linguistic structures.
- Stimulate critical skills through self-assessment and peer-assessment.
- Develop oral skills in frameworks involving time, space, and context management.

6. Learning Outcomes

The learner should be able to:

Competence 1:

- 1.1 Read and comprehend specialised texts
- 1.2 Identify extended speech and discourse in different media.
- 1.3 Infer technical and semi-technical words from context.

Competence 2:

- 2.1 Do critical bibliographical research on specific issues.
- 2.2 Organise glossaries on particular topics.
- 2.3 Use technical vocabulary.

Competence 3:

- 3.1 Write clearly a wide variety of texts.
- 3.2 Write summaries and syntheses.
- 3.3 Characterise, classify, and define proficiently in a wide variety of contexts.

Competence 4:

- 4.1 Use correctly Portuguese and English syntax and structure.
- 4.2 Use morphological structures correctly.

Competence 5:

- 5.1 Use varied techniques to carry out different tasks.
- 5.2 Give and discuss guided presentations.

Competence 6:

- 6.1 Write scientific and technical reports.
- 6.2 Write CVs, cover letters, and job application letters.

7. Modular Organization for Assessment

Module 1: Technical English I

Objectives: To assess the proficiency in English in different contexts.

Weight: 30%

Assessment: Portfolio

- a personal file (20%)
- mini-test (s) (40%)
- summary (30%)
- portfolio overall assessment (10%)

Module 2: Technical English II

Objectives: To assess the proficiency in English in scientific and technical contexts.

Weight: 40%

Assessment: Portfolio

- lecture (20%)
- mini-test (s) (30%)
- poster presentation (40%)
 - portfolio overall assessment (10%)

Module 3: Communication

Objectives: To assess the capacity to collect, edit, utilize, produce and convey information.

Weight: 30%

Assessment: - practical tasks (30%)

- mini-test (s) (30%)
 - lecture (40%)

8. Final Examination:

Written exam plus two oral presentations based on research work in English and Portuguese, respectively.

9. Requirements for success in a Course Unit:

10. Bibliography:

Required Reading:

Answers.com – Online Dictionary, Encyclopedia and much more. Available on WWW:<URL:http://www.answers.com>.

MURPHY, Raymond - English Grammar in Use. Cambridge: Cambridge University Press, 2004.

SINCLAIR, J. M. - Collins English Dictionary. Millennium Edition. Glasgow: Harper Collins, 1998.

WIMMER, Franz — *Dicionário Ilustrado Michaelis*. São Paulo: Editora Melhoramentos, 2001. 2 volumes: Português — Inglês e Inglês — Português.

BASTOS, Lilia da Rocha [et al.] – Manual para a elaboração de projetos e relatórios de pesquisa, teses, dissertações e monografias. 4ª ed. rev. e ampl. Rio de Janeiro: Editora Guanabara Koogan, cop. 1995. ISBN 85-277-0314-9.

NP 405-1.1994, Informação e documentação - Referências bibliográficas: documentos impressos. Instituto Português da Qualidade (IPQ).

NP 405-3.2000, Informação e documentação - Referências bibliográficas: documentos não publicados. IPQ.

NP405.4.2002, Informação e documentação – Referências bibliográficas: documentos electrónicos. Instituto Português da Qualidade (IPQ)

PORTUGAL - Ministério do Emprego e da Segurança Social. Departamento de Emprego. Direcção de Informação e Orientação Profissional. Como procurar emprego. Colecção Utente, 1999.

SOUSA, Gonçalo de Vasconcelos e - Metodologia da investigação, redacção e apresentação de trabalhos científicos. Porto: Livraria Civilização Editora, 1998. ISBN 972 26 1559 9.

Recommended Reading:

Cf. Handouts collated by the teachers.
The Professor
(Noémia Bárbara)
The Course Director

Appendix 2. Survey on continuous assessment in the Technical English Modules

Choose only one of the statements on continuous assessment

1.It was carried out in the right amount but the results were not worthwhile	
2. It was carried out in the right amount and the results were worthwhile	
3.It was too frequent and the results were not worthwhile	
4. It was too frequent but the results were worthwhile	
5. No opinion	

Choose only one of the statements on portfolio elaboration

1.It did not involve too much work and did not improve learning	
2. It did not involve too much work and improved learning	
3.It involved too much work and did not improve learning	
4. it involved too much work but improved learning	
5. No opinion	

Choose only one of the statements on the subject matter

1.It was not interesting and it is useless	
2. It was not interesting but it may be useful	
3.It was interesting but it is useless	
4. It was interesting and may be useful	
5. No opinion	

Appendix 3. Work habits

Choose from:				
N – Never (nur	nca)			
O– Ocasionally	(ocasionalmente)			
F – Frequently	(frequntemente)			
A – Always (se	mpre)			
1. You usually study (costuma estudar):				
- alone (sozinho)	N	 O	F	 A
- with classmates (com colegas)	N	о О	F	A
2. You usually study by:				
- setting up a work plan	N	0	F	A
(estabelecendo um plano de trabalho)				
- having no work plan (sem plano de trabalho)				
3. When you study:	N	0	F	A
you focus easily and work for several hours	3			
(concentra-se facilmente e trabalha por vári	as horas) N	О	F	A
You hardly focus and do a lot of breaks				
(concentra-se dificilmente e faz inúmeras pa	nusas) N	O	F	A

4. You revise what you have studied	in ciass:					
 before any new class (antes de uma nova aula) before tests (antes dos testes/avaliações) 		F O	A A			
5. When you have to study a subject:					_	
- you try to memorize all the topics focu- (tenta memorizar tudo que foi visto na			N	0	F	<u></u> Ц
- you do a summary of the classes and r	•					
(faz um resumo das aulas e memoriza-o))		N	o	F	A
6. To clear your doubts you:				\neg		
-speak with your classmates		N	O F	A		
(recorre a colegas ou outras pessoas)						
-ask the teacher to give you complemen	tary explnanations		N	o	F	A
(pede explicações complenetares ao pro	fessor)					

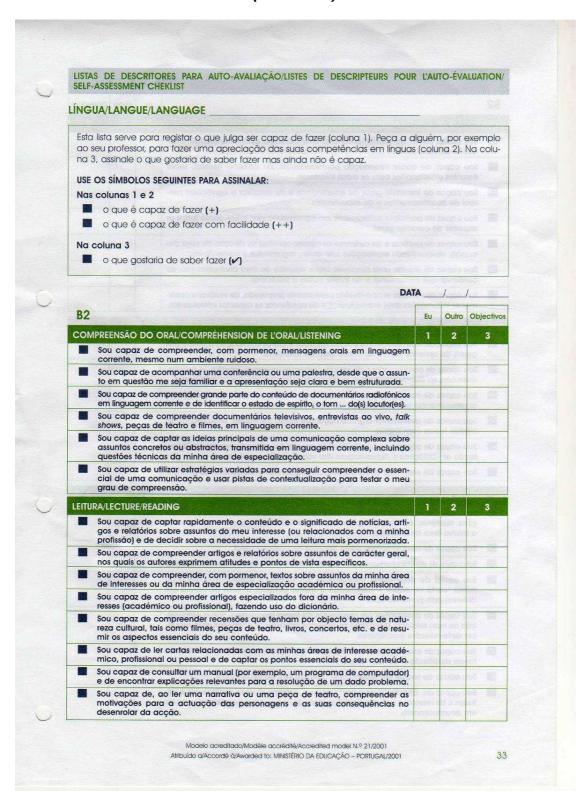
Appendix 4. Prioritise your needs

Imagine you have graduated and are working as biotechnologist. Please prioritise your English language needs to the following statements from 1, the highest, to 14 the lowest. (Imagine que já é licenciado e trabalha como engenheiro do ambiente. Atribua prioridades às seguintes afirmações, sendo que 1 é o valor mais elevado e 14 o menos elevado.)

a	To read a novel. (Ler um romance)	
b	To elaborate a scientific poster. (Elaborar um poster científico)	
С	To write an abstract for a scientific paper. (Redigir um resumo de um artigo científico)	
d	To speculate about causes and effects of hypothetical situations. (Especular sobre causas e efeitos de situações hipotéticas)	
e	To write a motivation letter. (Redigir uma carta de apresentação.)	
f	To keep a conversation about a great variety of subjects at a social event. (Durante um evento social manter uma conversa sobre uma grande variedade de assuntos.)	
g	To read and understand a scientific article from your field of expertise. (Ler e compreender um artigo científico do seu domínio científico)	
h	To do a slideshow presentation explaining, not reading, your scientific work. (Fazer uma apresentação em powerpoint, explicando, não lendo, o seu trabalho científico.)	
i	To write a scientific paper. (Escrever um artigo científico.)	
j	To read instructions on electrical appliances. (Ler as instruções nos manuais dos electrodomésticos.)	
k	To read a newspaper. (Ler um jornal.)	
1	To understand and give an oral account of a film. (Compreender e fazer uma síntese oral de um filme.)	
m	To explain orally to a colleague a complex scientific process in your field of expertise. (Explicar oralmente a um colega, um processo científico complexo, no âmbito do seu domínio científico.)	
n	To listen, understand, and orally summarise a scientific lecture. (Ouvir, entender e ser capaz de resumir oralmente uma palestra científica.)	

Annexes

Annex 1. B2 Questionnaire (scanned)



	DAT	Α		/
B2		Eu	Outro	Objectivo
NTER	ACÇÃO ORAL/INTERACTION ORALE/SPOKEN INTERACTION	1	2	3
	Sou capaz de iniciar, manter e concluir uma conversa com naturalidade, conquistando com sucesso o meu espaço e intervindo de forma efectiva.	6)(00) 868		USE OF
	Sou capaz de trocar informação pormenorizada, de carácter factual, sobre assuntos relacionados com os meus interesses.		DATE:	DC 121
	Sou capaz de transmitir graus de emotividade e de enfatizar o significado pessoal de acontecimentos e de experiências.	5.0	2000	Non-Build
	Sou capaz de participar activamente em conversas longas sobre quase todos os assuntos de carácter geral.		OF SELEC	
	Sou capaz de justificar e de defender as minhas opiniões no decurso de uma dis- cussão, apresentando explicações relevantes, argumentos e comentários.		E pn	ulse off
	Sou capaz de manter uma discussão sobre assuntos do meu conhecimento, de confirmar que compreendi e de incitar outros a participar.			
	Sou capaz de conduzir uma entrevista previamente preparada, de verificar e confirmar as informações do(s) entrevistado(s) e de aprofundar os aspectos interessantes.			
ROD	UÇÃO ORAL/PRODUCTION ORALE/SPOKEN PRODUCTION	1	2	3
	Sou capaz de fazer descrições pormenorizadas e claras em relação a uma vasta gama de assuntos dentro da minha área de interesses.		10 De	
	Sou capaz de compreender e de resumir oralmente pequenos excertos de notíclas, entrevistas ou documentários que envolvam opiniões, argumentação e discussão.		1000-	
	Sou capaz de compreender e de resumir oralmente o enredo e a sequência de acontecimentos num extracto de um filme ou de uma peça.		iones Guerra	
	Sou capaz de desenvolver argumentação de forma pertinente, encadeando as minhas ideias com lógica.	i jo		
	Sou capaz de exprimir um ponto de vista acerca de um dado assunto, apresentando as vantagens e desvantagens das várias opções possíveis.	Terre	dorek 1 dans	
	Sou capaz de especular sobre causas, consequências e situações hipotéticas.	u eb	odeo :	
SCR	TA/L'ÉCRIT/WRITING	1	2	3
	Sou capaz de escrever com clareza e profundidade textos, tais como composi- ções, relatórios, ou apresentações, acerca de vários assuntos relacionados com a minha área de interesse.	0 60 (10/10		62 E
	Sou capaz de resumir artigos sobre assuntos de carácter geral.			SK BE
	Sou capaz de resumir informação proveniente de várias fontes e meios de comunicação.	Day -C	THE S	30
	Sou capaz de desenvolver criticamente um assunto – numa composição ou numa "carta ao editor" – justificando a minha posição, a favor ou contra um determinado ponto de vista.	90 49 0 80		10 M
	Sou capaz de desenvolver um argumento de forma sistemática, numa composi- ção ou num relatório, realçando os aspectos de maior importância, sem esque- cer determinados pormenores.	o sio ini la		
	Sou capaz de escrever sobre acontecimentos e experiências reais ou fictícias, de forma detalhada e de tácil leitura.	of old	DIQ.0	
	Sou capaz de redigir um resumo crítico de um livro ou de um filme,	10.60	Organia delena	-
	Sou capaz de, através de uma carta pessoal, exprimir diversos sentimentos e attitudes e de relatar as notícias do dia, realçando os aspectos mais importantes de um acontecimento.	,els/, ilox) ii	PARSO Spineli	ice Br

Modelo acreditado/Modèle accrédité/Accredited model N.º 21/2001 Atribuído a/Accordé*á/Awarded to: MINISTÉRIO DA EDUCAÇÃO – PORTUGAL/2001

Annex 2. Student's reflection



 $Quando \ {\tt soube} \ {\tt que} \ {\tt iria} \ {\tt ter} \ {\tt Ingl\hat{e}s} \ {\tt no} \ {\tt meu} \ {\tt primeiro} \ {\tt ano} \ {\tt do} \ {\tt curso}, \ {\tt admito} \ {\tt que} \ {\tt pensei}$

"Pronto, deixo essa para trás e depois logo se vê". Ainda me lembro da primeira aula. Quando a professora nos disse o que iríamos fazer ao longo do semestre, o trabalho que iríamos ter. Assustoume bastante.



Mas depois... reparei que repetiu várias vezes a mesma frase: "Vocês vão interagir comigo", e não sei porquê, fiquei a pensar nisso. No início até brincava com os meus colegas e passava a vida a dizer "Vou passar a Inglês por causa da interacção".



Admito também que no início cismava que a professora não gostava de mim (mania da perseguição com os professores de Inglês), mas depois ultrapassei essa pequena parte imatura e deixei de pensar nisso.



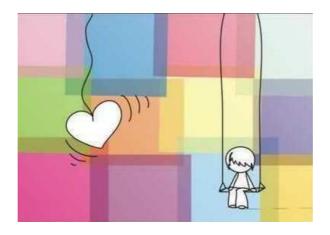
Não Sei se pelas actividades, se pela maneira de dar a aula, se por sentir a evolução a cada aula que ia. Agradava-me o facto de uma aula de 3horas passar bem mais despercebida do que uma de 2horas. O frequente intervalo às 6 horas da tarde, isso sem dúvida nos ajudou a todos, toda a gente o comentava.



As aulas foram passando e dei por mim a finalmente gostar de inglês.



E depois foi ter a força de vontade que nunca tinha tido, comecei a perceber que para o meu futuro como Biotecnóloga, irá ser fulcral saber pelo menos os termos técnicos em Inglês. Daí ter gostado muito mais do segundo módulo.



Depois, também ouvia mais uma frase interessante: "Vocês têm que falar inglês com

o cérebro, têm que interiorizar e não pensar em Português". Mais uma vez na brincadeira comecei a fazê-lo... e para quem não abria a boca para falar inglês, comecei a fazê-lo em qualquer altura do dia. "Falem inglês à hora do lanche", e eu falava inglês à hora do lanche.



Apesar disso, tenho apenas uma crítica a apontar. Primeiro, o facto do poster contar 40% da nota final. É demasiado na minha opinião, até porque se a apresentação correr mal, a professora não consegue saber se individualmente nos esforçamos muito no trabalho escrito/criativo ou não. É sempre complicado quando os grupos têm mais do que dois elementos e compreensível.



Concluindo a minha reflexão (não sei se será importante referir ou não), a aula que gostei mais foi a dos connectives, e a que menos gostei foi a dos ditongos. Do mesmo modo, a actividade mais interessante foi a da troca de emails com o Japão, e a menos interessante, na minha opinião, foi a apresentação dos tempos verbais.



De qualquer maneira, gostei muito da cadeira (repito, mais do segundo módulo), e sem dúvida que evoluí tanto a nível oral como escrito. Parece que já não é tão assustador ter um livro de Microbiologia em Inglês e um artigo de O.Tec. para resumir. Foi óptimo ultrapassar isso, principalmente pelo facto de ter sido na altura certa (o primeiro ano).



Considero que tudo isto foi...

um pequeno

grande

caminho.

Obrigada

Maria João Pereira, Lbiot

Annex 3. Survey of results of students 2007/08

GUADRO 1 - RESULTADOS AO INGUÉRITO AOS ALUNOS 2007/08												
Note: Resultados expr	essos em p	ercent	agem		LEAP	LEAL	LBRF	LEAM	固	1/16	OBT	Global
 As condições de leccionação 	o na unidade cun	rioular for		iadas à						esoritor:		
Salas de auta			Não Sim		25 75	20 80	19 81	15 85	22 78	25 75	27 73	21 78
Laboratórios			Não		36	20	13	21	28	31	31	24
Equipamentos audiovisuais			Sim		64 18	80 18	87 8	79 15	72 26	69 19	69 18	17
Equiparience ductoristides					82 16	82 18	92 13	85 14	74 17	81 22	82 21	8
Instrumentos de availação aplicados					84	82	87	85	83	78	79	8
Preparação pedagógica, empenir docentes	no e disponibilidad	e dos	Não Sim		16 84	21 79	25 75	18 82	21 79	16 84	16 84	1:
Carga lectiva insuficiente			Não Sim		62 38	78 22	70 30	8D 20	61 39	79 21	83 17	71 21
			Não		26	15	19	- 4	- 5	28	7	13
Na globalidade da U.C.			Em parte Sim		57 17	42 43	38 43	44 52	48 47	32 40	51 42	4
2. Floou aprovado na Unidade	Currioular?		Não Sim		34 66	30 70	39 61	32 68	27 73	40 60	25 75	3: 6:
3. Se floou aprovado na U.C., o		ulrido as	Não Sim		25 75	21 79	24 76	19 81	24 76	26 74	13 87	2'
competências previstas no de: 4. Como classifica o esforço e:		rumentos		80? (A							8/	-
Mini-teste (realizado em aula, co			insuficien	te	8	13	13	10	18	19	21	1
oral ou escrito)			Adequad: Excessive		86 6	78 9	82 5	81 9	76 6	73 8	74 5	7
Teste (realizado em aula, com du	uracão até 1 hora.	Um teste	insuficien		12	.5	18	12	_6	- 6	. 8	
de 2 horas é equivalente a 2 test			Adequad: Excessive		72 16	90 5	75 7	8D 8	72 22	76 18	82 10	8
Trabalho (realizado fora da aula, cuja preparação exija um		Insuficiente Adequado		6 80	8 71	3 80	5 78	6 70	9 57	19 56	7	
esforço ati) 5 horas)			Excessive		14	21	17	17	24	34	25	2
Projecto (trabalho realizado fora		aração	Insuficien Adequado		9 79	8 69	4 75	4 79	69 69	5 72	8 56	7
exija um esforço superior a 5 hor		14	Excessive		12	23	21	17	25	23	36	2:
 Accinale oc instrumentos de Mini-teste 	avaliação que o	onsidera i	agednago	6 306 0	67 57	ileocioni 67	65 65	oe assini 55	alar vano	6 I.A. pai 54	ra oaga u	i.C.) 6:
Teste Trabalho					50 81	50 49	39 59	45 50	58 68	37 60	68 45	6
Trabaino Projecto					28	49 16	18	11	23	60 8	45 11	1
Relatório (sobre tarefa feita na a: Exposição oral	ula)				44 26	16 21	19 15	16 13	16 36	13 26	21 24	1 2
Exposição oral			Menos de		- 5	17	9	7	10	14	- 11	- 1
	Durante o 1º Sen	nestre	10 a 14% 15 a 19%		29 7	9 12	14 13	13 22	9 23	16 6	10 18	11
6. Gual a percentagem do TRABALHO TOTAL que	Defende o F Gen		20 a 24%		25	20	18	31	26	26	31	21
dedicou a cada U.C.?			Mais de 2 Menos de		34 18	42 16	46 10	27 10	33 12	37 10	30 8	1:
(aproximadamente)	Durante o 2º Sen		10 a 14%		17	10	14 17	8	9	15	10	1
	Durante o 2º sen	nesare	15 a 19% 20 a 24%	,	12 17	16 17	18	20 27	25 20	18 22	15 32	2
			Mais de 2 Menos de		36 20	41 19	41	34 4	34 14	35 18	35 20	3
7. Gual o peso da COMPONEN	TE EVDEDIMENT	W	11 a 25%		16	26	27	19	23	29	23	2
U.C., em percentagem das hor		AL 110	26 a 50% 51 a 75%		21 23	27 18	24 25	38 31	28 23	34 9	28 20	2
			Mais de 7	75%	20	10	17	8	12	10	9	- 1
			Menos de 11 a 25%		8	20 23	6 25	4 35	10	14 26	39 20	1 2
 Gual o peso da COMPONENI U.C., em percentagem das hors 			26 a 50% 51 a 75%		50	41	31	36	24 34	40	25	3
5				75%	26 10	12 4	27 11	15 10	25 7	14 6	10 6	1
8. Que medidas considera adequadas para promover o suo				oolar?	19	26	15	20				2
Aulas complementares, eventualmente em horário pós-labora Matérias e exercícios mais aplicados à profissão					19 60	60	56	52	14 70	29 46 32	21 57	5
Aulas preparatórias nas primeira	s semanas de aula				11 56	20 31	12 26	25 29	22	32 30	23 43	3
Maior peso de autas práticas elo Tem sugestões para outras med					2	31 D	26 4	29 4	23 3	12	- 1	
10, indique o número médio de	horas em que	Menos d		7 4	i. Indique	o númer	ro médio	de horas	declined		os de 5 h 0 h	41
esteve presente nas aulas, por		15 a 20 h Mais de 3			estudo/tr					10 a	15 h	3
	- U	80						Mals	de 15 h	13		

Annex 4. Result of survey of the teaching staff in 2007/08

QUADRO 2 - RESULTA	ADOS AO INQUÉR	SOA OTIS	DOCEN	TE8 200	7/08				
Nota: <u>Resultados expressos em percen</u>	LEVP	LEAL	LBRF	LEAM	LET	LAB	OBI	Global	
Condições de leccionação da unidade curricular									
As salas de aula têm a dimensão adequada?	Excessiva Adequada Insuficiente	0 57 43	0 67 33	0 57 43	0 57 43	0 67 33	0 43 57	0 71 29	0 60 40
As salas de aula tim o mobiliário adequado?	Não Sim	57 43	50 50	57 43	71 29	67 33	86 14	57 43	64 36
As salas de aula tim liuminação adequada?	Não Sim	29 71	50 50	29 71	57 43	67 33	43 57	57 43	47 63
Há laboratórios disponíveis para a leccionação da UC?	Não Sim Não responde	43 57 0	50 50 0	43 43 14	71 29 0	50 17 33	43 43 14	57 43 0	61 40 9
Se respondeu afirmativamente à questito anterior,	Não	29	33	29	29	17	43	43	32
considera que esses laboratórios têm condições adequadas?	Sim Não responde	29 42	17 50	14 57	0 71	0 83	0 57	14 43	11 67
Hå equipamentos audiovisuais disponíveis para a	Não	57	33	29	29	50	43	14	36
Ha equipamentos audiovisuais disponíveis para a leccionação da UC?	Sim Não responde	43 0	67 0	71 0	71 0	50 0	57 0	72 14	62 2
Se respondeu afirmativamente à questão anterior,	Não	14	33	13	29	17	38	43	27
considera que esses equipamentos têm condições adequadas?	Sim Não responde	29 57	33 34	62 25	42 29	33 50	38 24	43 14	40 33
N.º de alunos por turma é, em aulas TP e P,	Excessivo Adequado Insuficiente	57 43 0	67 33 0	50 50 0	71 29 0	67 33 0	75 25 0	57 29 14	63 36 2
A preparação prévia dos alunos é adequada?	Não Em parte Sim	29 71 0	50 50 0	25 75 0	57 43 0	50 33 17	25 62 13	43 57 0	40 68 4
A motivação dos alunos é adequada?	Não Em parte Sim	14 72 14	17 66 17	13 87 0	14 72 14	50 33 17	13 74 13	29 57 14	21 66 13
A carga lectiva de contacto (c	Excessiva Adequada Insuficiente	0 71 29	0 83 17	0 75 25	0 86 14	0 100 0	14 86 0	0 86 14	2 84 14
Como avalla as condições de leccionação existentes na globalidade?	Insuficientes Suficientes Boas	29 57 14	33 67 0	37 38 25	29 71 0	17 0 83	37 50 13	29 57 14	30 48 21
2. Metodologías de ensino/aprendizagem adoptadas na l		1-4							
As metodologías adoptadas promoveram o	Não	14	17	13	14	17	13	14	16
desenvolvimento das competincias dos estudantes na U.C.?	Em parte Sim	29 57	33 50	25 62	29 57	0 83	25 62	43 43	26 69
As metodologías adoptadas promoveram no estudante o desenvolvimento de competências transversais à U.C.?	Não Em parte Sim	14 43 43	17 50 33	13 38 49	14 43 43	17 0 83	13 50 37	14 57 29	16 40 46
As metodologías adoptadas promoveram o desenvolvimento da autonomía do estudante?	Não Sim / em parte	14 85	33 67	13 87	29 71	17 83	13 87	29 71	21 78
3. Instrumentos de availação. N.º de provas de cada tipo	realizadas, por o	urso e po	r semest	re					
Mini-teste (duração atá 30 minutos, oral ou escrito)	Semestre Impar	13,5	17	13,5	17	18,5	20,5	17	16,7
Teste (duração alé 1 hora. Um teste de 2 horas é	Semestre par Semestre impar	13,5 20,5	17 20	17,5 15,5	17 17,5	18,5 9,5	15,5 17,5	18 19,5	16,7 17,1
equivalente a 2 testes de 1 hora.) Trabalho (realizado na aula ou fora dela, cuja preparação	Semestre par Semestre impar	18,5 13.5	20 6.5	15,5 20.5	21,5 6,5	9,5 6	16,5 10.5	20,5 6,5	17,4 10,0
exija um esforço atá 5 horas)	Semestre par	13,5	6,5	14,5	10,5	6	8,5 2,5	8,5	9,7
Projecto (realizado na auta ou fora dela, cuja preparação exija um esforço superior a 5 horas)	Semestre impar Semestre par	4 2	1	0,5 0,5	1,5 2,5	4,5 4,5 17	0,5	0,5 0,5	2,1 1,6
Como avalla a solução adoptada respeitante à avallação?	insatisfatória Satisfatória Multo satisf.º	14 72 14	17 66 17	13 50 38	14 72 14	17 66 17	25 62 13	14 72 14	16 66 18
4. Que medidas considera adequadas para promover o o			- 11			1/	13	14	18
Aulas complementares, eventualmente em horário pos-labor		14	17	13	14	17	13	14	16
Matérias e exercícios mais aplicados à profissão Aulas propedêuticas nas primeiras semanas de aula		29 0	0 17	25 0	14 14	17 0	38 0	14 14	20 6
Maior peso de autas práticas e/ou de laboratório, nas horas	de contacto	ō	33	13	14	ō	13	29	16