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Communicative Competences and the Use of ICT for Foreign Language Learning within the European Student Exchange Programme ERASMUS

JOSÉ IGNACIO AGUADED GÓMEZ
Technology and Innovation Department,
University of Huelva, Spain
CRISTINA POZO VICENTE
Spanish Department of the Language Centre,
University of Bonn, Germany

ABSTRACT This article presents the results from a mainly statistical and comparative analysis regarding the communicative competences and the use of information and communication technologies (ICTs) of German exchange students. The data was extracted from two exhaustive, rigorous and methodical questionnaires related to communicative and ICT competences, which were completed by 20 exchange students from the Romanisches Seminar at the University of Bonn, Germany, their native language being German, whilst learning Spanish as a foreign language. Generally, the results confirm that a six-month stay in a foreign country increases the use of ICT and widely improves language skills, which can also be referred to as communicative competences in Spanish for native speakers of German.

Theoretical Framework

The Landscape of Language in European Higher Education

Language constitutes a significantly complex human activity, the function of which is to transmit feelings, sensations and experiences, to express opinions and to give information. In short, it is a key tool that allows speakers to understand and represent reality, and to integrate themselves within the society to which they belong.

Throughout history, humans have used language as an essential vehicle of communication within their own community; however, in the modern globalized world, cross-cultural and linguistic boundaries are becoming increasingly important. Although learning two or more languages or being bilingual or trilingual is not a recent phenomenon, in the last 10 years, European higher education institutions have made efforts to promote language learning and to improve the quality of foreign language teaching.

Higher education represents a key element in the training of citizens since it provides society with qualified human resources and sets up, as one of the basic mechanisms available in our society, a means of facing up to new challenges of constant social progress. According to Kwiek (2009), through education, knowledge and innovation, Europe has to respond to the major challenges it faces, such as losing its heritage and identity, losing out economically, giving up on the aspiration of developing its own vision of a desirable future for humanity, giving up the European social model, etc. The construction of a European education policy space has become part and parcel of European Union (EU) 'revitalization' within the wide cultural, political and economic Europeanization project. The term 'Europeanization' has been widely used since the 1990s.

Concerning its meaning, Clarke & Wildy (2009, p. 352) refer to the definition given by Vink (2002): 'Europeanisation can most simply be defined as domestic change caused by European integration'.

Lawn claims that a 'European education area' is fundamental to contemporary structuring of the EU:

> Europe is not a place ... Europe is a project, a space of meaning, a state in process, and education is the core technology in which governance, ordering and meaning can be constructed. Without education, there can be no Europe ... The emergence of the revelation of a 'European education area' is fundamental to the contemporary structuring of the EU; it announces the arrival of a major discursive space, centred on education in which the legitimation, steering and shaping of European governance is being played out. (Lawn, 2003, pp. 325-326)

The 1995 *White Paper on Education and Training* (European Commission, 1995) emphasizes the importance of encouraging individual learning processes. Learning becomes a matter of individual responsibility of the learner and relies on a constant motivation for new knowledge and skills and on the capacity to learn how to learn. Deakin Crick (2008, p. 312), in his article about key competences for education in a European context, talks about the 'backdrop of global changes which bring the notion of competencies to the fore, worldwide, and then report on the EU's framework for competencies'. The recommendation of the EU working group on key competences for lifelong learning was adopted by the European Council and European Parliament in December 2006 (European Council, 2006), and it defines eight key competences: (1) communication in the mother tongue; (2) communication in foreign languages; (3) mathematical competence and basic competences in science and technology; (4) digital competence; (5) learning to learn; (6) social and civic competences; (7) sense of initiative and entrepreneurship; and (8) cultural awareness and expression. In the same order of ideas, the European Reference Framework claims that one of its main aims is to '[i]dentify and define the key competencies necessary for personal fulfillment, active citizenship, social cohesion and employability in a knowledge society' (European Council, 2006, 394/13), hence the main objective of the educational programmes is to foster these competences.

Kallioinen (2010, p. 57) states that 'competent experts are extremely valuable for an organisation and therefore it is very important that higher education institutions produce good quality students with relevant learning outcomes for working life'. Therefore, higher education institutions need to adjust their instruments and mechanisms to adapt to new methodologies and to take advantage of information and communication technologies (ICTs) [1] in order to facilitate lifelong learning. Higher education will have to progress in this way if it wants to maintain its traditional role and its potential in ongoing economic, cultural and social development. The new globalized context requires universities to overcome physical frontiers, to internationalize knowledge and culture, to promote mobility and interaction among students and teachers coming from different universities worldwide, and to support foreign language learning and teaching. In this regard, in July 1997, a group of leading European universities and other associations officially launched, with the support of the European Commission Directorate-General for Education and Culture, the European Language Council. The main aim of this organization is to support European cooperation between institutions of higher education in the area of language studies. The European Higher Education Area (EHEA) [2] has taken up the challenge of developing a plurilingual society with a widespread knowledge of technology. The ERASMUS exchange programme is one of the main programmes that has been promoting mobility in Europe and, consequently, can be regarded as one of the chief proponents of intercultural movement and language learning. In such a plurilingual and pluricultural context, in which the new technologies have become the most used communication tool, we considered it to be of scientific interest to focus our analysis on the communicative competences and the use of ICTs of students who participate in an ERASMUS programme.

In an attempt to promote the aforementioned goals within the EU, the European Commission has consolidated exchange programmes such as ERASMUS. ERASMUS stands for 'European Region Action Scheme for the Mobility of University Students' and belongs to the operational framework for the European Commission's initiatives in higher education. This mobility programme has turned into one of the main promoters of change in higher education

since it contributes to the reconfiguration of university systems within the EU. The convergence is inspired by the Bologna process, which aims to simplify the European higher education systems of the 45 participating countries.

According to Papatsiba (2009, p. 189), the ERASMUS programme is an institutionalized student mobility programme which is thought of as an instrument for forging a European sense of unity. Student mobility in Europe supported by the European Union (EU) ERASMUS programme is a 'phenomenon that encapsulates political, societal and educational ideals along with not only humanistic, liberal and intercultural but also neo-liberal and economic rationales'. From Papatsiba's point of view, student mobility leads to wealth, economic growth and higher quality of human resources and provides an evocative illustration of the rising profile of education within the EU as a means to cultivate cohesion and belongingness, which economic rationality alone could not attain. The intra-European mobility of students aims to equip young adults with the characteristics that citizens will be expected to display if they are to take advantage of the new opportunities afforded by an economic and political Europe: 'transnational mobility offers a brighter future for all those who avail themselves of the opportunity, helping them to adapt to the changing needs of the labor market within the Community' (European Commission, 1996, p. 1). Hence, the mobility programme is a device for strengthening the Community's position in the global economy.

Language learning plays an important role in strengthening social cohesion, intercultural dialogue and European construction, as the Council Resolution of 14 February 2002 states:

> the promotion of linguistic diversity and language learning, which stresses that the knowledge of languages is one of the basic skills each citizen needs in order to take part effectively in the European knowledge society and therefore facilitates both integration into society and social cohesion.

For the purpose of improving language learning, the European educational institutions are striving to achieve a comprehensive and transparent framework of reference for language learning and teaching. Therefore, the Council of Europe is focusing on solid language policy, introducing political and educational measures that provide a common basis 'for the elaboration of language syllabuses, curriculum guidelines, examinations, textbooks, etc. across Europe', which describe 'in a comprehensive way what language learners have to learn to do in order to use a language for communication and what knowledge and skills they have to develop so as to be able to act effectively ... The [Common European] Framework also defines levels of proficiency which allow learners' progress to be measured at each stage of learning and on a life-long basis' (Council of Europe, 2001, p. 1). The aims and objectives of the Council of Europe's language policy are included in the Common European Framework of Reference (CEFR).[3] Within the established measures adopted, it is worth highlighting the following aims of the CEFR: (a) to implement specific methodologies of language teaching and learning and the production of materials; (b) to establish an efficient system for the exchange of information that takes into account aspects of learning, teaching and material production; (c) to apply ICTs and other multimedia devices to foreign language learning and teaching; (d) to provide levels to evaluate the principles of the language learning system; (e) to design plurilingual training itineraries in integrated programmes at higher education institutions; and (f) to promote the research and development of programmes, methodologies and materials that allow students to acquire communicative competence appropriate to their needs.

Communicative Competence and Action-Oriented Language Learning

The communicative or functional approach focuses on language learning based on real communicative needs and recognizes the importance of the context beyond the sentence for the appropriate use of language. Diverse authors (Hymes, 1972; Munby, 1978; Canale & Swain, 1980; Canale, 1983; Savignon, 1983) define communicative competence as the ability to use language communicatively, i.e. to use both knowledge and competence in the language, and the capacity for implementing or using this competence (Widdowson, 1983; Candlin, 1986).

In the early 1960s, frameworks were proposed by Lado (1961) and Carroll (1968) to measure language proficiency. These models involved the distinguishing of skills such as listening, speaking, reading and writing from components of knowledge like grammar, vocabulary and phonology/graphology, but did not explain the relationship between skills and knowledge. Halliday (1976) states in his description of language that communicative competence contains both textual and illocutionary functions. Van Dijk (1977) defends the context of discourse and the inseparable relationship between text and context, while Hymes (1972) considers that sociocultural factors are involved in the speech situation.

Recent models of communicative competence (Kramsch, 1983; Savignon, 1983) present a more comprehensive description of the knowledge required to use language than the earlier skills and components models, since they take into account the dynamic process of language, the integration of the knowledge of grammatical rules and the knowledge of how language is used in order to accomplish communicative objectives. Bachman & Palmer (1982) took a novel step by distinguishing the components of language in what they called 'communicative proficiency'. They believe that language competences can be classified into two types: organizational competence and pragmatic competence, each consisting of several categories. Bachman (1990) defines a theoretical framework ('communicative language abilities') that extends earlier models and provides a broader basis for describing the measurement of language proficiency. Additionally, it attempts to characterize the process by which different elements interact with each other within the context of language use.

According to Bachman (2004, p. 84), recent frameworks of communicative competences have included several different components associated with what he calls 'language competence' and not 'communicative language abilities'. For example, Bachman mentions Munby's (1978) theoretical framework for specifying an individual's communicative competence in a second language, which incorporates 'linguistic encoding' (realization of language use as verbal forms), 'sociocultural orientation' (contextual appropriacy and communicative needs), the 'sociosemantic basis of linguistic knowledge', and the 'discourse level of operation'. Another example is Canale & Swain (1980), who expose the difference between sociolinguistic competence (sociocultural rules) and 'discourse competence' (cohesion and coherence). Hymes (1983) also states that communicative competence includes a 'resource grammar' (features that are part of the formal code), 'discourse grammar' (features typically associated with style, such as informality and politeness) and 'performance style' (idiosyncratic features of individual language use). All these different models have undoubtedly contributed to didactic and language learning approaches and, above all, in establishing a comprehensive and transparent framework of reference for language learning and teaching.

The CEFR, using the aforementioned linguistic contributions, is action-oriented and bases language learning on functional language activities. Learners of a language are, in a sense, social agents who have to accomplish a particular field of action and achieve the expectations of society members. It is not only a question of acts of speech, but is also part of a wider social context:

> We speak of 'tasks' in so far as the actions are performed by one or more individuals strategically using their own specific competencies to achieve a given result. The action-based approach therefore also takes into account the cognitive, emotional and volitional resources and the full range of abilities specific to and applied by the individual as a social agent. (Council of Europe, 2001, p. 9)

Therefore, language teaching and learning necessitates the inclusion of different components or dimensions such as communicative language competence, language activities, contexts, language processes, strategies, tasks, texts and an individual's general competences and domains.

Language Learning in the New Technological Environment

Communication has changed in the current information age, prompted by the appearance of new ICTs. The technological changes have caused a permanent socialization and acculturation process, in which ICT plays an important role. In this new complex field of communication, it is necessary

to acquire knowledge and to develop skills and abilities to communicate in a manner appropriate to the current society. The necessary abilities exceed communicative competence (Bachman, 1990) and constitute a wider concept of competence, which is described in terms of linguistic and pragmatic mechanisms of psychophysiological competences – i.e. hypertextual competence. For that reason, the acquisition of communicative competences must be accompanied by communicative and semiologic strategies which are different from the traditional ones that adapt current language codes to new technological contexts. According to Aguaded & Pérez (2001), learning nowadays should be based not only on the development of concepts and attitudes, but also on the promotion of techniques and procedures that allow learners adequate use of the new technological resources and critical treatment of the information, i.e. knowledge of new multimedia codes in relation to the traditional linguistic codes; strategies to search, select, organize and treat information properly; new reading and comprehension abilities; adequate expression and elaboration of hypertextual formats; cooperative work; critical thinking in order to select information appropriately; autonomy and self-management in the learning process; the ability to interact and to participate actively and to make immediate decisions; and open-minded, plurilingual and pluricultural thinking that allows interpersonal communication between speakers from different countries and cultures.

The technological environment is an ideal instrument to facilitate interaction and communicative exchange in language learning which allows for a more global knowledge of reality from a plurilingual and intercultural approach. It contributes to creating communicative contexts which should provide flexible, open and realistic practices in the language lesson for students coming from different levels, ages, countries, etc. Realistic communicative situations are produced through the use of certain interactive computer applications in which speakers practise language abilities in order to carry out authentic communicative exchanges.

According to Prado Aragonés (2001, p. 24), ICTs allow easy access to a wide amount of textual, visual, acoustic and animated information on subjects of interest to students; communication with other students, even from other countries, schools, etc.; the exchange of opinions and experiences; consultation with experts; and access to multiple resources that provide self-correction and participation in international projects and cooperative work.

Language learning is experiencing a progressive and significant change in this direction. The principal goal is to achieve an integral education so that a person is able to communicate by means of these new technological settings (functional or communicative teaching) and to adapt to the new social reality. The traditional teaching approach is also changing due to the application of new methodologies based on the new resources and new modalities of representation, access and transfer of knowledge. Therefore, the acquisition of communicative competences must also include the achievement of technological competences.

Research Question

The subject of our research emerged from an acknowledgement of the significant influence of multicultural and multilingual phenomena in the current globalized society and within the framework of the EHEA. The question we ask is this: 'Does the ERASMUS mobility programme really develop both students' communicative and technological competencies?'

The observation-based evidence leads us to the hypothesis that a stay in a foreign country offers an optimal environment for promoting communicative competences, which includes: (1) an improvement of all general competences; (2) interaction in a real context, which improves the spontaneity, flexibility and fluency of the communicative exchange; (3) the use of linguistic knowledge and communicative abilities acquired in the classroom, above all, in relation to speaking, listening, writing and reading; (4) constant interaction, speaking and listening because communicative exchange is basically an oral activity; (5) lexical widening, generally, of the colloquial standard register; (6) contact with and use of different languages; (7) the construction of mental preconceptions based on plurilingualism ('to learn how to think and to communicate in different linguistic systems'); (8) the acquisition of pluricultural values; and (9) the increasing use of

foreign languages through ICTs. With regard to technological use or competences, this includes: (1) the raising of awareness about the range of Internet networks as a source of information and communication – for example, consulting and reading brand-actualized national newspapers; (2) the acquisition of basic and advanced knowledge about the Internet; (3) widespread increase in the use of the Internet and of web navigation; (4) a considerable increase in the use of communication tools such as email, personal blogs, social networks (Facebook, studiVZ, etc.) and instant messaging; (5) the use of the Internet as a communication and information search tool using different languages besides the mother tongue; and (6) the development of competences related to network issues. The research aims to affirm or refute this hypothesis by means of an empirical case study.

Methodology

Our study is essentially a relational study which examines natural variation in predictors and outcomes to establish whether they are associated. By a relational study, we are talking about correlation and not causation because we are examining natural variation and we can never be sure whether a predictor causes the outcome to behave the way it does, or whether the effect is caused by some other predictor that one has not considered.

This relational study is more quantitative than qualitative in nature. The quantitative approach was used by employing a strong basis of theory and literature. In planning our quantitative study, we decided to include a substantial amount of literature at the beginning of the study in order to introduce the problem and describe in detail the existing literature. This literature provides us with an orientation for the research question/hypotheses and is a basis for comparing and contrasting the findings of our quantitative study. The literature is deductively used as a framework for the research question and hypotheses.

Our research seeks to develop relevant true statements that can serve to explain the situation that is of concern to or describes the causal relationship of interest. In our quantitative study, we advance the relationship among variables and pose this in terms of one question (see our research question above) and hypotheses. The problem is to identify if the factor 'ERASMUS exchange programme' influences an outcome regarding 'the communicative competences and use of ICT'.

Strategies of inquiry were employed to collect data on predetermined instruments that yielded statistical data. Closed-ended quantitative data, evidence and rational considerations shape the knowledge for our study. Our strategies of inquiry, related to the quantitative approach, were basically surveys. The surveys included cross-sectional and longitudinal studies using questionnaires for data collection, with the intention of generalizing from a sample to a population (Babbie, 1990). In this case, information was collected on instruments (questionnaires) based on measures completed by the participants.

The questionnaires were devised bearing in mind the informants' perspective and were structured with open and closed questions. In this way, we expected to attain a certain degree of involvement in the research in order to describe the actual educative phenomena correctly.

A sample group participating in research has to present a tendency or an average corresponding to the whole population. Therefore, research has to be based on analyzing a part of the population and has to generalize behaviours for the whole population from the information obtained from this sample. In our study, we carried out a selection process (strategic voluntary sampling) or an ideal-typical case. According to Goetz & LeCompte (1988, p. 102): 'the ideal-typical case is a procedure, in which the researcher conceives the profile of the best case, the most effective or most desirable population and subsequently, finds a case in the real world that adjusts optimally'.

The participants were 20 Spanish Studies students from the University of Bonn, Germany, who had been studying Spanish as a foreign language for three terms at the university. By the third term of their Spanish Studies, the students are expected to have acquired a B1 level in their language attainment in all competences (speaking, writing, listening and reading), according to the CEFR. The aim of the ERASMUS programme is that ERASMUS students study and pass between

three and five compulsory subjects at a European university. These qualifications are recognized by the students' subsequent university – the participants spend one year at different Spanish universities where they study Spanish literature, Spanish text production, Spanish grammar and translation.

Procedures

According to Denzin & Lincoln (2003), the research procedure entails three basic activities that are interrelated: theory, methodology and analysis. These activities include phases or periods that direct the research: the preparatory phase, fieldwork, the analytical phase and the informative phase. It is worth highlighting that these phases are characterized by their superposition in time, and not by linearity; they present different intensities and durations.

The preparatory phase is defined as the initial period of the research. This period focused on determining the subject matter, timing, research design and design of the theoretical basis (to establish the conceptual-theoretical framework of the research through reflection – an exhaustive literature survey in order to document and ground both the theoretical and empirical work).

The procedure of data collection and information systematization was one of the important elements of the study. It is important to design an original technique or data-collection techniques in order to be able to construct instruments that allow the researcher to obtain the necessary data. In the following section, we will define and contextualize in depth the general technique used as the instrument of research, i.e. we will define the instrument, indicating the elaboration and construction procedure and application phases.

The fieldwork consisted of the implementation of two comprehensive questionnaires about communicative competences and the use of ICTs. Both questionnaires were translated into HTML and PHP4 in order to store the incoming data and to send it via email, and to assist access and data processing.[4] The analysis of the questionnaires was processed statistically and evaluated in order to bring the conclusions of this research to light.

In the final phase (the informative phase), we reflected on the conclusions, limitations and proposals for improvement. The validity of the hypotheses and objectives was also affirmed or refuted on the basis of the data analysis in the specific context. The final result of these four phases has been a clear and coherent theoretical and empirical basis that defines the three main sections or central themes of this research and representative fieldwork with internal and external validity.

Instrumentation

The questionnaire is one of the more representative techniques of the quantitative and, to a lesser extent, qualitative approaches. The questionnaires of quantitative research are devised to contrast points of view. Their analysis is based on the use of statistics in an attempt to condense the results into fewer elements.

When designing the questionnaires for our research, we took into account Buendía et al (1997, pp. 124-125) and Cohen & Manion (1985, p. 108), who define the aspects to bear in mind when elaborating a questionnaire. The questionnaires were simplified following their recommendations so that the informants could understand them easily and complete them quickly. The questionnaires were structured in a way that facilitated the introduction of data and required little effort for the participants to complete them (HTML and PHP4).[5] The introductory explanations were clear and concise, informing the participants about the research goals and the application and use of the collected data (its scientific utility). The participants were informed about the anonymity of the questionnaires in order to avoid the consideration that the questionnaires were a kind of self-evaluation and perhaps an evaluation activity of the institution. Finally, the participants were provided with the research results in order to enable the bidirectional exchange of information.

Our two research questionnaires present a set of questions that are relevant because of their features, characteristics and variables. The questions were used for collecting data, were oriented for psychopedagogical measuring and diagnosis, and were designed following the constructivist

approach, a central theme of the current study. Self-evaluation allowed the learners to carry out reflection and analysis of their own learning process – in this case, in relation to foreign languages and the use of ICTs. Moreover, they assessed the progress and development of these competences over time.

The questions included in the questionnaires are classified into three main groups: open, closed and multiple-choice (estimation response). The open questions allowed the participants to respond in their own language without limiting their answers (qualitative study). The content of the questions depends on the different factors related to the nature of the information that was to be obtained (sociocultural and linguistic). On the website (in Spanish) where the questionnaires were made available to the participants, we can see the two main areas of our research: communicative competences and technological competences. With regard to the communicative competences questionnaire, it is worth pointing out its four main parts, which are related to: (1) the students (identification); (2) the language (number of languages, motivations for learning, use, timing); (3) self-evaluation; and (4) questions and comments.

The self-evaluation component is the most significant component in our study. The self-evaluation is classified into five different parts, corresponding to the five basic abilities that participants acquire during the foreign language learning process: reading, listening, speaking, writing and oral interaction. For each competence, the abilities and knowledge related to the six levels of the CEFR are included in the form of a question. Each question corresponds to one level of language proficiency (A1, A2, B1, B2, C1, C2). Moreover, for each, there are subdivisions of 'before' and 'now' so that we can obtain information about the participants' impression of their language learning progress (see Figure 1).

7.) Comprensión auditiva	Antes	Ahora
7.1) No tengo ninguna dificultad para entender cualquier tipo de texto de la lengua hablada en todas las situaciones y contextos	☐	☑
7.2) Al escuchar, reconozco palabras y expresiones básicas y habituales si se habla despacio	☑	☑
7.3) Comprendo a nivel de lengua hablada textos y discursos claros sobre temas de la vida cotidiana y entiendo la idea principal de programas de radio o televisión	☑	☑

Figure 1. Example of questions relating to language proficiency.
[In English: 7.) Listening (Before, Now); 7.1) I have no difficulties understanding any sort of text in the spoken language and in all situations and contexts; 7.2) When I listen, I recognize words, basic and habitual expressions when they are spoken slowly; 7.3) I understand easy oral texts and conversations about daily life and the main content of radio and TV programmes]

The technological competences questionnaire has two main sections: (a) the relation between language and communication in ICT and (b) knowledge and abilities in ICT. In the first section, we considered it relevant to analyze the following:

- The use of the Internet: consulting web pages; the use of email and search engines; consulting online encyclopaedias and dictionaries; downloading files; the maintenance and creation of personal blogs; participation in online chat and blogs; reproduction of videos; playing online games; participation in web forums; the creation of web pages; the use of social network sites such as Facebook; and reading news.
- The goals for the use of instant messaging (MSN Messenger, Skype, ICQ, etc.): the use of instant messaging to chat, to call someone and for videoconferencing.
- The usual communication language (chat, social networks, email, etc.) on the Internet: Spanish, German or English.
- The regular information language (consulting web pages, encyclopaedias, reading news, search engines, etc.) on the Internet: Spanish, German or English.

The participants had to attribute a value based on a frequency scale (1: do not use to 5: frequent use) for the periods of 'before', 'during' and 'now or after' (see Figure 2).

	Antes del Erasmus	Durante el Erasmus	Ahora / después del Erasmus
Uso de Internet			
Navegación en la web	2	4	5
Objetivos de uso de internet			
Consulta de páginas webs	2	2	3
Utilización de correo electrónico	2	1	1
Utilización de buscadores	1	1 / 2 / 3 / 4 / 5	1
Consulta de enciclopedias o diccionarios online	1		1
Descarga de ficheros (música, programas, etc.)	1	1	1

Figure 2. Example of questions on the technological competences questionnaire.
[In English: Use of the Internet; Internet navigation; Goals of the use of the Internet; Consulting web pages; Use of email; Use of search engines; Consulting online encyclopaedias and dictionaries; Downloading files (music, programs, etc.)]

The second section is basically a self-evaluation of technological competences – i.e. an evaluation of the knowledge and abilities in relation to ICT tools and the use of the Internet that learners have developed and acquired. The knowledge and abilities are classified as follows:

- Informatics systems (hardware, software and the Internet): to recognize the functions of the basic elements of the computer; to apply short cuts such as 'Ctrl' + 'x' to cut; to distinguish between elements of hardware and software; to know how to apply alternative procedures to unblock, reboot and close down a computer; and to know how to install a programme.
- Operational systems: to recognize the basic elements of the desktop: icons and toolbar; to distinguish between programmes, documents and folders, and to recognize their icons; to recognize if there is antivirus software installed on the computer; and to know how to delete and to uninstall programmes.
- Use of basic programmes: to know how to create, write and store a document in Word; to recognize the different basic options of text editors; to know how to insert images, symbols and other graphic elements; to use the tools of a graphic editor; to create, save and print a spreadsheet (in Excel); to recognize the different basic options of a spreadsheet; and to know which possibilities are offered on a spreadsheet to execute graphics.
- Use of the Internet: to know how to introduce a URL address in the toolbar and to select the 'Favourites' links; to recognize and use the basic functions of the browser; to know how to update a web page, use the links and print information from a web page; to carry out an advanced search and use filters with multiple keywords; to know how to send and to receive emails and attach documents; to use email programmes like WebMail or a specific programme for email like Outlook; and to be able to use instant-messaging programmes or chat rooms.

Data Analysis

According to Rodríguez et al:

> the data compiled during the fieldwork constitutes the puzzle pieces that the analyst carefully fits together, using the compiled evidence to direct the search for new evidence which can be

> incorporated in a framework of meaning that reports the studied reality. (Rodríguez et al, 1996, p. 197)

Moreover, Cabero & Hernández (1995, p. 58) add that 'after compiling the information and before the presentation of the results, the data analysis process occurs, which consists of converting the original texts into data that can be interpreted correctly'. From the statistical analysis, we aim to interpret the data, to explain the educative phenomena and thereby clarify the goals of the investigation.

Our research is based principally on the statistical analysis of the compiled data from the questionnaires. The computer application used to compile the data analysis was Microsoft Excel. The open questions were treated by means of a qualitative methodology. Once the informants had completed the questionnaires, the data was introduced onto an Excel spreadsheet. For reduced samples such as these, it is possible to use applications like Excel, but for larger samples it is recommended to use the statistical package SPSS. The introduction onto the spreadsheet of the data from the questionnaires and the instructions was a very important instrumental task for the subsequent interpretation of the data. With this tool, different statistical operations were carried out, such as calculating the median and the standard deviation, which contribute to the interpretation of the data.

Results

The interpretation of the results is based primarily on a quantitative and, subsequently, qualitative analysis. The results are classified into two sections: communicative competences and the use of ICTs. With regard to communicative competences, the results presented are related to the average levels of competences; the growth of the competence levels; the standard deviation of the competence levels; the languages the participants came in contact with during the ERASMUS period; the frequency of the competence levels during the different periods; and the different basic competences of the act of communication: listening, reading, speaking, oral interaction and writing.

Communicative Competences

As can be seen in Figure 3, the improvement in the levels of communicative competences is without doubt in the period after ERASMUS. With reference to the relationship between the levels represented from 1 to 6 (1 corresponds to level A1 and 6 to level C2) and the competences and periods, the average presents a general increase of the communicative competences and the levels, after the period in the foreign country, when they are placed between the level C1 and C2. In general terms, 'reading' is the competence that has reached the highest level of attainment, but it is worth highlighting that 'reading' is closely followed by competences related to oral activities such as 'listening', 'speaking' and 'interaction'.

Figure 4 shows the growth of the competences as a result of the subtraction of the figures in Figure 3. As can be seen in Figure 4, the most developed competences are as follows: (1) 'interaction'; (2) 'listening'; (3) 'speaking'; and (4) 'reading' and 'writing'. This means that the competences related to oral activities are those which have increased the most. It is worth highlighting that 'interaction' was the competence that was the least developed before the ERASMUS period and the most developed after the ERASMUS year.
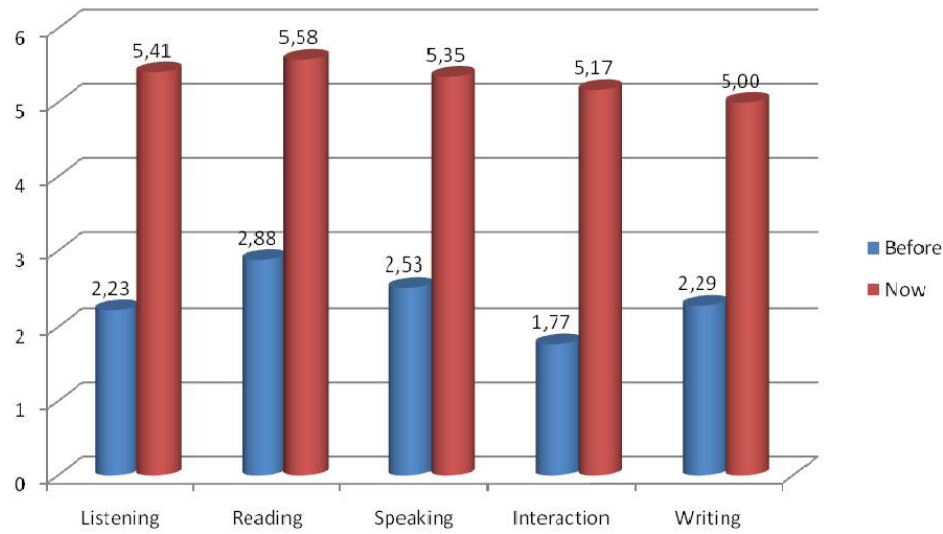
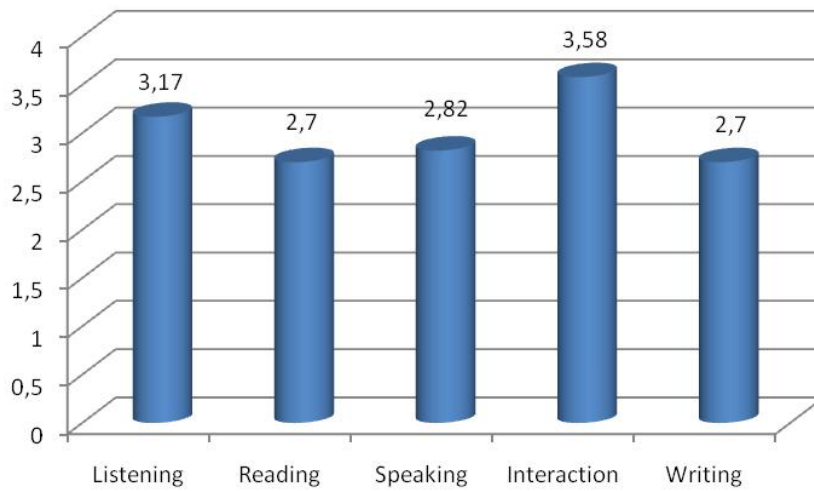Figure 3. Average levels of communicative competences.

Figure 4. Growth of the competence levels.

Variance is a measure of statistical dispersion, averaging the squared distance of possible values from the expected value, the mean. Describing the location of a distribution, the variance is a way to capture its scale or degree of being spread out. A higher variance means that the data has a wider spread; conversely, a small variance refers to a smaller spread of data. Statistics of the variance correspond only to squares of deviations and, therefore, the standard deviation is the most used in descriptive statistics. In our study, the standard deviation of the competence levels aims to give information about the difference between the levels of the informants' communicative competences.

As can be seen in Figure 5, there is a higher standard deviation in the period before ERASMUS in the competences related to oral activities such as 'speaking', 'oral interaction' and 'listening'. This means that the levels distance themselves from the mean and that the levels of the participants differed significantly. However, in the period after ERASMUS, the aforementioned competences present a smaller standard deviation and spread of data, coming close to the mean. If the differences between the competence level of oral activities are lower after a period in the foreign country, this suggests to us that during this period, language learning takes place essentially in real contexts which exceed the traditional lecture – the context in which the main and regular activity is oral communication. Moreover, it also suggests that a period in a foreign country is a unique opportunity to develop and acquire a high level of competence regardless of the previous level, and to improve the levels in all competences related to oral activities ('listening', 'speaking' and 'oral interaction').
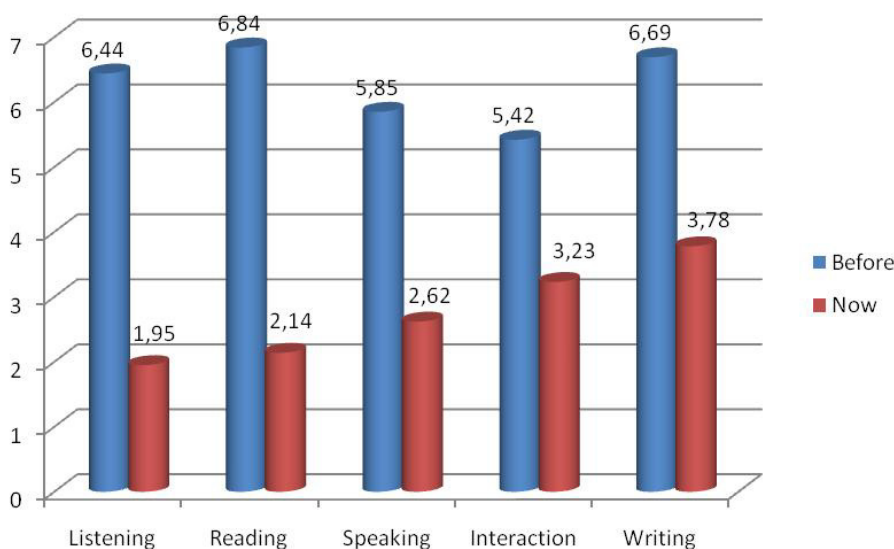

Figure 5. Standard deviation of competences.

Figure 6 demonstrates that ERASMUS students confirmed coming into contact with a large number of languages, above all European languages, given that most of the students that participate in the ERASMUS project come from European universities. The most frequently spoken languages were Spanish, as the official language of the reception country; English, because of its international nature; and Catalan, as the second language of the reception country (for those students who spent their internship in Catalonia).

Technological Competences

With regard to the analysis of technological competences, we observed in detail the modules; the frequency of activities on the Internet related to communication and the search for information; the use of instant messaging; participation in chat rooms and web forums; social networking; information, communication and the search language used on the Internet; and the competences related to the informatics systems (hardware, software and the Internet), the operating system and the use of basic programmes and the Internet.

In general, with the analysis of the results we cannot confirm categorically a progression or improvement of competences because the improvement related to the competences in informatics systems, operating systems, basic programmes and the use of the Internet is almost insignificant. Nevertheless, there are some other aspects that have improved considerably between the periods of 'before' and 'now', which are explained in the following.
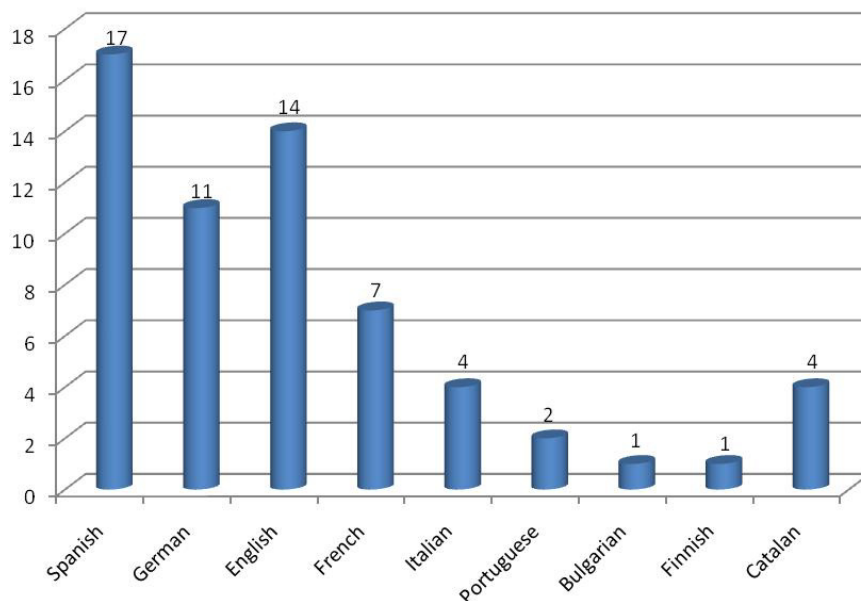
Figure 6. Contact languages during the ERASMUS period.

It is worth noting from Figure 7 that there is a significant improvement in Internet navigation, showing that the informants have acquired the habit of using the Internet as a means of information and communication. The activities on the Internet addressed to communication and the search for information have notably increased. The activities that present a higher frequency are visiting web pages and the use of email and search engines.

The use of instant messaging is principally to chat with family, with other students or with friends and for videoconferencing, and its use is more manifest during the ERASMUS exchange period than before. The comparison of the use of instant messaging in all periods shows an enhancement increase in its use (chat, videoconference and calling someone) (see Figure 8).

When searching for information on the Internet, the most used language is German (the mother tongue of the participants) in all periods. However, during their stay in the foreign country, the use of Spanish as the language to search for information increases notably. Moreover, the use of Spanish and other languages on the Internet as a means of searching for information has improved between the periods of 'before' and 'now' (see Figure 9).

The main language of communication in all periods is also German, but the use of Spanish and other languages has improved remarkably. It is worth noting that the use of other languages as the means of communication on the Internet not only exceeds Spanish during the stay in the foreign country (Spain) but also 'now' (see Figure 10).
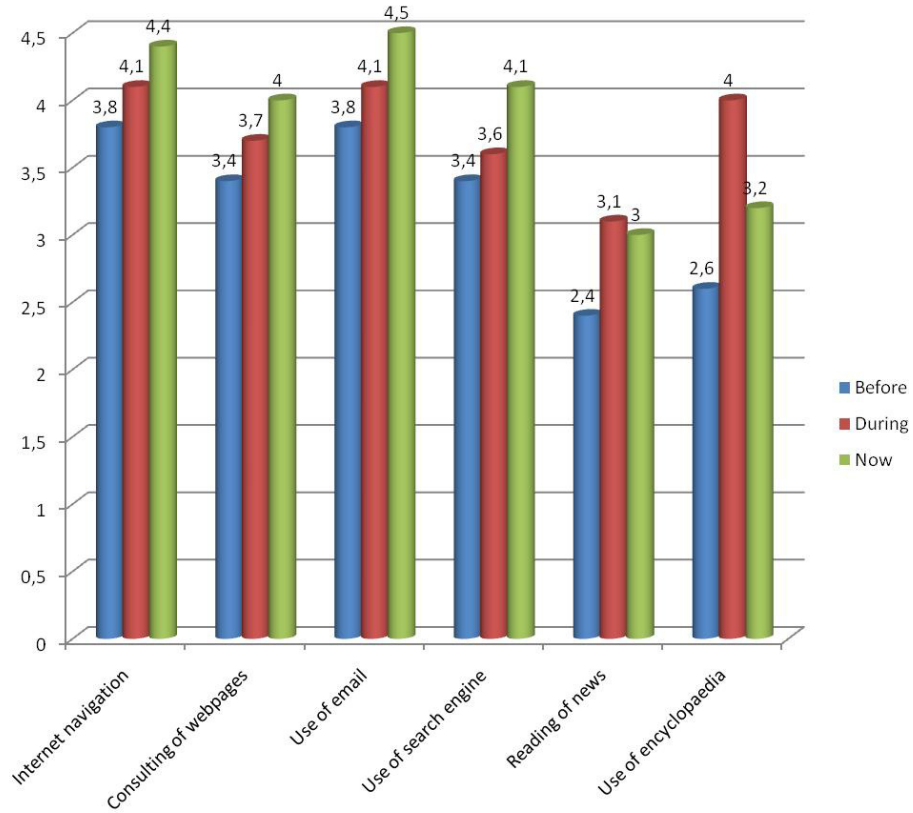
Figure 7. Frequency of activities on the Internet related to communication and the search for information.
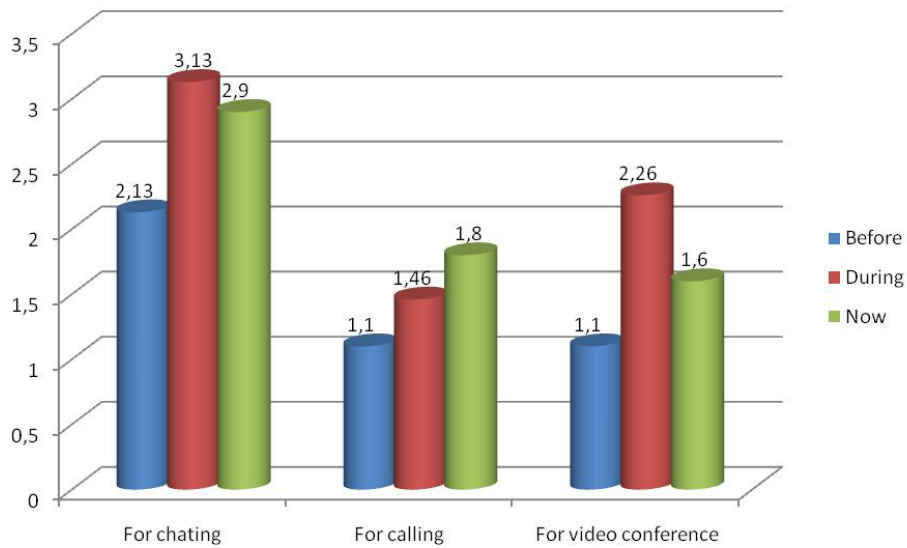

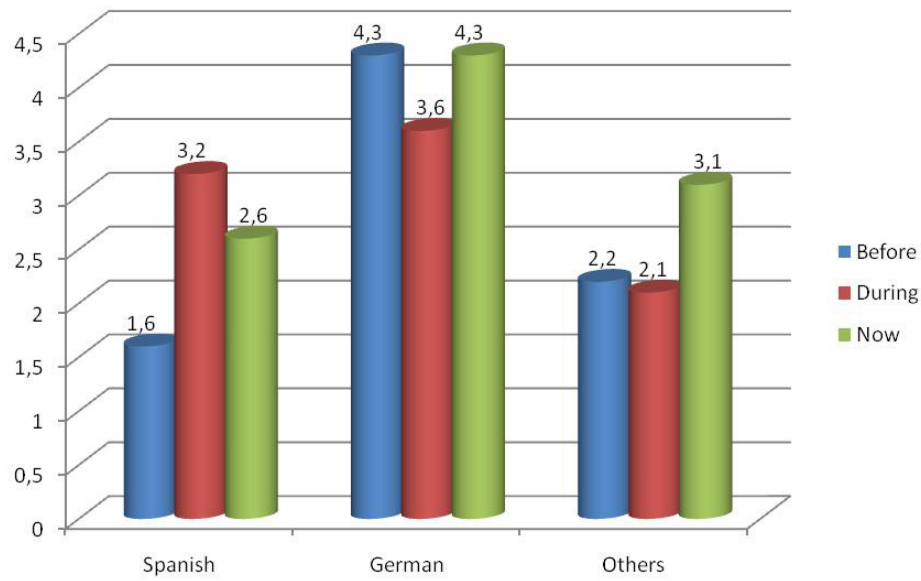Figure 8. Frequency of instant-messaging activities.

Figure 9. Frequency of languages used when searching for information on the Internet.
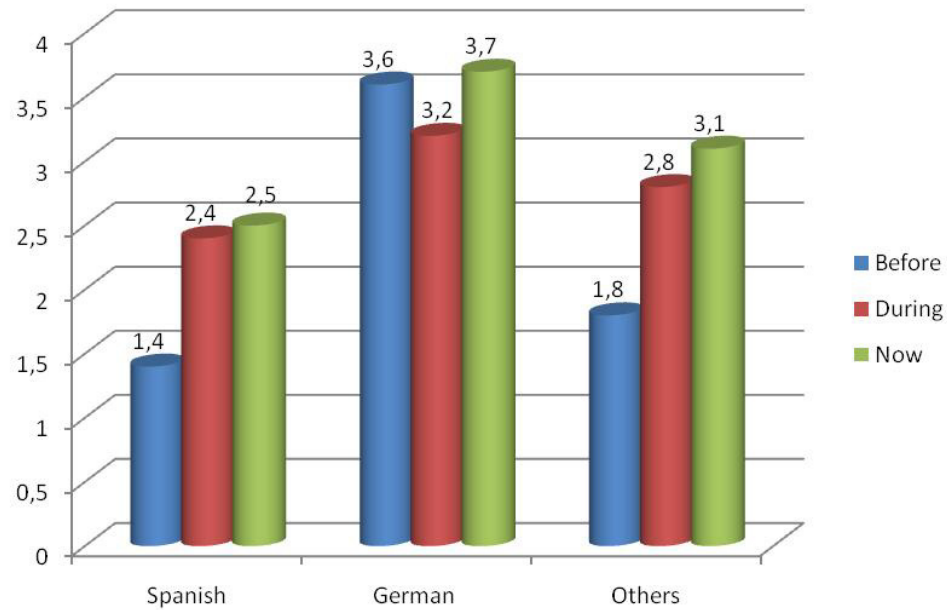

Figure 10. Frequency of languages of communication on the Internet.

Conclusions

The goal of the analysis of the questionnaires is to carry out a comparison of the results obtained from the empirical study with the hypothesis expressed in 'Research Question' section above.

As stated previously, the results demonstrate the improvement of all communicative competences. Moreover, in the open question, some students confirmed: 'My Spanish, in general, has improved a lot during my stay in Spain. Before, I could not speak, understand or write Spanish, therefore, I have improved in all areas.' The results of the research confirm that oral interaction is the competence that has increased the most. This means that in a real context, in which oral activities are principally carried out, the participants have acquired more flexibility and fluency in the communicative exchange. This context, characterized basically by oral activities, promotes the acquisition of speaking and listening skills.

Regarding the use of linguistic knowledge and communicative abilities acquired in lessons, above all, in relation to speaking, listening and reading, the participants affirmed in the open questions that during their stay in a foreign country they used 'passive' knowledge – acquired in the Spanish lessons – in a real context: 'During ERASMUS, I started speaking and listening to Spanish. Previously, I had been to Spanish lessons at university, but I learned Spanish as a passive speaker, focusing only on the reading and writing.' This is related to the widening of lexical usage, normally of the colloquial standard because it is the most used in oral language: 'I have acquired a lot of knowledge related to the colloquial language. Before, my language level was good but when I wanted to express myself I felt unsure in speaking freely and extensively.'

Being in touch with different languages (Spanish, German, English, French, Italian, Portuguese, Finnish and Bulgarian), learning to live in a foreign country (Spain) and using different languages to communicate (Spanish, English and Catalan) promotes the construction of mental thinking techniques based on plurilingualism. This means to 'learn to think and to communicate in different linguistic systems and to acquire other multicultural values'. Proof of this is provided by the opinions of the same students: 'It had an influence on my point of view about languages and globalization. Now, I am more open-minded and interested in foreigners and in living outside my country' and 'More than in the linguistic aspect, I think that I have improved my personal and international competences'. Therefore, in general terms, we can confirm that the hypothesis that refers to communicative competences and forms the basis of the research question seems to be verified after the analysis of the results.

When considering the results related to the technological competences, it is important to refute the hypothesis which affirms that a stay in a foreign country is an optimal environment for acquiring basic and advanced knowledge of the Internet. The competences on the use of the Internet are practically the same in all periods. However, analyzing the different competences (the use of informatics systems, operating systems, basic programmes and the Internet), we reach the conclusion that the students had a higher knowledge of the use of the Internet than other competences.

There is a general increase in the navigation and use of the Internet. This suggests that the participants are aware of the importance of the Internet as a source of information and communication. This is also confirmed by the increase of activities related to searching for information and communication (the use of instant messaging, email, consulting web pages and the use of search engines) and, as mentioned earlier, the increase of the use of social networking during and after the stay in a foreign country.

Regarding the use of languages on the Internet, it is worth noting that, in general, there is a notable improvement in the use of other languages and Spanish on the Internet, using the other language in both searching for information and as a communication tool. Some of the participants answered in the open questions: 'I have started using Spanish for instant messaging and that has helped me a lot to use what I have learned in the Spanish lessons.' We can therefore confirm that the stay in a foreign country promotes the use of other languages on the Internet and is a context in which a wider linguistic variety is required. In short, we consider that an acquisition of technological competence is developed via use of the Internet, as indicated by the hypothesis and confirmed by the results. The competences related to the use of informatics and operating systems and of basic programmes present a static tendency. Thus, we think that the stay in a foreign country does not contribute to improving technological competences, but it promotes in particular the use of the Internet as a tool with an immense potential in communication and in the search for

information and, moreover, facilitating human relations (social networking) and linguistic exchanges in different languages.

In terms of policy assumptions, student mobility fosters 'European socialization' and there is no doubt that language learning in the host country plays an important role in this process. European institutions are also aware of the importance of language learning and, therefore, their educational policies focus principally on the acquisition of language knowledge. Furthermore, according to the European Council's conclusions of 19 May 2006 in respect to the European Indicator of Language Competence (within the framework of the European Strategy for Multilingualism), 'foreign language skills help to promote mutual understanding between people, a prerequisite for a mobile workforce, and contribute to the competitiveness of the European Union economy' (European Council, 2006, p. 11). Student mobility improves remarkably not only the language skills of learners, but also their social relation to other cultures due to cross-cultural communication and interchange in the host country and through ICTs. Through this learning process, learners become aware of linguistic and cultural diversity as part and parcel of the European identity and, therefore, they develop attitudes and acquire values such as respect and understanding of other languages and cultures. Moreover, Papatsiba (2003, 2005), in his work on student experiences of ERASMUS mobility, found evidence that by 'facing changing environments, self-monitoring, taking control of one's life path in a reflexive way, and accepting risks bearing individual gains, student mobility reinforces the individual belief of agency' (Papatsiba, 2005, p. 109).

In the future, the EU's language policy aims for a situation in which every EU citizen will speak at least two foreign languages in addition to their mother tongue. Its principle: multilingual citizens are better equipped to take advantage of the educational opportunities created by an integrated Europe. In this respect, the communication of the European Commission of 18 September 2008 states: 'a successful multilingualism policy can strengthen life chances of citizens: it may increase their employability, facilitate access to services and rights and contribute to solidarity through enhanced intercultural dialogue and social cohesion' (European Commission, 2008, p. 3). In the current social and economic context, the European Commission will intensify its efforts in 'promoting mobility among students, apprentices, workers and young entrepreneurs' (European Commission, 2008, p. 4). Hence, the ERASMUS student mobility programme is, and will be, a key piece of the socialization and integration process of European citizens.

Limitations of the Study and Implications for Future Research

In general, the research was carried out following the objectives defined in the preparatory period. An important element is that the research was based more on a quantitative statistical technique than a qualitative one. The questionnaires were chosen as appropriate research instruments. However, we are aware of the limitations of the use of these instruments, in that: (a) the participants limited their answers depending on the alternatives, and they could not express openly their own perceptions or opinions; (b) the answers could become mechanical; and (c) the researcher could not interact with the participants on a deeper level.

Furthermore, time was a significant limitation. In the planning and timing stages of the fieldwork, we estimated two weeks to obtain a minimum of ten questionnaires. It is worth highlighting that the completion of the questionnaires is very laborious because every student has to complete them as if they were a reflection exercise on their own learning process.

Notes

[1] The term 'information and communication technologies' (ICT) refers to advanced technologies in organizing and communicating information. It is sometimes used in preference to 'information technology' (IT), particularly by the two communities of education and government.

[2] The European Higher Education Area is the main current objective of the Bologna process and is characterized by more comparable, compatible and coherent systems of higher education within the EU.

[3] The Common European Framework of Reference (CEFR) is a set of guidelines used to describe the achievements of learners of foreign languages across Europe. It was put together by the Council of Europe as the main part of the Language Learning for European Citizenship project between 1989 and 1996. Its main objective is to provide a method of assessing and teaching languages.

[4] The result of this effort is the web page at http://www.cuestionarioserasmus.com

[5] HTML (HyperText Markup Language) is a language for web pages that provides a means to describe the structure of text-based information in a document. With the HTML we could describe the structure and the goal of the information in text form and complement the text with images. Nevertheless, HTML is a basic programming language and we needed others, such as PHP (Personal Home Page) tools, in order to include other options such as sending data.

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JOSÉ IGNACIO AGUADED-GÓMEZ is Vice-Chancellor of the University of Huelva, Spain. He directs the Technology and Innovation Department and is a Reader in the Department of Education. *Correspondence*: Dr José Ignacio Aguaded-Gómez, Campus Cantero Cuadrado s/n, Rectorado, E-21071 Huelva, Spain (vicerrector.tecnologias@uhu.es; aguaded@uhu.es).

CRISTINA POZO VICENTE is a Lecturer at the University of Bonn, Germany. She directs the Spanish Department at the Sprachlernzentrum of the University of Bonn and she is studying for an interdisciplinary PhD in Linguistics and Education. *Correspondence*: Cristina Pozo-Vicente, Universität Bonn, Sprachlernzentrum, Universität Bonn, Lennéstrasse 6, D-53113 Bonn, Germany (cristina.pozo@uni-bonn.de).