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Tandem Language Learning on the Internet: theory, tool development and empirical exploration

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October 2003

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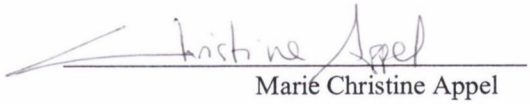

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Marié Christine Appel

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Summary

The objective of this thesis is to investigate and advance the use of electronic mail for tandem language learning. Earlier research raised the following primary issues. Firstly, there were some organizational problems rising from the use of e-mail tandem. Secondly, there appeared to be a disparity between the potential for language learning and its low level of realization, and a disparity between the initial enthusiasm participants show and the low levels of sustainability of these exchanges. Finally, the lack of a comprehensive descriptive evaluation of the language used in one-to-one e-mail and more specifically in the context of tandem learning, made it impossible to establish the utility of e-mail tandem as a language learning tool. Through the exploration of theory, tool development and empirical exploration, this thesis addresses all three issues in a cyclic sequence of studies.

Chapter 1 introduces the concepts and terminology used in this thesis and examines the nature of tandem language learning when mediated by e-mail. Chapter 2 firstly reviews previous research on e-mail communication from a discourse analysis and psychology perspectives. It then goes on to examine the use of e-mail for a variety of purposes within an educational context and the specific application to tandem language learning.

Chapter 3 reviews the current scenario in the field of CALL in the search for a theoretical model to be used in the context of this thesis. It discusses the evaluation criteria for CALL tasks advanced by Chapelle (2001), and applies them to e-mail tandem language learning. It then reviews for theoretical models in SLA in order to further explore socio-affective and cognitive conditions for language learning. Finally three factors are identified that can be manipulated in order to harness the potential for language learning in this medium: the virtual learning environment (VLE), tasks and collaborative dyad design. The structural organization of Chapter 3 reflects the progression of research reported in Chapters 4-9, and discusses the theoretical models used in each chapter.

Chapter 4 replicates the set-up of a former study introducing small changes in order to solve some of the problems encountered earlier. It becomes clear that a very different

approach to the exchanges is necessary. Chapter 5 seeks solutions, taking into account the results reported in the previous chapter. Two more case studies were carried out, experimenting with the development of early versions of a web-based mail application. This application constitutes the basis of what becomes a fully developed VLE in Chapter 6: the *Electronic Tandem Resources* (ETR) website. The ETR site is currently hosted at http://www.tandem.dcu.ie for regular use and at http://wilde.cs.tcd.ie:2222/tandem.html for testing and training purposes.

It becomes clearer with each study conducted that exchanges need to be fully integrated into classroom practice and based on structured tasks, and that e-mail tandem language learning needs to be embedded in a learning community. Chapter 7 draws on the discussion on socio-affective conditions in Chapter 3. It compares the performance of students using tandem language learning within a communicative approach an a task-based pedagogical approach. It also looks at sustainability issues within the task-based approach and is concerned with what features of tasks will impact positively on participants' motivation.

Chapters 8 and 9 draw on the discussion of ideal cognitive conditions for tandem language learning in Chapter 3. Chapter 8 explores convergent vs. divergent goals - one of the features of Robinson's (2001) triadic model for sequencing pedagogical tasks. In particular how this feature impacts on learner's participation in terms of quantity (engagement and sustainability) and quality (interaction that maximizes the opportunity for language learning). Chapter 9 explores the phenomenon of syntax coordination allocating individuals to constant dyads or creating small communities in which all participants communicate with one another at different points in time. This is tested in Chapter 9 within an e-mail tandem environment.

Finally, the conclusion brings together the results of the thesis and discusses the implications for the pedagogical implementation of e-mail tandem language learning and suggests areas for further research.

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Key to Abbreviations

CALL Computer assisted language learning

CMC Computer-mediated communication

ETR Electronic tandem resources

IL Interlanguage

L1 First language (mother tongue)

L2 Second or foreign language

NS Native speaker

NNS Non-Native speaker

POS Part of Speech

SLA Second language acquisition

TL Target language

VLE Virtual Language Environment

WTC Willingness to communicate

Introduction

The advent of the Internet has revolutionized our lives. It has been argued that computers constitute humanity's third revolution, transforming human history like the agricultural and industrial revolutions transformed it (Toffler 1981). The computer age has fundamentally altered the ways in which humans exchange information in a similar manner to the way in which the oral transmission of knowledge was transformed by the advent of writing. The Internet has introduced new ways of communication and changed society, reshaping personal and professional interaction. Inevitably the introduction of new technologies affects education. While technology moves at a fast pace innovation reaches the classroom in an uneven fashion: some classrooms are still stuck in the past while others are taking on more technology than they can handle. Many teachers are enthusiastically experimenting, while others barely cope and are stretched to the limit of their abilities as students with a grasp of computer culture and the technological skills to match reach school age. In order to assess the impact that computers and the internet are having on education, we need to evaluate the tools available in the teaching environment. As a result of the speed at which the internet has evolved no coherent evaluation of the use of internet in education has taken place. Accordingly, research on the impact the Internet is having in education is urgently needed.

One of the most revolutionary changes that the Internet has brought about is computer-mediated communication (CMC). New ways of communicating have emerged that do not conform to the traditional spoken/written dichotomy or the here-and now features of spoken language. Not only are there new ways of using language but we also have a new way of defying distance. Internet CMC tools such as e-mail and Internet Relay Chat (IRC) have made it possible to communicate easily and cheaply on a regular basis with individuals who are on the other side of the world. This has the potential to transform language learning as interaction with native speakers becomes instantly accessible. However the radical changes that are taking place are also both confusing and threatening especially for language teachers who have traditionally worked in an environment where they were the unique authority in the target language. Today students have access to many other native speakers, other

registers and varieties of the language thanks to the Internet. The result is that the role of the language teacher is moving from the transmission of knowledge to the facilitation and coordination of learning.

E-mail is the most pervasive, robust and widespread communication tool available on the Internet and this thesis looks at how it can be best used for language learning purposes. The work of this thesis was inspired by two separate projects: firstly, the International Tandem E-mail Network, a Lingua project to help learners find native speakers of their target language through the Internet in order to help their language learning; secondly the work carried out by this author at the Centre for Language and Communication Studies, Trinity College Dublin which explored the actual e-mail interaction between language learners in a case study (Appel 1997; Little, Ushioda, Appel, Schwienhorst, O'Rourke, & Moran 1999). This work highlighted the huge potential of e-mail tandem language learning but also raised a considerable number of problematic areas. One discrepancy that intrigued me was the gap between the initial enthusiasm of participants and the poor results obtained in the longer term. It appears that for a variety of reasons the majority of students lose interest in the exchange in the longer term. This thesis is written partly to explore the disparity between the identification of vast potential and the reality of the challenges facing long term e-mail tandem language learning. I aim to explore these challenges and remove the major obstacles to the integration of e-mail tandem into language learning. Transforming the current fragmentary implementation of e-mail tandem into an integrated and viable educational package.

One of the difficulties identified in my earlier research was that students' drop-out rate was very high. Despite starting off communication with a foreign tandem partner with great enthusiasm, after an initial introductory period students cease communicating altogether. As students do not continue to use the resource it is impossible to assess the success of e-mail tandem learning as a SLA tool. The primary goal of initial research must therefore be to succeed in engaging students over a longer period. It is only once this engagement has been achieved and sustained during a single educational project that the success of e-mail tandem learning can be assessed. Accordingly a major focus of this thesis is on resolving the obstacles to maintaining the engagement of students.

A second difficulty is that in order to evaluate the potential of e-mail tandem as an educational package it is vital to assess the nature of the communication that takes place through the medium. Only by doing so will it be possible to establish the type of skills that can be most effectively developed by students using this medium. Therefore a second focus of this thesis is on a descriptive evaluation of the interaction and behavioural patterns in which students engage when using e-mail tandem

Finally, combining the two sets of findings above I have constructed a virtual language environment that successfully utilizes e-mail tandem to maximize the potential of this collaborative language learning tool. This is done by fostering the elements of e-mail communication which engage learners in an exchange of meanings in an environment that simultaneously channels attention to form in conformity with SLA theory.

This research revealed a number of problems preventing and obstructing data collection. These problems are primarily due to the private nature of e-mail but also to the logistics of collating user profiles and chronological transcripts. In order to tackle the restrictions encountered when trying to evaluate the nature of students' use of e-mail tandem I built a mechanism for evaluation and research into the Virtual language Environment (VLE). The inclusion of this evaluation mechanism has enabled me to adapt the VLE to become an increasingly effective language learning tool and is a feature that will form the basis for future research by myself and other researchers. Accordingly this VLE radically changes the potential for pedagogical application and research in this area providing a context within which both become possible, and creating a framework for improvement and further development.

The work conducted for this thesis has evolved as a series of consecutive research studies, each of which has informed the context of the subsequent study and simultaneously informed the evolution of the VLE. Due to the relative youth of the communication tool this was the most effective way in which to proceed. Initial research into this field revealed a lack of previous research conducted by individuals with the skills to simultaneously evaluate language learning and tackle the

technological problems encountered due the nature of e-mail as a computer-based medium. The initial pilot study confirmed two separate problems identified in my earlier work. Firstly that e-mail software packages were not adequate within an educational context and therefore there was a need to develop appropriate tools, and secondly the need to adapt traditional SLA theoretical frameworks to the different context of computer-mediated communication. In order to solve the first problem I had to learn how to design and program web-based tools and engage in their development. These problems together with my determination that this thesis should inform teaching practice and be firmly rooted in the reality of day-to-day classroom life have heavily influenced the direction and choices taken in the course of the work reported in this thesis. This also explains the structure of the thesis as a succession of case studies each building on the previous study. One of the consequences of this structure is that it has not been possible to treat any particular aspect of e-mail tandem language learning in the depth I would have wished. Nonetheless this gives an initial overview which will form the foundation for future projects specializing in single dimensions of e-mail tandem language learning in the necessary depth.

Overview of chapters

Chapter 1 introduces the concepts and terminology used in this thesis and examines the nature of tandem language learning and how it works when mediated by e-mail.

Chapter 2 reviews previous research on e-mail communication and in particular its psychology and discourse features. This is necessary because in order to establish the tasks which should be set for students it is vital to understand the innate nature of e-mail communication in an L1 environment. It is only with this knowledge that the modification of this natural base can be executed for educational purposes. The chapter then goes on to review the use of e-mail in an educational context and finally looks at research that has been carried out in the specific area of e-mail tandem language learning.

Chapter 3 reviews existing theoretical frameworks, assessing their utility in the e-mail context. This is not an easy task since little research had been conducted in the area when I began the work for this thesis. Work within the area of CALL consisted

mainly of descriptions of classroom projects and no theoretical framework in which to embed CMC had been defined. During the time I have worked on this thesis some work has been done in the application of Interactionist SLA theory, and Chapelle (2001) has developed a model for the evaluation of CALL tasks inspired by cognitive models of SLA. Chapter 3 discusses the current scenario in the field of CALL and discusses Chapelle's model in detail. It identifies ways in which Chapelle's model could be expanded and looks for models in SLA to do so, keeping in line with Chapelle's initial motivation: setting ideal socio-affective and cognitive conditions for language learning.

Chapter 4 is inspired by my M.Phil dissertation (Appel 1997), and replicates the set-up of the study with certain changes: instead of random volunteer college students, subjects were adult students in a classroom context. These changes sought to establish whether such a setting will solve the problem of sustainability found in Appel (1997). The study established that the problems remain and identified further problems with the use of e-mail software packages. The rest of the thesis focuses on the use of e-mail tandem language learning within tertiary education.

Taking into account the results reported in the previous chapter, Chapter 5 seeks solutions. Two more case studies were carried out experimenting with early versions of a web-based mail application developed by myself. This application constitutes the basis of what becomes a fully developed VLE in Chapter 6: the *Electronic Tandem Resources* (ETR) website. Chapelle's model examined in Chapter 3 is used for the evaluation in the two case studies which are sequenced in time, the first one providing feedback which was integrated into the development of the second version of the ETR site. The feedback and evaluation of the second case study informed the development of subsequent versions of the ETR. It became clearer with each study that exchanges need to be fully integrated into classroom practice and based on structured tasks, and that tandem partners need to belong to a community.

Chapter 6 consolidates all the previous research. It identifies the final version of ETR to be used in research for this thesis and describes in detail the developmental phases and process. This final version has a fully developed teacher interface to support the integration of the activity into the classroom by allowing the teacher to

monitor exchanges without breaching the privacy of tandem partners' communication. It also has a group board for communication amongst all members of the group in addition to the private e-mail facility for writing to the tandem partner. Finally, the ETR application has built-in mechanisms for administering questionnaires, collecting data for a corpus of learner language and tracking the learner's participation and use of the site.

Chapter 7 draws on the discussion on socio-affective conditions in Chapter 3 and makes use of the ETR site. It compares the performance of students using tandem language learning within a communicative approach where students are given topics for discussion and exchange of opinion, to the performance of students who were working within a task-based pedagogical approach. It also looks at sustainability issues within the task-based approach and is concerned with what features of tasks will impact positively on participants' motivation.

Chapter 8 draws on the discussion of ideal cognitive conditions for tandem language learning in Chapter 3. It explores how one of the features of Robinson's (2001) model of tasks, convergent vs. divergent goals for task participants, impacts on learner's participation in terms of quantity (engagement and sustainability) and quality (interaction that maximizes the opportunity for language learning). For this purpose it is necessary to consider a number of methodological issues concerning unit of analysis and coding of the corpus collected. The comparison between the two groups involved (one assigned to the divergent condition and one assigned to the convergent condition) is done on the basis of discourse functions. For this purpose a taxonomy of discourse functions that appear in e-mail tandem interaction was developed.

Chapter 9 also draws from the discussion on cognitive conditions for language learning in Chapter 3 and more specifically, on the section that reviews experiments in psycholinguistics measuring the phenomenon of syntax priming. Syntax priming can be influenced by allocating individuals to constant dyads or creating small communities in which all participants have an opportunity to communicate with one another. This is tested in Chapter 9 within an e-mail tandem environment. The data

collection was made with a version of the ETR site specifically modified for the purposes of this experiment, which took place over five hours.

Finally, the conclusion makes a number of suggestions regarding future research. It also brings together the results of the thesis and discusses the implications for the pedagogical implementation of e-mail tandem language learning. Finally the foundation laid for the construction of a corpus of multilingual native and learner language produced within the context of e-mail tandem is discussed in the light of work done by Granger (1998).

Chapter 1 E-mail tandem language learning: an overview[1]

1. 1 What is tandem language learning?

The term *tandem* is used to refer to organised language exchanges between two language learners with different L1s, each of whom wishes to improve his or her proficiency in the other's native language. The word itself implies collaboration and simultaneity, which when applied to second language learning means that students work together and in doing so engage in goal-directed communication. In other words, in a successful tandem exchange students take a step away from the artificial elements of the foreign language classroom and towards authentic use of the target language. Contrariwise, if students come from a naturalistic (that is, untutored) language learning setting, tandem work can stimulate learner reflection and analytical thinking on the structure of the TL. In the history of second language pedagogy pendulum reactions often take place when a particular approach to teaching seems to fail to deliver promised good results. We have seen how decontextualised grammar teaching was replaced by behaviourist practice based on intense repetition drills which in its turn was taken over by a communicative approach which in its most extreme version would wince at any explicit instruction of grammar. In the best cases language teachers try to juggle changes in pedagogical fashion compensating with common sense and wisdom earned through years of experience. Tandem language learning comprises a number of factors identifiable with different teaching trends which have been shown to be beneficial for language learners. A tandem language learning setting offers communication and second language practice as well as focus on language. As a result of a combination of these elements, tandem exchanges sustain potential for developing both language and learning awareness in general for learners coming from different language learning contexts.

[1] Parts of the contents of sections 1.1, 1.2, were published in Appel. M.C., & Mullen, T., (2000): "A Common Gateway Interface for Tandem Language Learning". In Strotmann, B. (ed.): Proceedings of the International Congress on Technology in Teaching, jointly organized by IATEFL Computer SIG, TESOL-Spain and Universidad Europea de madrid, 20-22 November 1998. Universidad Europea: CEES Ediciones.

Tandem language learning has been conducted successfully for a long time (cf. Calvert 1992). But only recently has the true potential of tandem exchanges caught the attention of researchers in the field of second language acquisition. Unfortunately, it is not always the case that tandem exchanges provide mutual benefit for both participants and as a consequence the partnership fails. On a personal level, it is not always easy for learners to feel immediately comfortable with such exchanges. Personality traits such as shyness, and differences in cultural background can act as barriers, inhibiting free language exchange. On the other hand, close friendships may also arise, in which the language learning effort falls by the wayside and conversation defaults to the strongest language between the learners, leading to a one-sided benefit, or, in cases where the strongest language between the learners is a third language, leading to no language benefit at all, for example in the case of Spanish and German students of each other's language, who may both be stronger in English than in one another's language. It is difficult to coordinate face-to-face language exchanges to ensure that both languages are being used equally by both parties. Unsupervised, it is easy for such face-to-face exchanges to simply fall apart. Neither student is a trained language teacher, and students' expectations of what they will get out of the exchange and what they must put in are often confused.

Some educational institutions have tried to run face-to-face tandem activities within a framework in which pedagogical support and materials are provided to students in order to fully exploit the potential of these exchanges (e.g. Brammerts *et al.* 1989, 1990, 1991, Esch 1996, Walker 1998, etc). However, geographical restrictions on face-to-face exchanges remain a problem: it is not always easy to find enough interested native speakers of a given TL to engage an entire class of learners in tandem activities. This problem has been addressed by the emergence of a new, relatively cheap and increasingly pervasive means of communication: the Internet.

1. 2 New channels for tandem language learning: electronic mail.

The Internet makes it possible for language learners to communicate on a regular basis with native speakers of their target language who are based in the target language community, no matter how big the geographical distance is. Communication can take place through a number of functions which have different

features, and different degrees of technical development. The most frequently used tools in the Internet are currently electronic mail and the World Wide Web, but many other functions are also available or in development. Clearly, the Internet is drastically changing the way people communicate, an important fact that has to be taken into account in the fields of SLA and second language teaching for two main reasons: demands on communication strategies arising from the use of new technologies have to be considered when undertaking a needs analysis for second language learners; also, these new resources can provide new ways of delivering material, or engaging learners in second language learning activities.

The use of e-mail for language learning in tandem was originally one of the answers to the problem of availability of native speakers in a specific geographical location. Face-to-face and e-mail tandem share a set of features which are conducive to language learning: exposure to the language of a native speaker who may be chosen according to age, interests or other factors, allowing the use of the optimal register, level of formality and vocabulary for the student's needs; the dual role of students as both learners and experts without the direct mediation of a teacher, which encourages students to reflect upon and take charge of their own language learning process. But even though e-mail tandem offers to overcome problems of access to tandem partners and clearly shares certain features with face-to-face tandem, this does not necessarily mean that e-mail tandem provides a better alternative for the development of those skills involved in face-to-face tandem. The differences are inherent in the medium: communication is written, not spoken, and there is a (variable) delay in response, in contrast to the immediacy of face-to-face responses. This delay allows for reflection time, which means that a different set of skills and strategies may be employed. While psycho-physiological mechanisms employed in face-to-face spoken interaction are not used (e.g. pronunciation, higher cognitive load in language processing), e-mail tandem seems to share some aspects of the language of spoken communication such as an informal register. It is necessary to study the phenomenon and provide evidence of the language, skills and cognitive processes used and promoted by e-mail tandem exchanges, and how the environment may be best exploited by learners and teachers.

The International Tandem E-mail Network (see Little & Brammerts 1996), founded with financial support from the European Union, has led developments in the field of

e-mail tandem coordinating several large-scale international e-mail exchanges since 1994. It's main server (http://www.slf.ruhr-uni-bochum.de/index.html) is hosted at the Ruhr-University Bochum, Germany, with mirror sites in 12 other servers hosted in 10 different European countries. Over 30 universities all over the world have participated in exchanges organised by the Network and more than 50,000 language learning partners have been matched by the Network[2]. The network has a number of bilingual subnets to which a student can write to request an e-mail partner who is a native speaker of the language s/he is learning and who is learning the student's own L1. Students are paired randomly and left to develop the exchange on their own. The network's webpage (Dublin server, http://www.tcd.ie/CLCS/tandem/) provides information on e-mail tandem exchange and suggestions for activities for the students to engage in. In addition, the network provides a feedback forum, that is, a bilingual mailing list where students can write comments or ask questions. Unfortunately, this network has no procedure in place to follow up exchanges that have been established: once students are paired their contact with the network is terminated unless they are members of the forum. However neither subscription to the forum nor contributions to it constitute any proof of continuity of the learner's tandem e-mail exchange.

A number of studies (see Chapter 2, section 2.3 below) have undertaken the task of examining tandem e-mail exchanges; however, this has proved extremely problematic for practical reasons such as collecting data from both sides of the exchange (participants will most likely be in different geographical locations), not to mention the difficulty of collecting the text generated by the exchange. Setting aside the potentially controversial issue of e-mail privacy, researchers have had to rely on subjects to pass on e-mail messages to them in a number of inefficient ways. Despite methodological difficulties in collecting data and conducting research on tandem language learning through the Internet, the field is in continuous expansion and there seems to be consensus that it is a worthwhile activity. Proof of this is the growing bibliography list[3] attached to the International E-mail Tandem Network site and the latest developments within the Tandem Agency. One of these developments is the project "e-Tandem Europa", a project funded by the European Commission as part of the European Year of Languages 2001. The "e-Tandem Europa" site includes new

[2] Figures according to the International E-mail Tandem Network site (19/09/2002).
[3] http://www.tcd.ie/CLCS/tandem/learning/tanbib.html

information on tandem language learning as well as the most recent additions to the International E-mail Tandem Network site updates. Some interesting new developments include:

- The shift from *e-mail tandem* to *e-tandem,* a natural extension incorporating the latest technology available for tandem language learning.
- A bigger emphasis on the integration of e-tandem language learning in the classroom with more information for teachers and references to 'Tandem teacher guides', as well as a registration form for classes and groups.
- Registration forms that require more detailed information from the applicants, partly addressing one of the previously most common criticisms of the service provided by the International E-mail Tandem Network: the random pairing of tandem partners.
- Different registration forms for university and school-age students, and for adult learners. The registration form for adult learners takes you to a commercial site (hosted by the company *Parvis*) which offers and charges for different additional services. These services include the option of selecting tandem partners according to specific criteria. The site also makes reference to a Small Business Innovation Research (SBIR) Phase grant from the National Science Foundation awarded to Parvis for the development of an eTandem Distance Coaching Network[4]. This programme incorporates the service of a coach who assists in the tandem exchange. These recent additions are very interesting in that they are in accordance with some of the results of the research of this thesis that suggest that tandem language learning is best maximised when supervised (although the conclusions of this thesis point to a different way of implementing this supervision, see the Conclusion section below following Chapter 9).

Many of the developments that have taken place in tandem language learning via the Internet are a result of case study experiences as well as common sense. However, conducting empirical research yielding information on the actual language used in such type of communication is imperative if we want to maximise the potential of e-tandem language learning or integrate it into educational programmes. We need more evidence of how both language use and learning is influenced by the context built by the medium (in this case e-mail) and the communicative setting (tandem). One of the main hurdles in collecting data for such research is the issue of e-mail privacy. This medium has been widely perceived as highly private and users often write very informal or intimate messages under the illusion that their email messages are entirely confidential. The truth is that electronic text is easy to store, and e-mails are often

[4] Press release, February 28, 2002. http://www.etandem.biz/assets/press_release01.pdf, accessed on 19/09/2002.

forwarded to people other than the original recipient. Servers can keep backup copies of incoming as well as outgoing e-mails, and these e-mails can be recovered years later. Workplaces are increasingly drawing up Internet use policies for their employees and archived e-mails have been used as evidence in litigation. The effects of recent disclosure of e-mails on how people regard the privacy of their e-mail is unclear. Such recent events point to the fact that confidential matters should not be shared by e-mail; however, from a psychological stance, people seem to favour the preservation of privacy in this area (Wallace, 1999:xvii). The role of e-mail privacy when it comes to computer-mediated communication in education is an unresolved issue.

It is one of the aims of this thesis to address some of these problems and provide information about the language learning that takes place in these tandem exchanges when using the medium of e-mail. Before doing so, it is a basic requirement to define what exactly is meant by the term *e-mail tandem*, and what is not included, in order to forestall any possible confusion.

1. 3 Definition of concepts: e-mail tandem

It is not uncommon to find the terms *e-mail* or *e-mail exchanges* used in titles or abstracts of publications and talks on second language learning/teaching. It is not so easy, however, to predict the content of these papers. Several points of confusion arise from the use of the word *e-mail.* First of all, what do we mean by *e-mail*? Do we refer to the working context e-mail software packages create, or to the asynchronous written nature of this medium of communication? Secondly, the term *e-mail* here is secondary to tandem. There are many examples in the CALL literature of different uses of e-mail in the foreign language classroom. This thesis is not concerned with the question of what uses one can make of e-mail with foreign language learners, but rather, with one particular use, namely, tandem L2 learning.

Concerning the first issue mentioned above, it is the very nature of the medium of e-mail, which is primary to this thesis. The characteristics of asynchronous written communication are further discussed in Chapter 2, section 2.2 below. The benefits that are obtained from the features of e-mail communication prove to be particularly

suitable for second language learning. However, e-mail software packages were not designed for this specific purpose and can therefore not be expected to fulfill all the needs that arise in an L2 learning situation. It seems that the next step is to design an environment that makes use of all the advantages of e-mail software packages, in particular the asynchronous written nature of e-mail, but leaves out those features which impede or are not suitable for second language learning. Chapters 5 and 6 below describe the design of such an environment and its contribution to the solution of both research and pedagogical problems.

As for the second question, the present thesis is concerned with e-mail tandem language learning between two individuals who are engaged in native speaker/non-native speaker asynchronous written interaction and work together with a focus on their language learning. This is not to say that other uses of e-mail are not beneficial, but to outline the scope of the case studies and discussion in this thesis. E-mail has been used in the foreign language classroom for many other purposes, including: communication between classes writing as a group, monolingual communication between native speakers and non-native speakers, monolingual communication between non-native speakers with a different L1, communication between teachers and their students, as an electronic "notice-board" for a classroom, for class discussion and key pal exchanges (key pal meaning friendly exchanges with no explicit focus on language learning). At this point it is worth mentioning that while any contact with native speakers and exposure to L2 is most often a positive experience for the language learner, the view adopted in this thesis is that it is not the teacher's job to find friends for students, and even if we were to take on that job, it would still not be the most effective way to improve our students' second language proficiency. Often teachers set about organizing an exchange with the unreal ambition of providing friends for their students and with too low (if not any) ambitions concerning their students' language learning. An example can be found on the "eTandem partners for tandem classes or groups"[5]web page, where a teacher in Spain has posted a request for a tandem class with the following note:

> I would like my students to start long-life friendships with people from other cultures.

[5] http://www.slf.ruhr-uni-bochum.de/email/stats-class-eng.html, retrieved on 20/09/2002

Teachers who take such an approach are likely to be disappointed in that their efforts will probably only lead to very few (if any) real friendships. Experiences like these are detrimental in that they lead to high levels of frustration among teachers, and little language learning (with a few exceptions in which students who are highly motivated and autonomous in their language learning process are paired together).

Returning to the definition of concepts, the concept of *tandem* needs to be considered as well. Tandem language learning can be conducted in a number of different contexts. Face-to-face tandem has already been discussed above, and the availability of various types of technologies on the Internet has been mentioned. The bulk of research on tandem via the Internet has mainly focused on two types of applications: e-mail (see Chapter 2, section 2.3) and MOOs (c.f. Aarseth & Jopp, 1998; Donaldson & Kötter 1999; Gölz 1995; Kötter 2003; O'Rourke 2002; Schwienhorst 1998a, 1998b, 2000, 2002). To a lesser extent we can also find examples in the literature of the use of video-conferencing for tandem exchanges (Buckett *et al.* 2001; O'Dowd 2000; Zähner, Fauverge & Wong, 2000), and we will surely see more studies of this kind as videoconferencing technology becomes more widely available. However, it is most likely that no matter what new technological advances are employed for tandem language learning, e-mail will still serve as a tool for communication even if it is only for organizational issues such as making appointments for subsequent synchronous communication.

1. 4 E-mail tandem within CALL

The use of computers in the foreign language classroom or for self-access purposes in second language learning has gone through different phases which have correlated with the teaching and learning models current at the moment as well as with technological progress within computing and software development. In describing the development of the use of computers for second language learning purposes, Warschauer (1996a) distinguishes three phases. The first one he calls *Behaviouristic CALL*. Behaviourist approaches to language teaching used the computer as a simple exercise-correcting device in order to provide students with a source for grammar practice. The computer was ideal for this kind of activity because it could provide immediate correction repeatedly, without getting tired or bored. This use of the

computer has been also referred to as the role of the computer as *tutor*. However, the computer can only identify a limited number of possible right answers. The limitations of the interaction between learner and computer proved to be huge. *Communicative CALL* was the next phase, in which in addition to the use of computers as an authoritative source of knowledge, the computer is now seen as a stimulus for discussion and critical thinking by introducing group work in relation to computer activities, and as a tool that can carry out certain tasks with higher speed and precision than human beings. An example is the word processor, which has had a significant impact on writing strategies (cf. Dam, Legenhausen & Wolff 1990).

The third phase of CALL described by Warschauer is *Integrative CALL*, in which task-based approaches are used to integrate skills. Multimedia and hypermedia are one first step towards Integrative CALL. The definitive step towards an integrative CALL is the Internet, which makes possible computer-mediated communication (CMC). CMC is the computer application with the greatest impact on language teaching; with it CALL becomes fully interactive and provides authentic native language to the learner. The use of e-mail for second language learning purposes is one type of CMC.

Levy (1997) looks at the different phases of CALL, emphasizing the distinction between the use of the computer as *tutor*, and the computer as a *tool*. The first one involves human-computer interaction, and includes both the behaviouristic use of CALL as well as more recent multimedia applications which would fall within what Warschauer calls *Integrative CALL*. These types of applications will typically guide the student through a language learning activity and will provide machine-generated feedback. The use of the computer as a *tool* will include *Communicative CALL* applications as well as CMC in that the computer is a tool used for communication between humans. Harrington & Levy (2001) use the *tutor-tool* distinction to emphasize that it cannot be assumed that CALL is homogenous. CMC is emerging as a strong field of research that calls for methodology that differs from that used in face-to face communication as well as from human-computer communication. Chapter 3 includes a review of the discussion of leading researchers of the current scenario and the relationship between areas such as CALL, CMC and SLA. At this point, it suffices to say that e-mail tandem language learning falls within CMC, and

that in looking at CMC contextual factors will dictate the affordances of the medium (see Chapter 3, section 3.2.1 below for a more detailed discussion). Different types of technology allow for different context parameters. Levy (2003) examines how the affordances of different technologies allow for different skills to be developed and points out that more research is needed on this area. He cites as an example in this line the study by Sotillo (2000). Sotillo compares asynchronous and synchronous written communication amongst students of English as a foreign language attending a writing course. She investigates the differences in discourse functions (quantitatively as well as qualitatively), and the syntactic complexity of the text produced by subjects. She reports that the delayed nature of the asynchronous communication allowed for more syntactically complex language but that the synchronous medium allowed for a more varied range of discourse functions (see Chapter 8, section 8.3.4 for a more detailed account of this study and a critical review of its methodology).

This thesis seeks to research the features of e-mail communication in tandem, the type of learning taking place in this context and how to best benefit from it. It is not the standpoint of this thesis that e-mail is a better technology for language learning. On the contrary, ideally a combination of technologies should be used if technology is available to educational institutions in order to develop the different skills involved.

1. 5 Summary

This chapter has introduced the object of study in this thesis. The features of e-mail tandem language learning are determined by two factors. First of all, the tandem framework brings together pairs of learners each of whom is learning the other's native language. These learners help each other practice their TL as well as support each other in their learning process. The second factor is determined by the affordances of the medium in which the tandem exchange takes place: e-mail. Communication through e-mail is written and asynchronous, which means that learners have time to reflect on the messages received and to prepare their answers. Psycho-physiological mechanisms employed for interaction through e-mail are different to those employed in face-to-face communication. This chapter has also

described the work of the International E-mail Tandem Network, which initiated the development of tandem language learning on the Internet in 1994 with financial support from the European Union.

Chapter 2 Research on e-mail communication: literature review

2. 1 Introduction

The contextual parameters of a medium of communication shape the way in which interaction takes place and language is used. In this chapter I look at research conducted on different aspects of e-mail communication. The first part of the chapter looks at e-mail communication in a generic L1 context from two perspectives: discourse analysis (what type of language is being used?) and psychology (what patterns of behaviour do individuals engage in when they communicate via e-mail?). The second part of the chapter looks at research that has been carried out on the use of e-mail for language learning purposes. It first reviews the work done on different uses of e-mail such as discussion lists or teacher-student interaction, and then focuses on the specific application relevant to this thesis: one-to-one communication for tandem language learning.

2. 2 Research on e-mail

2.2.1 Discourse analysis of e-mail interaction

In his book *Language and the Internet* David Crystal (2001) discusses the effect of the electronic nature of the Internet on its language. He argues that the limitations as well as new opportunities offered by hardware and software used for the Internet connection shape the way people use language. The book includes chapters on the language of e-mail, chatgroups, virtual groups and the web. It is interesting to note that for the discussion of e-mail language Crystal uses a collection of e-mails from his own messages and e-mail messages provided by his children aged 23 and 26. This illustrates the difficulty of collecting enough data for an appropriate and informative analysis of this type of language which arises from the issue of privacy, a big obstacle for the construction of such corpora. The need to build e-mail corpora (which has also been pointed out before by Johansson 1991 and Yates 1996) explains the relatively little literature available on e-mail discourse, and the fact that most of the available literature looks at e-mail contributions to mailing lists or discussion forums

rather than e-mail correspondence between two individuals, which is by far the most frequent use of this medium. Even though the analysis of e-mail language is based on a small and unrepresentative collection of messages, Crystal describes some interesting general points that characterize the language of e-mail. He looks at the style of greetings and farewells and notes the general trend towards short and informal messages. From the analysis of his collection of texts and the recommendations of e-mail style books (Flynn & Flynn, 1998) Crystal identifies the following features of the body of messages as acceptable:

- The use of contractions
- Ending a sentence with a preposition
- Omission of personal pronouns in subject position
- Start of a sentence with a coordinating conjunction
- Misspellings
- Underuse of punctuation
- Reduced use of capitalization

And the following are identified as recurrent features:

- Use of bullet points
- Short paragraph structure
- Direct feedback expressions
- Elliptical and anaphoric devices
- E-mail graphology

The first set of features above seems to indicate that e-mail allows for a more relaxed set of norms which may partly be due to the knowledge of constraints in terms of time senders may be writing under. It is also indicative of the fact that users have mainly employed this channel of communication for informal purposes. However, it is worthwhile noting that the use of e-mail is still in its infancy and that there are already signs of its use spreading into more formal settings which is bound to change the permissiveness in terms of linguistic and stylistic correctness of the medium so far.

Crystal predicts that the informal features listed above may be associated in the future with specific styles as e-mail becomes a medium used for a wider variety of purposes:

> The result will be a medium which will portray a wide range of stylistics expressiveness, from formal to informal, just as other mediums have come to do, and where the pressure on users will be to display stylistic consistency, in the same way that this is required in other forms of writing (p. 128)

The second set of features above, characterized by their high frequency in e-mail language, is clearly linked to the physical constraints/possibilities of e-mail software. A general norm of practice in writing e-mail is keeping the message within one screen, saving the reader from scrolling down; and users mainly read e-mail online. These two facts result in the need for using short paragraph structure and the use of bullet points for easier organization of ideas. Direct feedback expressions and elliptical and anaphoric devices are a result of the immediacy of e-mail communication and the expectation that a prompt answer will follow. Finally, e-mail graphology is mainly trying to make up for the absence of intonation and gesture. Crystal claims that e-mail graphology is used much less than is thought (an opinion that may be influenced by the nature of his corpus) and he also points out that the use of e-mail graphology is much more extended amongst teenagers. Examples of e-mail graphology would be emoticons (e.g. :-), ;-), :-P), use of multiple signs of punctuation or characters for expressive purposes as in 'Hellllloooooooo!' or 'Yes!!!!!!!!' (p.123-124) or the use of capitalization for signalling yelling or saying out something loudly (e.g. "my answer: NO WAY").

Much discussion has taken place on the issue of whether Internet language is closer to written or spoken discourse. This seems to be an unjustified argument if we consider Wold's (1992) criticism of the prototypical situations of spoken and written language. She defines the prototypical situation of oral language as "Dialogue, a shared here-and-now, informal and communication partners knowing each other." (p.179), and the prototypical situation of written language as "Monologue, no shared here-and-now, formal, and communication partners unknown to each other." (p.180). She then points out that even though these definitions seem to appeal to intuition, when collecting real samples of both types of language and their situations, the definitions are shown to be oversimplifications and often untrue. This is even more so since modern technology

has in a few decades made giant steps that have changed, and still are changing established modes of communication and introducing new ones. Biber (1988) has analyzed textual features of spoken and written language and has concluded that there is no single dimension of textual features that can support the dichotomy between oral and written texts. Writing comprises many different types of uses and functions of language and it interacts with and reinforces the social uses of spoken language (Grabe & Kaplan 1996: 17). Even though the dichotomy between written and spoken language is not justified from a textual point of view, their production mechanisms remain different. This is an area that needs further research in order to provide information to studies and programmes of implementation of e-mail tandem exchanges. Such studies would benefit from information concerning the phenomena of oral and written production of language and the extent to which skills in one of them can be transferred or influence skills in the other.

The prototypical situations described above are more applicable to the communication profile of the nineteenth century than that of today. Little (1991b: 5-7) describes three different stages in the history of media and linguistic communication and how these stages have changed approaches to language teaching. In the first one, pre-twentieth century, spoken communication could only occur if speakers shared a here-and-now, and written communication was the only means to overcome geographical distance. The second period is marked by the use of spoken language in non-face-to-face situations due to the invention of the telephone and radio. The third stage is the present computer era which offers new ways of displaying information, i.e. multimedia and new modes of communication, e-mail amongst them. We see then how new inventions such as the telephone or the computer reshape everyday life, changing the way people communicate and expanding the possibilities of communication between individuals with a wider variety of backgrounds and languages; consequently linguistic needs vary too.

Crystal (2001), while acknowledging that the speech/writing dichotomy does not hold, argues that it is informative to discuss what he calls *Netspeak* (the language of the Internet) in the light of the features that distinguish the production of spoken and written language. He uses the factors outlined in Crystal (1995): "Speech is typically time-bound, spontaneous, face-to-face, socially interactive, loosely structured,

immediately revisable, and prosodically rich. Writing is typically space-bound, contrived, visually decontextualized, factually communicative, elaborately structured, repeatedly revisable, and graphically rich" (2001, pp. 25-28). Different types of *Netspeak* score differently in these analyses, and e-mail is placed somewhere in the middle, having slightly more features in common with writing. However, it is striking that in respect of many criteria e-mail's variability makes it difficult to characterize; for example in terms of being time-bound, e-mail can be used in a close to synchronous communication mode when individuals communicating are both sitting at their machines at the same time, or answers may be sent weeks after a message has been received. E-mail can be carefully composed as a letter would be or can be sent with hardly any revision made; it all depends on individual styles and preferences. This variability of e-mail should be taken into account if using the medium within a language learning context.

Collot & Belmore (1996) analyze an electronic corpus of e-mail messages sent to an electronic bulletin board system. They apply Biber's multidimensional-multi-feature analysis (1991;1992) to their corpus. This model does not assume a dichotomy between speech and writing; instead Biber uses six different dimensions and the linguistics features associated with each dimension. The six dimensions are the following: informativity, narrativity, explicitness, persuasion, abstraction, and elaboration. Collot & Belmore argue that because none of these dimensions can be related to an absolute difference between writing and speaking, but are rather associated with different genres, they provide a good means for the description of electronic text. The results provided by Collot & Belmore situate the messages in their corpus between romantic fiction and interviews in relation to *informativity*, between press reviews and interviews in relation to *narrativity*, between personal letters and editorials in relation to *persuasion*, and between spontaneous speeches and editorials for *elaboration*. In terms of *explicitness* the electronic text reached the same score as humour, and the dimension of *abstraction* did not show any conclusive results since the electronic text scored high in conjuncts and adverbial subordinators but low in passive constructions and past participial clauses with relative deletion, all these features being characteristic of *abstraction* in Biber's model. Again, we find that the analysis of electronic text in comparative terms proves difficult.

Yates (1996) analyses electronic text from a computer conferencing system using a Hallidayan model of language use and concentrates on textual, interpersonal and ideational functions of language (Halliday 1978) by measuring type/token ratios and lexical density, personal reference and the use of modal auxiliaries. Yates uses his model to compare his corpus of electronic text to a corpus of spoken language (the London-Lund corpus of spoken British-English) and a corpus of written language (the Lancaster-Oslo/Bergen corpus of written English), and fails to find any stronger similarities to either of them. In respect to textuality, electronic text was more like written language; in terms of the interpersonal function, the electronic text was closer to spoken language; and finally, the frequency of modal verbs, used for measuring the ideational function, was much higher in the electronic text than for either the spoken or the written corpus.

Holliday (1998) is one of the few studies that undertakes the analysis of e-mail discourse produced by non-native speakers. In this study again analysed e-mail messages are contributions to a discussion list. Holliday compares the e-mail messages to the results in Biber (1988) of the analysis of a type of spoken language, telephone conversations, and written language, personal letters. In this earlier study by Biber 67 linguistic features were used, 32 of which were employed by Holliday for the analysis of non-native e-mail text. Holliday reports that the e-mails were closer to telephone conversations. Some of the results contradict the results documented in Yates' study: low type/token ratios, similar use of modal verbs (with the exception of modals for necessity) and personal pronouns to telephone conversations. There are two factors to take into account when interpreting these results. One is that the comparison in Holliday is between one 'genre' produced by non-native speakers and two different genres produced by native speakers. The low type/token ratios may be explained by the fact that learners of English are likely to display a more reduced vocabulary. In addition, Holliday also points out that the fact that his corpus of e-mail messages belongs to a discussion list means that a lot of the messages discuss the same topic and therefore lexical diversity is reduced. The second factor that may explain the differences between Yates' and Holliday's results is the fact that the first deals with a general spoken corpus collected from different types of spoken language, with telephone conversations representing only 10% of this corpus (Greenbaum & Svartik 1990), whereas Holliday looks only at telephone conversations, which is a

type of spoken language which shares with e-mail the lack of visual cues and a common physical space. Moran & Hawisher (1998) have also made reference to similarities to the letter and the telephone, calling them the 'ancestors' of e-mail.

In general it is clear that we need more work in this field. In particular, if we are to employ this medium for second language learning it is crucial that we know what kind of communication we are asking our students to engage with. In Chapter 1, section 1.4 I referred to the findings by Sotillo (2000) that asynchronous communication allows for more syntactical complexity than synchronous communication. This is not to say that e-mail is a medium that lends itself to the production of complex syntax, but that the syntax employed may be more complex than in a chat environment. Sotillo used e-mail for posting to a mailing list summaries of readings which also may have influenced the level of syntactical complexity. Crystal points out the versatility of e-mail, and it follows that syntactical complexity will depend on the way e-mail is used. Clearly more work on the analysis of e-mail discourse features is needed. First of all it is necessary to collect a corpus of e-mail that is not a contribution to a discussion list, and it would be desirable to do this in different languages, and in native-speaker as well as non-native speaker language. In Chapter 6 I discuss the development of a tool that facilitates the collection of bilingual corpora of native as well as learner e-mail language. Secondly, it is necessary to agree on a method for analysis. It is becoming clear that taxonomies developed for either writing or speaking are not suitable. Maybe we should look at e-mail on its own and try to develop a description of its characteristic linguistic features and discourse functions before measuring them against other types of language produced in different media. Chapter 8 below takes a step in this direction and examines discourse functions in the a corpus of Spanish-English tandem e-mail messages. It is important to bear in mind that we are dealing with language produced in different media (spoken, written, electronic) and that each medium, depending on how it is used can give rise to different genres. And finally, when looking at the electronic medium, e-mail seems to be the most variable of all methods, since it is the one that most depends on the preferences of users, which can involve big differences in time lapses and degrees of formality. E-mail is evolving and being incorporated to more and more domains, and its potential has not been fully exploited. As e-mail evolves Crystal notes that its role in education will increase and be more valued.

> E-mail will then take its place in the school curriculum, not as a medium to be feared for its linguistic irresponsibility (because it allows radical graphological deviance) but as one which offers a further domain within which children can develop their ability to consolidate their stylistic intuitions and make responsible linguistic choices. E-mail has extended the language's stylistic range in interesting and motivating ways. In my view, it is an opportunity, not a threat, for language education (Crystal 2001, p.128)

Snyder (1998:xxi) also claims that educators cannot afford to ignore the impact technology is having on culture and the boundaries of educational systems. It is one of the purposes of this thesis to explore the various features of e-mail that can be useful in such context.

2.2.2 Psychology of e-mail interaction

In this section I discuss three issues related to the psychology of e-mail interaction which are relevant to the use of e-mail for educational purposes as well as for questions of research methodology and data collection. These three issues are the privacy of e-mail interaction, the rapidity of self-disclosure in e-mail interaction, and collaborative work between users, who have never met face to face.

The issue of privacy has already been mentioned in Chapter 1, section 1.2 and section 2.2.1 above in relation to the difficulties it poses for the collection of data for research purposes and the building of corpora of e-mail text. It is an interesting issue because despite the emergent use of e-mail for work and other non-private domains, most people still perceive this medium as highly private (Wallace 1999). Users even though aware that system administrators can have access to all incoming and outgoing e-mail, as well as being aware that e-mail can be (and has been in the past) withdrawn for investigation for a variety of reasons, still disregard advice that one should never write in e-mail anything that is not intended to be read by anybody other than the recipient. Moran & Hawisher (1998:88) refer to this phenomenon as the "illusion of intimacy" and suggest that one possible reason may be the "potentially rapid rhythm of response". In any case, this has two possible implications for research: one is that subjects may be reluctant to hand over their e-mails to the researcher. The other implication is that once subjects have given their preliminary permission for their e-mails to be used for research purposes, they seem to quickly forget/ignore that somebody else will be reading, and so the bias of the 'presence' of the researcher

diminishes. In collecting data I encountered numerous instances of students who discussed in their messages their teachers' physical appearance and personality even though they had given these same teachers permission to read the content of the messages.

Another aspect of e-mail writing closely related to the issue of privacy is the fact that users tend to disclose themselves more rapidly in this type of setting (Baron 2000, Crystal 2001). Much discussion has taken place on the possible coldness of the medium because of the distance and lack of human contact, but the fact is that the opposite is the case. Baron (2000) describes studies by social psychologists (Archer, Hormuth & Berg 1982; Rutter 1987; Short, Williams & Christie 1976) which demonstrate that the lack of visual cues increases willingness to make personal disclosures, and comments on how a sense of privacy and self-disclosure are developed in e-mail:

> And so there's a paradox. The less we disclose of our physical being to our interlocutor, the more likely we are to speak our minds. (p. 233)

Is this a phenomenon we can take advantage of as educators? On the one hand if close relationships develop students tend to drop the conscious effort to learn and focus on form disappears from the activity (in Chapter 3, section 3.4.1 I discuss the importance of focus on form within a communicative activity for language learning purposes). On the other hand, a close relationship with a tandem partner can be a motivating factor for maintaining correspondence (Chapter 7 discusses the problem of maintaining sustainability within educational purposes). Even though from a theoretical point of view such exchanges are highly beneficial for language learning and for increasing the student's opportunity for L2 use, there are many reports of teachers expressing frustration that students will not take advantage of the opportunity given to write e-mail to a native speaker of the target language. Students seem reluctant to commit to such an exchange. Ma (1996) observes 'self-disclosure without serious commitment'(p.184) in correspondence between American and East-Asian students and poses the question whether this strategy, although successful as an ice-breaker for communication, can provide the right balance for successful exchanges in which cultural differences are greater. It is precisely this 'self-disclosure without serious

commitment' nature of e-mail which I find perplexing, the initial enthusiasm and level of self-disclosure can mislead the teacher/researcher into thinking that developing a good personal relationship should be enough to guarantee sustainability. This is however not the case, students who seem personally invested in their tandem exchange often abandon communication with no explanation given, and more significantly, with no sense that an explanation needs to be provided.

Collaboration by means of e-mail is not necessarily going to take place in the same way as it does when participants meet face-to-face. We cannot assume that the strategies and patterns of interaction taking place in a face to face meeting can be transferred to the computer-mediated environment, and we can also expect that new techniques will emerge. An interesting example is provided by research into brainstorming (Wallace 1999:83-84). Behavioural scientists have reported that group brainstorming is not as efficient as individual brainstorming because of the production-blocking problem: if you are listening to another person's ideas you come up with fewer of your own and devote more time to the idea already being discussed. Connolly (1997) comments on the irony of the success of software developers who ignoring research by psychologists on brainstorming went ahead with the development of software for group brainstorming. The results from the analysis of the use of this type of software are very positive: users can choose to look at other contributions when ready, without letting these interfere with their own creativity, overcoming in this way the production-blocking problem. Also, a higher level of disinhibition (not having to face disapproval gestures) may encourage the production of more adventurous ideas.

Wallace also describes how collaboration in the work place functions better when participants volunteer and take the initiative from the start and take for granted a common ground and a certain level of trust, or what Jarvenpaa, Knoll & Leidner (1998) call the strategy of 'swift trust'. However, if this common ground and trust is not assumed from the start nothing happens, and participants who are noncommittal have an easier time opting out. This suggests that depending on personality we are going to see very successful collaboration or very unsuccessful collaboration. This of course can also be the case in face-to-face communication, but the difference is that in a computer-mediated environment different positions become more extreme.

Differences due to personality seem to have a bigger impact on how work is going to progress. This happens in the same fashion as in what Wallace calls the polarization of the net, and the loss of the moderate voice. Experiments involving group discussions on the net show that individuals with a stronger position are more likely to tilt the balance of opinions.

Besides personality factors, there are other differences that can be documented such as gender. Studies in this field suggest that women are generally more consensual and supportive and men more confrontational and critical (Baron 2000, Herring 1996). A phenomenon that seems to work equally in face-to-face interaction and computer-mediated communication is competition. Participants swiftly identify with a group prompted by a common icon, colour, or other feature that is accepted as a common trait that distinguishes members of one group from members of another group. This is interesting in that we may want to encourage participation by creating competing groups within our students' group. For example, if we are interested in reinforcing collaboration between tandem partners communicating in two languages rather than monolingual collaboration between students in the same geographical location, we need to create competition with other tandem pairs. Most studies of tandem language learning have so far devised activities where competition was created between the two language groups (e.g. creating a web site for each class).

To sum up, we need to pay attention to developments in the psychology of computer-mediated communication and cannot take for granted that patterns of behaviour in face-to-face communication will apply to e-mail communication. Such information can help foresee patterns of behaviour in designing tasks to be carried out with e-mail in collaboration between individuals who have never seen each other and need to among other things build a swift sense of trust for productivity. In principle tandem e-mail is a highly beneficial activity for language learning. However one of the main hurdles is that sometimes students just do not write for reasons unrelated to the target languages involved. The field of psychology can inform/help on this matter.

2.2.3 Use of e-mail within an educational context

E-mail is a new medium for communication which is increasingly available within academia and educational institutions, and is more and more used for teacher/student communication and student/student communication. This new mode of communication is having an impact on the changing roles of the teacher and the student, and is introducing a more informal tone and closer way of communicating. It is certainly worthwhile examining the results of the practice of electronic mailing in the classroom for the purposes of this thesis.

There is a growing body of literature on the use of e-mail as a new means of communication and the variety of purposes it can serve in the language classroom. The different uses vary considerably and as the number of publications grow it is imperative that we distinguish between different uses. Just as *writing* in general is too vague a term for labelling the topic of a publication, *e-mail* is also becoming a too broad concept.

One use of e-mail that has attracted interest is that of e-mail communication between the teacher and his/her students (see for example: Aitsiselmi 1999; González-Bueno 1998). The informality of the medium has spread to the teacher-student relationship, a change that has been welcomed by those teachers interested in changing the balance of power within the class. In a learner autonomy environment where the teacher becomes a facilitator or coordinator rather than the holder of knowledge to be transmitted to students, e-mail provides a setting more conducive to sharing and reflection, moving away from one-way delivery of knowledge. González-Bueno (1998) reports on a study where students were asked to write e-mails to their teachers of Spanish on any topic of their choice. She sees these e-mails as a substitute for learner journals and refers to them as *electronic dialogue journals*. E-mail interaction with teachers according to González-Bueno resulted in an increased production of language, topic-initiation by students, a wider variety of functions, more personal and expressive language and a higher level of accuracy. The latter, which may contradict results elsewhere, can most likely be explained by the fact that the students were writing to their teachers. Ibarz & Monaghan (2000) also report higher rates of student retention in adult continuing education as the closer contact to tutors through e-mail

resulted in an increase of student motivation. Trenchs (1997) describes how she used e-mail to communicate with her primary school learners of Spanish. She describes how the correspondence with her students diminished hierarchical barriers and developed the students' reader awareness. She also reports on three points which are found in other studies. The first one is the fact that some students did not keep up the interest in the exchange, the second is that the style of language used was more formal and correct than usual e-mail L1 discourse, and the last point is that students used their incoming messages as a model and reused syntactical structures and vocabulary.

A note of caution should be made here: while initial enthusiasm has been expressed by the changes brought about by the possibility of e-mail interaction between teachers and students, it is not always the case that the time spent by the teacher writing e-mail is taken into account by his/her employers, and expecting teachers to engage in personal e-mail communication with all students is simply not realistic. Furthermore, it is not the most efficient way to use the teacher's time. From a language input/output point of view, a tandem environment will provide each student with a person who can devote much more time and attention and will free up the teacher to assist when communication breakdowns take place. In such a setting the student's opportunities for receiving input and producing output increase drastically.

Another of the uses made of e-mail is that of promoting communication between students in the same class. Chun (1994) reports that computer-assisted class discussion through e-mail increases the number of different interactional speech acts made by learners and suggests that the communicative proficiency acquired can gradually be transferred to spoken discourse. A recurrent feature found in studies which examine exchanges through e-mail is that of learner empowerment through development of learner autonomy, equality and interactive skills (Warschauer, Turbee & Roberts 1996; Peterson 1997). In regard to autonomy, the factors of distance and time are no longer constraints and often result in an increase in written output. Students gain more control over the content of writing and seem to move towards a higher control of their learning process. E-mail eliminates appearance differences and results in more equality in interaction. Students who are at some kind of disadvantage in face-to-face interaction (because of gender, race, minority group, membership, physical handicaps or simply shyness) gain confidence and opportunities of turn-

taking through e-mail (Warschauer 1996c). All these factors also play a role in e-mail tandem exchanges.

E-mail has also been used in composition classes as a means of giving feedback. Hoffman (1994) used e-mail for both teacher and peer feedback. He finds that this medium's indirectness is face saving, allowing students to profit more from productive criticism. He also states that the use of e-mail increased students' motivation and their willingness to take risks in language and style. He also reports that more substantive changes were made in re-drafts. Rueda (1990) argues that writing should be interactive in cases which need support for developing writing skills, and one of the media he proposes for this is e-mail. Interactive writing acts as a scaffold to composition writing, which is more cognitively demanding since the writer has to produce text without an interlocutor and to create the context of the communicative act on his/her own.

E-mail exchanges between students in distant places but sharing the same L1 have also taken place. Johnson (1996) paired up students learning Spanish in two different schools in the same country. The results were positive in that the cultural proximity facilitated communication between students who were at beginners' level. Another positive aspect was that the whole exchange took place in the students' TL. This type of exchange might be beneficial for students at beginners' level who could then later on move on to an e-mail tandem exchange with a native speaker of their TL.

Warschauer (1996d) looks at the motivational aspects of using computers for writing and communication, and finds evidence to support a widely held belief that computers and CMC increase student motivation. He surveyed 167 students being instructed by 7 different tutors. The results show that the areas that were rated highest by students were the use of computers for communication, the sense of empowerment (e.g. being less afraid to contact people by e-mail), the usefulness of the computer as a help for learning, and the sense of achievement for both an instrumental purpose and for intrinsic satisfaction. Warschauer also looked at the results of the surveys in relation to the classes students attended and the teachers involved. He found no correlation between scores for motivation and teachers; some teachers were in charge of groups of students who ranked highest as well as the groups with lowest motivation scores.

What made the difference was the extent to which the computer-mediated activities were integrated into the classroom structure. The classes where computer-mediated activities were only additional or voluntary resulted in low scores of motivation whereas the groups where computer-mediated activities were fully integrated into the curriculum and compulsory yielded high student motivation scores. Since Warschauer published these results (1996b) many studies and papers in the literature have corroborated that it is necessary to fully integrate CMC into the classroom programme (see e.g. Little, Ushioda, Appel, Schwienhorst, O'Rourke, & Moran 1999; Ushioda 2000 ; Leahy 2001; Appel& Gilabert 2002).

A task-based pedagogical approach is a step towards the integration of e-mail or CMC in general into the classroom structure. Some teachers have integrated e-mail within a task-based programme in which e-mail partners are used as sources of information for a certain project, or in which collaboration between students takes place in order to accomplish a given task (Barson, Frommer & Schwartz, 1993; Barson & Debski, 1996; Warschauer 1997). There are also studies which look at the advantages of e-mail for collaborative work within a task-based approach. An interesting example (although not for second language learning purposes) is Jonassen & Kwon (2001), who compare face-to-face group communication to asynchronous computer-mediated group communication to see which is more effective for collaborative task work. The authors conclude that e-mail communication was more focused on problem solving and that subjects preferred e-mail because of its flexibility in time and space. Focus on problem-solving can be identified by several cycles of problem-solving process (problem definition, orientation, and solution development). Jonassen & Kwon state that the reiterative group sequence of problem solving processes used in CMC was in contrast with the linear sequence adopted in face-to-face communication. Jonassen & Kwon acknowledge that the results of this study should be interpreted with caution since the subjects were students of engineering, and the results may have been influenced by their preference for a computer-mediated environment.

Warschauer (1997) lists a number of advantages of CMC mentioned above in this section (increased student participation, equality, etc.) but he also points out that there are a number of difficulties inherent in the medium, one of which is the increased difficulty for different individuals to arrive at a general agreement. This is related to

the point made by Wallace (1999) on the polarization of the net, arguing that even if minority voices have a more equal opportunity for participation, they are often less heard, and that moderate voices tend not to express their opinion and be more easily pushed towards a more extreme position (see section 2.2.2 above on the psychology of e-mail interaction).

In a study of asynchronous text-based computer-conferencing, Lamy & Goodfellow (1999a) conclude that this type of activity promotes learning that integrates reflection and interaction. Lamy & Goodfellow (1999b) look at the same environment and at how different tutorial approaches influence students' behaviour. They identify two tutorial modes, a social one that increased participation and student-student interaction and the cognitive approach that fosters form-focused language discussion but produces less student-initiated interaction. These two studies look at e-mail contributions to a mailing list rather than e-mail between two students, where student-student interaction is a given, but the conclusions on different tutorials can be transferred to the organization of tandem exchanges and the way in which instructions and logistics can be manipulated to encourage sustainability as well as focus on form.

Finally, some studies have viewed the availability of e-mail as an opportunity for intercultural exchanges. Liaw & Johnson (2001) describe an exchange between students in Taiwan and students in the USA. They describe how cultural presumptions can sometimes be an obstacle for a successful exchange, and how overcoming these problems by means of positive interpretations of the other culture as well as empathy resulted in positive cross-cultural understanding.

2. 3 Research on e-mail tandem exchanges

2.3.1 Theoretical papers

In the literature on tandem e-mail, one can find a number of studies on theoretical issues and the logistics of setting up an exchange (Little & Brammerts 1996; Townshend 1997; Warschauer 1995). Issues which arise involve those of a technical nature, such as providing students with accounts and ensuring compatibility between systems, as well as practical problems such as differing term and vacation times in

different countries, pairing students in classes with different numbers, and designing tasks to ensure that there is always sufficient content for the exchanges to continue to be fruitful.

Lewis & Stickler (1998) explored how the various tools of the Internet can be best exploited for intercultural learning. They looked at what tools students favoured for gathering information about the target language culture. These students applied to the International E-mail Tandem Network for tandem partners, and also used a number of other CALL & Internet services (e.g. CD-ROM materials, the WWW, the Internetphone). From the feedback gathered from students through questionnaires, the advantages of e-mail partners seemed to be cancelled out by the disadvantages, the main one being the unreliability of partners. This seems to be a recurrent problem which is explored further in this thesis: how to maintain sustainability of interaction.

Little & Brammerts (1996) also include some theoretical considerations about language learning in tandem via the internet. Brammerts (1996) argues that tandem learning rests on two principles, the *Principle of Reciprocity* and the *Principle of Learner Autonomy* (pp.10-11). The principle of reciprocity states that the success of the exchange depends on a reciprocal partnership in which both participants profit equally from each other's help. The principle of autonomy has to do with being in charge of one's own learning. Little (1996) offers this working definition of learner autonomy:

> a capacity for self-determination as regards both the content and the process of learning; and it is through the development of autonomy that we are able to integrate the knowledge and skills we acquire through formal learning with the totality of what we are (p. 26).

In order to develop learner autonomy Little argues that learners must be closely assisted, and emphasizes that leaving the learner to his/her own devices is not an option. In this context he discusses tandem language learning as an activity that falls between classroom instruction and self-access language learning, and that can provide support through the collaboration with another student in the path to independence from the teacher. Again, he points out that this is not to say that tandem pairs should be working entirely on their own when engaging in tandem learning; quite the

contrary, in those cases in which students have not reached an advanced level of learner autonomy, teacher guidance/counseling will be essential.

Little & Ushioda (1998a) discuss, within the context of a Germany/Ireland e-mail tandem exchange, the difficulties of not being able to provide counseling for both members of the tandem pair (unless resorting to synchronous CMC, e.g. MOO). In discussing the asynchronous written nature of e-mail tandem, Little & Ushioda also point out that it means that the student has time for writing, and that meaning is initially constructed by the individual and not in negotiation with the interlocutor to the same extent as it would be collaboratively constructed in speaking. Little (1997) suggests that the technology of writing plays an important role in second language acquisition for two main reasons: it supports the development of speaking and fosters the learner's metalinguistic awareness. When children acquire their first language they do not have a mature enough cognitive framework to acquire literacy. Thus the normal path of development is that speaking fluency precedes writing fluency. This need not be the case in SLA: second language learners are in most cases already familiar with literacy in their first language. This is a fact worth taking advantage of in regard to SLA. A good example, as Little points out, is the pedagogical method used by Dam (1995) in EFL teaching. Dam uses exclusively English in the classroom and makes her students write in English from the very first day, with excellent results in the achievement of communicative competence and the development of learner autonomy. Students learn to organise their work and record it in writing using their L2. E-mail tandem exchanges can be a natural way of doing the same with the added value of a real target audience which belongs to target language community. Students can write to their tandem partners commenting on the work they have done, organising the work they will do together and reflecting on the language learning experience they have in common. It follows that e-mail in general can play an important role in language learning and that e-mail tandem language learning encompasses many features which are conducive to language learning.

2.3.2 Empirical studies

We have seen in the previous section a number of theoretical arguments in favour of e-mail tandem language learning. Thus far, however, few empirical studies have

focused on the actual language learning process in e-mail tandem exchanges, and even fewer have attempted to do so at a quantitative level. Most studies which have been done have been qualitative and involve only a small number of subjects and relatively small samples of their exchanges. In this section I describe and discuss empirical studies of e-mail tandem language learning. I have also included a number of studies which are not strictly speaking tandem in that communication was monolingual between learners of a language and native speakers of the target language in question. These studies (Fourman & Roig-Torres 1998; St.John and Cash 1995; Stockwell & Levy 2001; Stockwell 2003; Stockwell & Harrington 2003) have been included here for their interest at a methodological level, as well as for the relevance of their results to e-mail tandem language learning.

Austin & Mendlick (1993) report on a study in which two schools, one in Northern Ireland and one in Germany, agreed to participate in an e-mail exchange. Students' ages ranged from 14 to 16 and they wrote messages in groups of two and three over a four-week period. Students exchanged personal information to begin with and were then engaged in a translation task. Analysis of student questionnaires indicated an improvement in vocabulary, accuracy and cultural awareness. These results however reflect only student perceptions; there was no analysis of the e-mail messages sent by the students. The feedback from students was positive and encourages the pursuit of more research in the area.

St John and Cash (1995) describe the high degree of improvement in the language learning development of one student of German involved in an e-mail exchange. They report on an exchange taking place between an English student learning German and a native speaker of German. Since the sole purpose of the exchange was to improve the English student's level of German, the whole exchange took place in German. The results show that the student benefited greatly from the exchange in the areas of vocabulary, idiomatic expressions, register and the complexity and length of sentences. His grammar improved inductively, he spotted regularities in his partner's language use and formed rules from them. The positive improvement is probably due to the student's high degree of learner autonomy. He had his own strategies to make the most out of the exchange: he copied all new words and expressions into a data file which served as his personal dictionary; he made a deliberate attempt to use all new

words and structures encountered in the native speaker's messages in his replies; and he virtually copied chunks of the native speaker's language and inserted them in his own writing. The results from this study emphasize the importance of two points for the success of language learning in an e-mail tandem exchange:

- The key role of input in the TL. The native speaker's messages serve as a model, hence the importance of maintaining an even division of writing in L1 and L2 when both members of the pair are learning a language. In this way both learners can benefit equally from using and modelling their L2.
- Learner autonomy multiplies the benefits of e-mail tandem learning, and vice versa.

Woodin (1997) describes an e-mail tandem project which took place within the English-Spanish subnet of the International E-mail Tandem Network. She studied 6 subjects who were undergraduate students in Sheffield learning Spanish and writing e-mail to undergraduate students in Oviedo learning English. In this study the messages written were not bilingual, students only wrote in their L2 and were expected to obtain exposure to their L2 from reading messages sent to the Spanish/English subnet discussion list (Forum) where students wrote mainly in their L1. This arrangement does not follow the guidelines of the International E-Mail Tandem Network: Little & Brammerts (1996) emphasize the importance of using both languages in any tandem exchange so that both members of a pair get equal opportunities to read and write in their L2. The exposure to language in the Forum does not serve the same purpose as the exposure to a tandem partner's language. Woodin herself reports that one of her subjects said that he found the messages in the Forum more difficult to understand than magazines. Students have access to a great variety of real samples of their TL by simply surfing the Internet. The benefits of being exposed to one's e-mail tandem partner's language are related to modified input and the chance that this modified input gives the learner to reuse words and expressions which are in his/her Zone of Proximal Development (ZPD) (Vygotsky 1962). Language in the Forum will often be well beyond this ZPD. The advantages of writing bilingual messages have already been discussed above in relation to St John & Cash (1995).

From a methodological point of view, a shortcoming of Woodin's study is that she only analysed one side of the exchange, the English-speaking students, and thus

missed out on a further insight into the learning process, since messages are often only interpretable in the context of the contributions from both sides. In regard to the analysis of corrections, Woodin points out that subjects did not correct all mistakes and that often they would pick mistakes different from the ones a teacher would select for correction. The guidelines for feedback in Little & Brammerts (1996) point out that all mistakes do not need to be corrected since it would mean a lot of extra work and because it could discourage the writer. On the question of what mistakes should be corrected, feedback from the native speaker will give the learner a realistic idea of which mistakes are most tolerated by native speakers of their TL and which are less tolerated.

Leahy (2001) examines the results of a tandem e-mail project between 24 students studying law with German (in England) and English (in Germany). The data she uses for the analysis is the following: written student reports, oral assessments, and fragments from written e-mails. Leahy makes some interesting points about the use of e-mail in tandem. First of all she argues that the asynchronous nature of e-mail allows the student to set his own pace, benefit from the advantages of word processors (non-linear writing process, ease of multiple drafting, etc), and most significantly for second language learners working in tandem, it allows for the learner to "analyse and/or copy native speaker style". She discusses the advantages of the bilingual nature of tandem citing one of Fischer's (1998) students who was engaged in a monolingual exchange with native speakers of their L2 (German):

> What will they [the German e-mail partners] think of us if we keep writing in baby-German?[...] Just let us write to them in English for a while. (Fischer 1998:114)

In a tandem context this problem is solved in that both sides of the exchange are producing 'baby-language' in their L2 and are therefore acutely aware of the difficulties involved in expressing oneself in an L2, but both participants also have a chance to express their true selves in their L1.

In terms of language learning Leahy found that her subjects were able to modify the input they had received in the e-mail messages and produce it in different contexts (oral presentations, written reports). Leahy's students also increased their vocabulary

range and reading of subject-specific material in the target language. She also reports that time management, autonomous learning and negotiation skills were not developed successfully for all subjects.

One of the methodological difficulties reported by Leahy is the fact that e-mails were collected by asking students to send a copy to the tutor. There were two problems: not all messages were copied, and when this happened it was only detected if a reference to this missing message was made in a later e-mail copied to the tutor. An organizational problem reported by Leahy is getting the exchanges started. Some of the students let several weeks pass before they started writing and in general regularity in writing was not consistent. Leahy suggests some of the possible reasons for these problems: the lack of immediate deadlines, the fact that the project was not integrated into class work, and students' working preferences for individual work or dislike of IT. Leahy suggests that time should be given to establishing a personal relationship before starting project work. This is a point that will be considered later in this thesis within the discussion of the development of tasks for e-mail tandem language learning.

Appel (1997) studied 14 subjects (7 English/Spanish pairs) and the exchanges collected during a period of four to six months. This study collected data from student questionnaires and the collection of e-mail messages sent by students. The analysis focused on the following areas: relative use of L1 and L2 and its effects on sustainability of the exchange, register, cultural exchange, feedback, language and learning awareness, and the development of writing skills. The findings of this study mainly indicate that tandem e-mail exchanges have a great potential for developing students' awareness of learning processes and language. The study also finds that observing the bilingual principle of L1 and L2 contributes to sustainability of the exchange, and that in relation to the development of writing skills reader awareness was greatly enhanced. However the results also suggest that e-mail writing does not necessarily develop textual coherence in the same way an academic writing course would. As regards feedback, this study found evidence suggesting that metalinguistic awareness is more readily developed by giving feedback than by receiving it. The study found that the feedback received had in general a much smaller impact on the student. If this is the case, the importance of the fact that students are not trained

teachers and therefore not able to provide appropriate explanations on errors (or that they are likely to provide the wrong grammatical explanations) diminishes. This study found that it was the examination of the language produced by the tandem partner which triggered a metalinguistic reflection on the learner's own L2 writing.

In terms of data collection, students were asked to send copies of all messages to the researcher, which proved to be an inefficient method since many messages were lost. The sorting and analysis of the data collected were done entirely by hand and was very time-consuming. For a larger quantitative study, data collection in this manner would be unfeasible. On the Spanish side, this study played an important role. The study took place during spring term of 1997, a time when computers and access to the Internet was still not widely available in Spain. The teacher in Spain made a considerable effort to participate: he collected messages from his students on disks and sent them from his own personal e-mail account at home; he also brought his laptop to the school to allow those students who did not have a computer at home to write their messages in this way. The report on this experience (Appel 1997) supported a successful application for financial support for the school to invest in equipment for a self-access center.

Little, Ushioda, Appel, Moran, O'Rourke & Schwienhorst (1999) report on a tandem exchange which dealt with a much larger number of students: 157 English/German pairs. From a data collection and analysis point of view, even though the exchange involved such a high number of students, suitable data for analysis was only successfully collected from 24 pairs due to difficulties with the organization of the exchanges. In fact, larger exchanges become increasingly difficult to keep organized in terms of collecting data, even when it is still a matter of only two groups of learners. If it were to be attempted to handle more language groups or groups from more geographical locations, the difficulties would increase (this point is further discussed in the following section of this chapter). One of the problems which is touched upon in Little *et al.* (1999) is the fact that in any e-mail tandem exchange it is difficult to guarantee a successful exchange for each student involved, and that a close collaboration between the participant institutions is indispensable. In terms of data analysis this study looked at affective data collected through questionnaires and linguistic data which consisted of the collection of e-mail messages written by the

students. The affective data yielded encouraging results. Students expressed a very positive attitude and valued the fact that the e-mail exchanges gave them control over the content of what they wrote about and their own learning process. In their own words students reported that they had valued the factors necessary for the development of learner autonomy. The analysis of the linguistic data showed the use of features close to those of the spoken language (informal register, discourse fillers and non-standard punctuation making up for the lack of intonation and gestures). The analysis of corrective feedback showed that students need to be prompted to provide such feedback but that for those students who provide feedback the benefits are great. Little *et al.* concluded the study in the following positive note:

> ... we can claim plenty of evidence to support the view that e-mail tandem partnerships offer a uniquely powerful support to language learning and plenty of encouragement to undertake further research and development. (p.52)

The following two studies are not exactly of a tandem e-mail setting but are close enough and provide a good model of experimental design to follow, which is why I have decided to include them in this section. Fourman & Roig-Torres (1998) is one of very few studies to address the question of language learning in electronic mail in an experimental setting. They attempt to make an experimental contribution to the field, after pointing out that too many studies are based on students' and teachers' personal perceptions of the exchange, but no quantifiable results or tangible evidence are provided. In the study college learners of Spanish were paired with native speakers of Spanish to discuss via e-mail topics assigned to them each week. A control group wrote one journal entry per week on topics related to those assigned to the subjects writing e-mail. Compositions produced by the experimental group and the control group are rated on five criteria: content, organisation, sentence style and structure, vocabulary and linguistic structures. A parallel evaluation of linguistic features was also carried out. A statistical analysis was run on the evaluation of these linguistic features for each group and the results were statistically significant. There was a significant difference in favour of the experimental group on content, vocabulary, sentence style, sentence structure and linguistic accuracy. There was no significant difference found for organisation, which agrees with evidence in Appel (1997) suggesting little improvement in the development of textual coherence devices.

Having pointed to the value of this study for its experimental methodology, it is also necessary to point out some of its weaker points. The study concludes that writing is improved because students writing e-mail have a real audience. However this study overlooks a very important element of the e-mail interaction between NSs and NNSs: the process of reading is also involved, and students are exposed to input produced by NSs. Students in the control group were not given any additional input to compensate for that, they were just asked to produce written language. The importance of equal reading and writing opportunities in the L2 for both students involved in an e-mail exchange is a key element for NS/NNS interaction and is very much emphasized in the literature on e-mail tandem. In the article no mention is made of the messages written by the native speakers and whether they gave any feedback on linguistic issues to their e-mail correspondents, which would have been another important aspect of a tandem exchange.

Stockwell and colleagues (2000; 2003; Stockwell & Levy 2001; Stockwell & Harrington 2003)have conducted a number of studies looking at monolingual e-mail interaction between learners of either English or Japanese and native speakers of the target language. Each week students were given a new topic for discussion, the topics were: self introductions, student life in your country, perceptions of ourselves and others, dining out, relaxation and leisure, and finally dating and socializing. Stockwell 2000 found that students' level of L2 performance dropped from the first message to the fifth and then increased steadily from there. These results were interpreted as students making an effort to show their best performance in the first introductory message and becoming more relaxed as the exchange unfolded. Stockwell & Levy (2001) working with messages in Japanese found a significant relationship between the number of messages sent and L2 proficiency gains. Error-free T-unit measures were used to measure language proficiency of messages beyond the fifth. Stockwell & Harrington (2003) look at messages in English and measure syntactical complexity in terms of number of words per T-unit, number of words per error-free T-unit, and percentage of error-free T-units and find increasing complexity. They found a significant increase of syntactical complexity in time, although their measure for lexical density did not show any significant increase.

Given the finding that second language learning takes place from the fifth message onwards it is also important to ensure that the exchange will last longer than 5 messages. The main problem observed in all these studies is that of sustainability. Stockwell & Levy (2001) identified the following factors as having an impact on sustainability: proficiency levels, computing experience to a lesser degree, ratio of interlocutors, topics of conversation assigned and the development of friendships. Stockwell (2003) explores further the factor concerning topics of conversation and searches for reasons why students suddenly cease a topic thread. He identifies the following causes: multiple topics in one e-mail, sudden cessation due to assigned topics, lack of explicitness, syntactic error, asking about a question already answered, pragmatic error, and one speaker closes topic. Most interestingly, in 20% of the cases the reason why the topic ended was unknown. These studies provide considerable evidence for the problem of sustainability in e-mail interaction for language learning. I would argue that the problems in these studies could partly be addressed by introducing the tandem principles to ensure both members of an e-mail pair have a reason to write, and by designing tasks that require an outcome. Pica, Kanagy & Falodun (1993) point out that opinion exchange tasks do not require the participation of students and suggest that tasks should be goal oriented. It is likely that the opinion-exchange task in the studies by Stockwell and colleagues may have not been favourable for sustainability. Stockwell & Levy (2001) conclude that it is important to prepare students with strategies for seeking common ground before the exchanges. They also suggest that a project-based approach could be a way of providing a framework for the e-mail exchange. This thesis seeks to explore the development of such an appropriate framework and Chapter 7 and 8 explore in detail issues of sustainability and task design for e-mail tandem language learning.

Belz (2002) looks at a tandem exchange between German and American students from a socio-cultural point of view. She uses the theoretical framework of social realism, which proposes that human activity is shaped by macro- and micro-level social features (p. 60). The paper focuses on macro-level features and looks at how institutional and national infrastructure constraints and affordances created difficulties and misunderstandings between students. Different accreditation to the foreign language subject, semester calendar, technological access and know-how, and the value of the L2 in a national context had a seemingly negative impact on the

relationship of the tandem pairs. The American students wrote much more often and were frustrated by the lack of response from the German side to the point that they created a new stereotype of the Germans as 'lazy'. Belz suggests in the light of Activity theory that the source of the problems in these studies should not be avoided or prevented but rather that teachers should create activities that would enhance students' awareness of the contextual differences so that understanding of the other students' contextual factors are better understood.

All the studies mentioned above suggest that e-mail tandem exchanges may be fruitfully employed for language learning and that it is therefore desirable to continue with research into the topic on a larger scale. In the following section I outline methodological problems that have emerged during research on e-mail tandem published and unpublished studies in which I have been involved (see e.g. Appel 1997; Little *et al.* 1999; Chapter 4) and problems documented in the studies reviewed above.

2.3.3 Data Collection Problems

The first hurdle encountered in any attempt to set up an e-mail tandem exchange is that of providing each student with his or her own e-mail account. It is becoming increasingly common for university students to have accounts, but not all universities and language schools are able or willing to arrange this. In some cases, it has been necessary for an entire class to save e-mails to disk in order that they can be sent through the teacher's account. This is not desirable primarily because it disrupts the immediacy of the exchange and the sense of autonomy mentioned above. Both of these factors are seen as primary advantages of the e-mail tandem exchange. From a research standpoint, this method also complicates the collection of data. It is in some cases impossible to have a clear idea of when a given message was written or how it fits into the discourse. This is equally true if students are required to double up on e-mail accounts or use the accounts of others. Even as time solves this problem, and it is becoming increasingly easier to open an e-mail account or avail of the free opportunities on the web, new problems emerge such as limited space for storage of e-mails, or unmanageable quantities of *spam* for some free accounts. In the case of

under-age students, teachers also express their concern that these accounts may open the door for inappropriate e-mail/spam or be used for other purposes by the students.

Once each student has an e-mail account, the issue of software compatibility between user groups arises. In general, this is not a problem with standard e-mail, but if students use additional features such as attachments, or if one of the languages requires special characters usage, this can present difficulties. Furthermore, some e-mail programs contain extra features which others do not, such as spelling and grammar checkers, etc. This can make it difficult to assess the progress of different students evenhandedly. Also, from the perspective of data collection, different software can make uniform collection of data unnecessarily complicated, e.g. by adding different header information and following different formatting standards. Attachments are undesirable, as they can expose the coordinator's computer to the risk of viruses. The reply command also causes difficulties. On the one hand, it is necessary to ensure that the correct defaults are set for all participating students so that the original message is contained in the reply, but even so, the students must be relied upon to trim the new message appropriately. Otherwise, consecutive messages include all of their predecessors and become longer and longer, adding redundant text to the transcript. This affects data analysis negatively too.

E-mail was not designed specifically for the task of tandem exchanges, and for this reason many of its important standard features are not beneficial to this particular use. The use of attachments, for example, is not necessary for tandem language exchange and other features are not optimal. For research purposes, as mentioned, it is necessary for the coordinator to receive a complete transcript of the exchange. This can be done in a number of ways, but should be done consistently. Ideally, all messages should be sent simultaneously to the researcher using the Cc (Carbon Copy) function. This, however, relies heavily on the students' remembering to do this and understanding the importance of doing it. In reality, many messages are not Cc'd, but rather forwarded, or resent later. This can result in added coding in the header, making the messages harder to process automatically, and difficulties in keeping an orderly chronology of the transcript.

The e-mail environment also suffers from a lack of focus on the specific task of tandem language learning. Students receive e-mail messages from all manner of other sources, in addition to the messages they receive from their tandem partner, and many of these other messages take precedence in terms of interest or importance, which creates distractions. The potential lies in tandem exchange as a pedagogical tool, and ideally I would like the environment to be as conducive to focused language learning as possible, taking advantage of the previous experience students may have with e-mail but drawing a very definite line between the student's personal e-mail space and the virtual working space shared with a tandem partner.

In short, e-mail gives clear indications as to how current communication technology may be exploited for language learning ends. E-mail itself, however, is not optimally suited for tandem exchange. This is what has motivated the development of the tool *Electronic Tandem Resources,* documented in Chapters 5 and 6.

2. 4 Summary

This chapter has reviewed studies which explore the nature of e-mail interaction from different perspectives. From a discourse analysis point of view, we find that the language used for e-mail is generally quite informal. However, as the use of e-mail develops and spreads into different areas of personal and professional life it is likely that several genres of e-mail will emerge. It is difficult to evaluate or compare e-mail language to spoken or written language since it is not like either of them, but shares certain features of both. I suggest that more descriptive research is needed on e-mail language before we compare it to the language produced in other media. Otherwise we run the risk that the results will be subject to the parameters that define the media that e-mail language is being compared to.

From a psychology perspective, we find that not all patterns of behaviour in face-to-face communication hold for e-mail. The most striking feature is the privacy illusion and rapid self-disclosure that users engage in. On the other hand, non-commitment is also strong. Other relevant features are the polarization of opinions and the loss of the moderate voice. Among the phenomena that occur in a similar manner are competition and allegiance to group membership. These findings shed light on some

of the problems in guaranteeing the sustainability of e-mail tandem exchanges discussed in the second part of this chapter and throughout the thesis.

The second part of this chapter looked at how e-mail has been employed for second language purposes in educational contexts. The studies are in their majority rooted in action research and deal with small groups. From the review of educational context three points of need have emerged that are taken further in the work of this thesis: the integration of e-mail tandem language learning in the classroom within a task-based pedagogical approach, the development of an environment that moves away from day-to-day e-mail use but takes advantage of its useful features from a pedagogical point of view, and the provision of adequate tools for data collection and analysis in order to facilitate research in this area.

Chapter 3 Theoretical framework for e-mail tandem language learning

3. 1 Introduction

This chapter outlines the theoretical framework used for the case studies described in this thesis. It starts by looking at the existing debate within the field of CALL on the search for new research paradigms, and explores the contributions CALL can make to research methodology, especially in relation to CMC. A particular framework, that of Chapelle (2001) on the appropriateness of CALL tasks is described in detail. This model has two levels of analysis, the judgmental level which is dealt with in this chapter and the empirical level which is dealt with in Chapters 4 and 5 below.

Chapelle's model is based on cognitive and socio-affective conditions governing language learning. This chapter explores these conditions further in the context of SLA and focuses on alternative models. In relation to socio-affective conditions I discuss Keller's (1983) instructional design model and the construct of willingness to communicate (WTC) developed by MacIntyre *et al.* (1998). In relation to cognitive conditions I discuss the role of tasks in channelling attention to form and then discuss Robinson's (2001) model for analysing pedagogical tasks.

Finally, I suggest which elements should be focused on when conducting research in e-mail tandem language learning.

3. 2 Does CALL provide a theoretical framework?

3.2.1 Into the 21st century and still in search of research paradigms

CALL is a recent area of study and its practitioners are still debating not only how to proceed in the design and evaluation of its applications and research practice but also whether they can see themselves as an independent field or as a branch of other parent fields. The heading of this section alludes to a paper by Carol Chapelle published in 1997 and entitled "CALL in the year 2000: still in search of research paradigms?" Chapelle addressed the debate taking place among practitioners of CALL in searching

for a common direction for evaluation of their practice. She lists a number of fields which CALL researchers have looked to in trying to understand better the activities of their field (anthropology, cognitive psychology, communication theory, linguistics, second language acquisition, psycholinguistics, human-computer interaction and computational linguistics among others). Chapelle then makes this proposal: "What is needed then is a perspective on CALL which provides appropriate empirical research methods for investigating the critical questions about how CALL can be used to improve instructed SLA" (p.21). She suggests that SLA should guide research in CALL, and she focuses on the SLA interactionist theories, L2 classroom research and the use of discourse analysis within this approach. It follows that we need more descriptive research that explores the types of language that learners are exposed to, the types of language they produce, and how language is modified through the interaction taking place in the CALL activity.

Chapelle's proposal for a research agenda prompted a response from Salaberry (1999) which is critical of several aspects of the proposal. Salaberry requests further elaboration of some of the points made on interactionist theories and psycholinguistic processes in SLA. In her reply Chapelle (1999) delivers in her reply five principles of interactionist SLA, an example of a research question addressing each principle and a suggested research method for each of these questions (p. 109). These questions are related to attention to linguistic features, production of comprehensible output, error noticing, error correction and the extent to which a given context modifies focus on form and meaning. All these questions are addressed in Chapelle's later model for CALL tasks (2001) which is discussed below in section 3.2.2. Salaberry also insists on the relevance to CALL of disciplines other than SLA, to which Chapelle replies by pointing out that it is necessary to differentiate between the role other disciplines can play in providing tools or techniques to the field of CALL, and that fields such as computational linguistics or artificial intelligence address different research questions to CALL, whereas in SLA there are common questions such as those posed by the interactionist approach.

In addition Salaberry raises two interesting points: he observes the lack of reference to sociocultural approaches in Chapelle's (1997) discussion and advocates a more central role for CMC in the CALL research agenda. On the first point Chapelle

(1999) indicates that sociocultural approaches need to pinpoint the relevant questions for a CALL research paradigm, and cites Warschauer (1998) as taking the first steps in this direction by identifying questions to be asked in relation to CALL within the sociocultural approach. Chapelle has since advocated the use of a combination of methodologies for CALL research (Chapelle, Luo & Reby 2003 look at the use of Interactionist SLA theory, Systemic-functional linguistics and Ergonomic theory for the analysis of process data in CALL environments). A more recent contribution to a sociocultural approach within CALL is Blin's application of Activity Theory to CALL tasks (2003). She uses Activity Theory in order to analyse activities mediated by tools and artifacts from a holistic perspective, looking at all the elements of an activity. This theory looks at tensions and contradictions which emerge from an activity, and Blin argues that this is particularly useful in CALL where she identifies tensions between institutional policies, technology, classroom practice, learner perceptions, and teacher intentions among others.

Many questions can be asked in relation to CALL activities, but the fundamental and critical questions which are too often avoided are those that address the ultimate purpose of engaging in CALL activities: developing the learner's L2 communicative competence. Chapelle (1997) poses the following questions:

> -What kind of language does the learner engage in during a CALL activity?
>
> -How good is the language experience in CALL for L2 learning? (p. 28)

These are two questions this thesis explores in the context of e-mail tandem language learning in a succession of case studies.

There are many factors that can have an impact on language learning (student satisfaction, cross-cultural experience, communication with a native speaker of the TL, etc.) but it is necessary to make a link between the existence of these conditions and language learning. Within CALL too often descriptions of the technology and its potential fail to evaluate whether there is any actual learning taking place. Cameron expresses this point very clearly in an editorial in the international journal *CALL*:

> I have said on numerous occasions in this column that the emphasis in CALL must be on language *learning*. Availability of a teaching resource does not necessarily equal an enhanced learning opportunity (Cameron 2001, p. 1)

The problem is that CALL inherits from SLA the difficulty of measuring language learning and finding appropriate research methods for this. The split between sociocultural and cognitive approaches is also present in SLA. Though they are sometimes seen as competing approaches I would argue they are complementary since their main differences are their angle of approach. Sociocultural theories look at the individual as part of society, and language learning as being shaped by social interaction. The latest cognitive theories also look at interaction but with a focus on what takes place in the individual's mind during this interaction. Within cognitive theories, SLA interactionist theories place a lot of emphasis on language learning as part of interaction with others or the environment (e.g. dictionary, grammar book), but with a view to finding out how attention is allocated and how a linguistic form cones to be incorporated in the interlanguage of an individual. Another difference most often linked to these two approaches (although not necessarily so) is that of the research methodology employed: sociocultural theories most often adopt holistic or ethnographic approaches, and conduct descriptive studies in order not to interfere with the subjects' performance. Cognitive approaches lean more towards experimental studies, and also carry out quantitative analysis of data. But there are plenty of exceptions and more and more researchers in both approaches are experimenting with new methodologies. Another debated issue within SLA is that of a bottom-up or top-down approach. Should theory inform classroom practice or should classroom practice inform theory? Probably both. The starting point will most often depend on whether the researcher spends his/her time exclusively or mostly on teaching or research. As long as they inform each other, both approaches are surely beneficial if undertaken seriously and in an informed manner as to research methodology, language learner mental processes, and classroom practice.

Going back to Chapelle's focus on interactionist theories, Harrington & Levy (2001) criticize the adoption of this approach because it is firmly rooted in face-to-face interaction and fails to take into account the context in which new modes of CMC take place. It is worth noting that in her 2001 model, described below, Chapelle no longer advocates the use of the interactionist account and looks instead at broader

cognitive approaches (e.g. Skehan 1998). Some of the concepts of the Interactionist Account such as modified interaction are still used, but integrated within a broader framework.

Concerning Salaberry's point on the relevance of disciplines other than SLA to CALL, a point also made by other authors (Levy 1997, Motteram 1999, etc), there seems to be some confusion as to the role of these other influential fields. First of all, it is important to make a distinction between the ultimate goal of CALL, developing L2 communicative competence, and the means by which this goal is achieved. It follows then that SLA will be the chief field in guiding researchers who are trying to answer questions related to second language learning when it is computer-assisted. There are many fields that have contributed to, informed and inspired the practice of SLA and indeed continue to do so; these fields will naturally also play a role in CALL research. Such fields include psycholinguistics, educational theory, linguistics, cognitive science, socio-cultural theories of mind, etc. A different matter, however, is the role that fields such as computational linguistics or artificial intelligence play in CALL. Computational linguistics and artificial intelligence are areas of research which use their own methodologies to develop tools which can play crucial roles in CALL. Again, the methodology for evaluating the efficiency of a system in recognising natural language or providing intelligent feedback is very different to methods which should be employed in assessing the language learning taking place when the learner interacts with this system (see Nerbonne 2001 for a discussion of NLP and CALL which proposes that the role of NLP should be to provide comprehensible input and intelligent feedback to the language learner). These fields contribute with technology, other fields contribute with knowledge such as human-computer interface design.

Having said this, there is no doubt that CALL is posing new questions and calling for new ways of doing things. It is perhaps even more cross-disciplinary than SLA. In a workshop on research methodologies given at Eurocall 2003 together with Levy, Blin argued that research in CALL implies involvement in at least two different fields, whether that is SL and educational technology, or human-computer interface design and pedagogy. I would say that one of these surely has to be SLA. What is clear is that it is a new area of research, independent or not, and that before being able to

address the issue of language learning directly there is a great deal of work to be done. Before researching the use of, for example, chat for language learning purposes we need to know what chat is used for in L1, what are the ethics/code of use, know about the language used in this environment by L1 users, the motivation users have to employ this mode of communication, psychology, patterns of behaviour, etc. So we need to explore contextual parameters. This is particularly important for CMC because it challenges the contextual parameters of communication for spoken and written language. This thesis and the decisions I have made concerning the direction of the research reported in different chapters has taken have been heavily influenced by this. I would have wished to address more directly the issue of language learning but found that a great deal of information about e-mail tandem interaction was needed before I could look for progress in terms of actual second language learning gains. Another driving force determining the direction this thesis has taken was the desire to see the results applied in the classroom. The technology is already out there, it is being used by teachers and learners, and there is a sense of urgency in informing such practice.

Relevant to the question of finding a theoretical framework for e-mail tandem language learning within CALL is the question of the role of CMC within the research agenda, as I said in the previous paragraph. The elements of CMC are very different; within CALL we look at the interaction between a machine and a human being, but here we have communication between human beings mediated by the machine (as well as the interface between each of the learners involved in the communication with the machine of course). In a discussion of taxonomies for CMC, Paramskas (1999) looks at e-mail as a format which builds and improves on pen-pal letter exchange. This seems to be a pervasive trend in the CMC literature, where one-to-one e-mail is repeatedly associated exclusively to pen-pal (or its electronic version, key-pal) exchanges. This is unfortunate, as it marginalises a medium which is important and ubiquitous in virtually all spheres of today's professional world. However, the language learning community, and especially the computer-assisted language learning community, tended to classify one-to-one e-mail as a means of establishing friendships at distance, ignoring many of its most useful aspects as a much more general purpose communication and collaborative tool. Synchronous communication has been much more researched, yet how much synchronous communication takes

place at the workplace in comparison to asynchronous? Is the reason for the attention it has received in the CALL literature that synchronous CMC is more effective for language learning? At present there seems to be little evidence to support this position. This is not to say that the role of synchronous communication should be played down, but to claim the attention asynchronous CMC deserves in the research agenda.

Paramskas (1999) puts forward a taxonomy based on formats which a) are unique to CMC, b) build on and improve on other formats or c) duplicate other media. This taxonomy, however, is not very informative as regards language learning mechanisms. A more useful one in this respect is that of Levy (2003), who looks at differences related to four dimensions: temporal (asynchronous/synchronous), material (factors such as screen size, accessibility, etc), sociocultural (cultures of use of specific media) and individual dimensions. He also discusses the concept of affordances as developed by Hutchby (2001), who defines them as a function mainly of two of Levy's dimensions, social normative use of the medium and the features of the technology mediating communication. Affordances of a particular CMC context will determine what type of language is produced, and how it is produced, and in this way will have an impact on language learning processes.

Comparative studies have also been the object of debate in CALL, and much has been said about what can be compared and what not. The general consensus at this point is that there is little point in comparing traditional methods to CALL in terms of efficiency. Nerbonne (2001) is of the opinion that even if CALL were to be worse than traditional methods it should still be used because it provides more opportunities or practice which it is not possible to provide with teachers alone. A more positive view on this debate is given by Cameron (2001) and reflects the current position of the majority of the CALL research community:

> At one stage the emphasis was on evaluating the use of the computer in the classroom against the use of so-called traditional methods. Now the 'new' technology is a *fait accompli* and the emphasis should be on the evaluation of the learning output according to the various ways in which language material is presented and used (pp. 1-2)

Following this line, I have at no point attempted to compare e-mail tandem language learning to more traditional face-to-face approaches. I have used evaluation and descriptive analysis in Chapter 4 and 5. I have also attempted to make comparisons of elements within e-mail tandem language learning, comparing its use within a communicative pedagogical approach and within a task-based approach (Chapter 7), comparing the use of convergent or divergent goals in the design of tasks for tandem e-mail language learning (Chapter 8), and finally comparing different dyad set-ups in terms of the degree of syntactical convergence in the language produced by learners (Chapter 9).

3.2.2 Criteria for CALL task appropriateness, Chapelle 2001

Chapelle 2001 puts forward a set of criteria for the evaluation of CALL task appropriateness. The basis of these criteria, she indicates, are "theory concerning ideal cognitive and socio-affective conditions" (p.45). Two factors shape the framework Chapelle proposes: it looks at the role of CALL from an SLA perspective within an instructed context, and emphasizes that it is situation-specific. In relation to the first factor, she looks at task-based approaches to SLA and mainly at Skehan's influential cognitive interpretation of such approaches (1998). Related to the second factor is her reference to the construct of willingness to communicate (WTC) by MacIntyre *et al.* (1998), which looks at socio-affective conditions for SLA and is defined by MacIntyre *et al.* as situation-specific. Chapelle's model outlines two levels of analysis for the evaluation of CALL tasks, *judgemental analysis* which should be applied to the analysis of software and activities planned by the teacher, and *empirical analysis* looking at evidence from learners' performance and whether it confirms the predictions made by the judgemental analysis. The questions asked for each level of analysis are thus related but specific to the object of their analysis. Chapelle lists six criteria to consider when conducting a judgemental or empirical analysis: language learning potential, learner fit, meaning focus, authenticity, impact and practicality. Table 3.1 lists the criteria Chapelle proposes, their definition and the questions she suggests for a judgemental analysis. Table 3.2 lists the questions Chapelle puts forward for an empirical analysis of CALL tasks.

Table 3. 1 Criteria for CALL task appropriateness & Questions for the judgmental analysis of CALL tasks. Adapted from Chapelle 2001 (pp.55 & 59).

Criteria for CALL task appropriateness		Questions for the judgemental analysis of CALL tasks
Language learning potential	The degree of opportunity present for beneficial focus on form.	Do task conditions present sufficient opportunity for beneficial focus on form?
Learner fit	The amount of opportunity for engagement with language under appropriate conditions given learner characteristics.	Is the difficulty level of the targeted linguistic forms appropriate for the learners to increase their language ability? Is the task appropriate for learners with the characteristics of the intended learners?
Meaning focus	The extent to which learners' attention is directed toward the meaning of the language.	Is learners' attention directed primarily toward the meaning of the language?
Authenticity	The degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom.	Is there a strong correspondence between the CALL task and second language tasks of interest to learners outside the classroom? Will learners be able to see the connection between the CALL task and tasks outside the classroom?
Impact	The positive effects of the CALL activity on those who participate in it.	Will learners learn more about the target language and about strategies for language learning through the use of the task? Will instructors observe sound second language pedagogical practices by using the task? Will both learners and teachers have a positive learning experience with technology through the use of the task?
Practicality	The adequacy of resources to support the use of the CALL activity.	Are hardware, software, and personnel resources sufficient to allow the CALL task to succeed?

Criteria for CALL task appropriateness		Questions for the empirical evaluation of CALL tasks
Language learning potential	The degree of opportunity present for beneficial focus on form.	What evidence suggests that the learner has acquired the target forms that were focused on during the CALL task? What evidence indicates that learners focused on form during the CALL task?
Learner fit	The amount of opportunity for engagement with language under appropriate conditions given learner characteristics.	What evidence suggests that the targeted linguistic forms are an appropriate level of difficulty for the learners? What evidence suggests that the task is appropriate to learners' individual characteristics (e.g., age, learning style, computer experience)?
Meaning focus	The extent to which learners' attention is directed toward the meaning of the language.	What evidence suggests that learners' construction of linguistic meaning aids language learning? What evidence indicates that learners use the language during the task for constructing and interpreting meaning?
Authenticity	The degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom.	What evidence suggests that learners' performance in the CALL task corresponds to what one would expect to see outside the CALL task? What evidence suggests that learners see the connection between the CALL task and tasks outside the classroom?
Impact	The positive effects of the CALL activity on those who participate in it.	What evidence suggests that learners learn more about the target language and about strategies for language learning through the use of the task? What evidence suggests the instructors engage in sound second language pedagogical practices by using the task? What evidence suggests the learners and teachers had a positive experience with technology through the use of the task?
Practicality	The adequacy of resources to support the use of the CALL activity.	What evidence suggests that hardware, software, and personnel resources prove to be sufficient to allow the CALL task to succeed?

Table 3. 2 Criteria for CALL task appropriateness & Questions for the empirical evaluation of CALL tasks. Adapted from Chapelle 2001 (p.55 & p.68)

In what follows I undertake a judgemental analysis using Chapelle's criteria and questions for each of these criteria. The object of analysis is e-mail software packages and the activity of e-mail tandem language learning as proposed by the International E-mail Tandem Network. That is, two students learning each other's L1 are given each other's e-mail address and a set of guidelines which advises them to provide each other with feedback on language errors, stay in regular touch, and consult the website with suggestions of topics to write about. The network provides assistance for individual students who want to undertake the exchange on a self-study basis as well as teachers who want to encourage a group of students to engage in such exchanges.

Language Learning Potential

This criterion is defined by Chapelle as opportunity for focus on form, and she indicates that focus on form can be achieved by manipulating the allocation of attention in a number of ways. She lists the following conditions as favourable for focus on form: *modified interaction* (communication breakdown repairs; defined by Larsen-Freeman & Long (1991) and based on accounts of negotiation of meaning (Long 1988)), *modified output* (learners correcting their own output; based on Swain & Lapkin 1995's definition). Chapelle also includes as factors with an influence on the allocation of attention the following six listed by Skehan (1998:142): *time pressure, modality, support, surprise, control* and *stakes*. The original definitions of all the factors above are discussed in greater detail in section 3.4.1 below.

The features of the medium, asynchronous communication in writing and the pedagogical framework, *tandem*, suggest that this should be an activity which provides plenty of opportunity for beneficial focus on form. An asynchronous written medium (*modality*) means that the learner has access to a written record of the L2 input and can go back to it to revise it; it also means that there is plenty of time available for that (lack of *time pressure*). At the same time, since the writing is interactive and involves another person, the learner needs to make sure that s/he understands the messages received and makes him/herself understood (*stakes*) which should provide for ample opportunity for *modified interaction* and *modified output*. Apart from any feedback that may arise from instances of negotiation of meaning, or

from individual focus on form (e.g. using a dictionary to look up the meaning of a word), being in a tandem framework learners should also be receiving corrective feedback on their L2 production during the exchange and have an opportunity to modify their output accordingly in subsequent messages. In addition, the activity of providing feedback to their partners (*support*) holds the potential of drawing the learners' attention to certain features of their L2 production (e.g. Appel 1999 found that one of the subjects started focusing on the register of his L2 after noticing that his tandem partner's messages were excessively formal in the context of e-mail).

In terms of *control*, the learners are in full control of the activity, or rather, share control with their tandem partner. Little (1996) has argued that the shared language learning experience, and the fact that in such a context students are removed from the control of the teacher but not left entirely alone to manage their learning process, make for an environment which can help develop the students' capacity of learner autonomy. However, he has also cautioned against making the assumption that this will always be the case: the less developed the capacity, the more external support that will be required, and it is not always the case that such support is available. Control can have a positive outcome in relation to learner autonomy, but it is less clear that it has an impact on focus on form in the sense in which Skehan (1998) uses this term. Unless the teacher/coordinator introduces tasks that force the communication between tandem partners into a certain direction, the control is entirely in the hands of the students.

Finally, the factor of surprise does not seem to play a role in such setting. Skehan himself indicates that the possible impact of this factor needs to be researched further since studies conducted (e.g. Foster & Skehan 1997) failed to show any influence (pp. 143-144). I would argue that in a setting where communication is in writing and there is little time pressure, the factor of surprise will have little influence on how attention is allocated.

Learner Fit

The question here, as formulated by Chapelle, asks about the appropriate level of difficulty of the targeted linguistic forms. This implies that the units of syllabus

design are linguistic forms, which is not necessarily the case. In any situation in which you create a communicative context in which the learner takes control, the teacher or researcher loses control over targeted linguistic structures. However, communicative functions are easier to predict within a given context, though the complexity of the structures that will come up in order to realise those functions will depend on the level of proficiency of the student, the time pressure imposed at the moment of producing them, the extent to which the student can avoid a certain structure, etc. In e-mail messages, the learner is free to use the structures within his current range, and has the time available to try to produce more complex structures. But whether or not this happens will depend on his/her own initiative. There is nothing inherent in the task itself that will force the student to produce such structures, other than a desire to impress or live up to standards expected by the tandem partner. This can however also work the other way round and prompt the learner to play safe and produce structures that have already been acquired and that s/he feels comfortable using. The fact that both interlocutors in a tandem exchange are learners as well as "experts"(i.e. native speakers) of a language gives reason to believe that learners are more likely to take risks in their L2 writing than in a monolingual NS-NNS interaction where the presence of a native speaker who is not participating in the language learning experience can be intimidating and push the learner to stay within the range of structures that will allow him/her to be as accurate as possible.

Meaning Focus

Since the main goal of the activity is communicating with another person, a focus on meaning is a given. The only caveat is that given the asynchronous nature of e-mail, it is easy to ignore topics brought up or questions made by the tandem partner. Stockwell (2003) looked at reasons why students would drop a topic thread and found evidence that when not interested or comfortable discussing a certain topic, students simply do not respond to it. This would be considered extremely rude in a face-to-face conversation, but the etiquette of the medium of e-mail seems to allow for this sudden cessation of topics. This, of course, does not mean that there is no focus on meaning, but that the communication of meaning may be managed differently in this medium.

Authenticity

Authenticity is defined by Chapelle (2001) as "The degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom" (p.55). The questions formulated for this criterion are related to the objective degree of correspondence, and whether this degree of correspondence is perceived by students. The immediate answer to these questions is that e-mail writing is more than likely already a part of the learner's personal or professional everyday life (probably both). However, what at a first impression can appear to be such a relevant activity and have such clear links with the learner's present and future reality could very easily become and awkward and artificial experience. Teachers have enthusiastically embraced key-pal exchanges without considering how unnatural some individuals find a situation in which they are thrown into communication with somebody they have never met face to face, and with no other purpose than using language for communicating and improving their L2 proficiency. How many times do we encounter situations like that in real life? To make things worse, within a tandem framework students are asked to write half of each message in their L1 and half in their L2, which might not occur in an authentic situation.

However, if students are given a reason to write, they should be able to see the connection between e-mail communication and real-life tasks they may be required to undertake in the future. E-mail is a widespread mode of communication and tool for collaborative work which deserves to be employed for language learning for its own sake. But it is important that the right conditions are set to make the task as authentic as possible. People nowadays are using the Internet to meet other individuals with shared interests, but this is most frequently done through forums or chat rooms where several users contribute, or through mailing lists for special interests. One-to-one communication is most often used only after a person has identified somebody s/he is willing to communicate with further.

Impact

In the case of college students, e-mail tandem learning will give them a unique opportunity to be exposed to the type of language that students use in the TL

community. It will also give them an insight to the type of language used for informal e-mail. In the case of adults as in the case study described in chapter 4, it is not so clear that the gap between the language they may be exposed to through their teacher or other sources and the language used by the tandem partners will be as large. However, it is still the case that they are all receiving increased amounts of authentic TL input as well as corrective feedback and have the chance to produce modified output. Communication with a native speaker should also give rise to intercultural exchange and can also prompt negotiation of meaning when misunderstanding arises from some form of pragmatic mismatch.

As far as strategies are concerned, the shared language learning experience can give rise to meta-talk about learning (Appel 1999). I have also mentioned above the advantages of a situation in which the student is removed from the direct control of the teacher but is still provided with support from a peer who is an "expert" in his/her L2. In addition, the responsibility placed on the student's shoulders to help his tandem partner makes for an ideal context to support the development of learner autonomy.

On the question of sound pedagogical practice, there are examples in the literature where this is not the case (see section 1.3 in Chapter 1 above where I question the use of key-pal exchanges for language learning purposes). However, if e-mail tandem language learning does not guarantee sound pedagogical practice, it certainly facilitates the work of instructors who have been looking to undertake such practice. One of the problems in adopting a task-based approach as well as in changing the role of the teacher in the classroom has been that the teacher is the main source of information about and in the TL. This can drastically change when each learner has direct access to a native speaker of the TL: a tandem partner can provide feedback, new input, and assistance in finding materials in the TL. Access to the Internet and the vast amount of information it contains is obviously also contributing to the shift of the change in the role of the teacher.

Finally, in relation to positive learning experiences, e-mail tandem exchanges are generally welcomed with enthusiasm by students, but the key factor here is whether the enthusiasm is sustainable in time. A lot depends on the rapport that develops

between the two members of a tandem pair, and this in its turn seems to depend on personality factors. An interesting question here would be how to play down the importance of these factors, or how to add a dimension that can aid the development of good rapport. As far as teachers are concerned, I have already described in Chapter 1, section 1.3 above how the complex logistics of setting up an exchange can leave the teacher with a sense of frustration when the e-mail exchanges never develop beyond the first few introductory messages.

Practicality

E-mail does not make excessive requirements in terms of hardware; all you need is an internet connection. The software is the interesting aspect here. E-mail software was not designed for language learning, so an important question is how appropriate it is for this purpose. Positive features of e-mail software are that e-mail packages are generally easy to use, widespread, and free e-mail accounts are easily available over the Internet (although this was not the case at the time I started research for this thesis). However, making use of free e-mail accounts means that a lot of spam mail will be received. There are also privacy issues related to the use of e-mail in language learning. Students regard their e-mail correspondence as highly personal, and will not always want to share these messages with teachers or peer students (much less researchers), which makes it difficult to integrate into classroom practice. Another problem which was found in the earlier studies presented in this thesis was that of compatibility of different software systems which did not allow for special characters. Finally, a problem which also seems to have been solved with recent developments in this area was that students would only be able to check their e-mail in college. Nowadays, universities and workplaces are offering webmail options to their users.

To summarize, the judgemental analysis of e-mail tandem language learning presents a very positive picture. There is potential to meet all criteria favourably. Potential is precisely one of the main positive features but also weaknesses of this type of language learning framework. The medium of e-mail is so flexible, and can be used in so many different ways that there is the risk that none of the potential discussed above will be fulfilled. This is a consequence of its contextual parameters which do not set fixed affordances. Crystal (2001) examines several modes of Netspeak (see

Chapter 2 above) exploring whether spoken or written language criteria apply to them. He finds that e-mail is the only type of Netspeak that is variable in relation to several of these criteria (e.g. spontaneity and loose/elaborate structure). Even in the particular context we are concerned with, one-to-one e-mail within a tandem framework, it is still hard to predict what will happen. This can also mean that the possibilities of manipulating the activity are greater, and that it may be worth investigating the introduction of tasks. That is, a change of philosophy/perspective is called for. E-mail and tandem provide the framework, but knowing what these afford, the emphasis should shift toward tasks that learners can do within this framework. Therefore an empirical evaluation in this case is absolutely essential.

In relation to the research methods suggested by Chapelle for empirical evaluation, it is noted that this author has used a different methodology. Chapelle suggests discourse analysis for the evaluation of *authenticity* in order to find out the functions and the characteristics of the language used by learners in the CALL task and whether they are related to the learners' future needs. However, I have included such type of analysis under the criterion of *language learning potential* because I consider the communicative functions which are used in e-mail as input and output pertinent to focus on form and language learning.

Chapelle's framework is extremely useful in building an overview of tasks and identifying problematical aspects, or areas for improvement. For the judgemental analysis in particular this framework proves very valuable. For the empirical evaluation carried out in Chapters 4 and 5 below I found that it was helpful in terms of evaluating the interaction of software with the language learning activity. However, it is more difficult to undertake a more in-depth evaluation of particular aspects. For this purpose I turn to SLA theories, drawing on some of those used by Chapelle and expanding where I find this is necessary. In particular, I find that the model falls short of integrating the social-affective dimension despite Chapelle's initial statement that her criteria are based on both cognitive and social-affective conditions. The only direct reference she makes to the concept of WTC in her list of criteria is in relation to the definition of *authenticity* (and even in that case it is not entirely clear how authenticity should be related to development of WTC) and to research methods for *learner fit* where Chapelle suggests measuring amounts of

participation as an appropriate method. In the rest of this chapter I discuss socio-affective and cognitive theories, which I draw on for the studies in Chapters 7, 8 and 9.

3. 3 Socio-affective conditions

3.3.1 Introduction

In this section I look at socio-affective conditions and use the term motivation as a cover-term. I am not concerned with differences between constructs such as affect, motivation or attitudes, but with the combination of all these and the role they play in sustaining e-mail tandem correspondence. In doing so I have decided to use the term motivation as an umbrella term for all the factors that have been discussed in the literature of socio-affective conditions in SLA. I am focusing here on psychological interpretations of motivation rather than the sociological perspectives which have been used to a great extent in relation to SLA and are closely linked to attitudes to the TL community (Gardner & Lambert (1959) first made the distinction between integrative and instrumental motivation and claimed that integrative motivation was the stronger; Gardner (1985) no longer claimed that positive attitudes towards the TL community necessarily translate into language learning).

In 1991 Crookes & Schmidt wrote an influential paper calling for the reopening of the motivation research agenda. Crookes and Schmidt (1991) argue that most literature in SLA had in the past focused on sociological issues, and that it is also necessary to look at how psychology in education has dealt with the concept. They point out that there is a difference between the way in which the concept of motivation is understood by SLA researchers and by teachers, the latter tending to come from a more psychological orientation. They look at Keller's theory of motivation for instructional design (1983). This theory comes from psychology and is not specifically designed with SLA in mind, although it puts forward concepts relevant to the discussion of motivation in instructed SLA. The four determinant elements of motivation in Keller's theory (interest, relevance, expectancy and outcomes) clearly influence the definition delivered by Crookes and Schmidt:

> we have adopted here a definition of motivation in terms of choice, engagement, and persistence, as determined by interest, relevance, expectancy, and outcomes. We suggest that this will allow the concept of motivation to continue to be linked with attitudes as a distal factor, while at the same time providing a more satisfactory connection to language-learning processes and language pedagogy. (p. 502)

This definition is closely related to a cognitive view of motivation affecting allocation of attention. Crookes and Schmidt argue that motivation is most significant when attention is voluntary. They relate involuntary attention to factors discussed by Schmidt (1990) in relation to noticing language forms, e.g. frequency, perceptual saliency, or linguistic complexity. They acknowledge, however, that there are constructs related to motivation such as interest or expectancies, which also interact with involuntary attention. The main point in my view is that we are looking at different ways in which attention is affected and how that can influence the allocation of resources:

> The link between attention and motivation is extremely close; indeed, definitions of motivation (e.g., Maehr & Archer, 1987) often refer to attention and persistence as the behavioural manifestations of motivation. Organizing, planning and completing tasks (other behavioural aspects of motivation) equally imply the allocation of attentional resources. (p.484)

When we look at motivation in terms of attention allocation the link to cognitive conditions for language learning becomes stronger. This redefinition of motivation has given rise to cognitive approaches to motivation. Chapter 7 makes reference to work by Dörnyei (2001), Ushioda (1998, 2000) and Williams & Burden (1997) all of which fall within these approaches. In the same line MacIntyre *et al.* (1998) have put forward a framework for investigating motivation which revolves around the concept of willingness to communicate. This concept is used by Chapelle (2001) in her criteria for the evaluation of CALL tasks. I will now describe Keller's theory of motivation for instructional design (1983), which I find is relevant in that part of this thesis is concerned with how to design an environment and tasks capable of sustaining motivation, and that of MacIntyre *et al.* because they address WTC, and e-mail tandem is about communication and one of the main issues is how to sustain this communication, in other words, how to support students in their willingness to persist communicating.

3.3.2 Keller's theory of motivation for instructional design

Keller (1983) makes two points concerning motivation in instructional design relevant to this thesis. The first one is that effectiveness in terms of learning does not necessarily mean quality in terms of maintaining motivational levels, and he cites examples of studies where the levels of learning attainment were very high for the very few learners who actually finished the course. Another point that Keller makes is that motivational problems can have their origin at a personal or an instructional level. His theory assumes that personal motivation occurs against a background of normal circumstances. This, he argues, is the only way a theory of instructional design can be effective in identifying problems and proposing solutions. In identifying characteristics that can improve or solve a problem, it is important that these characteristics are enduring and not subject to the novelty factor. This is a pertinent consideration particularly when working with new technologies. There is very often an initial enthusiasm on the side of the learners due to the newness of the technology in use, but this wears off and we should not base our design on this temporary feature. To sum up, the reasons this theory suits the research objectives of this thesis are clearly stated in Keller's own words: "On the one hand this theory illustrates how to better understand what influences a person to approach or avoid a task. On the other hand, this theory illustrates how to approach the problem of making a task more interesting." This is precisely the objective of the study in Chapter 7, to understand what makes students write more or less (or cease communicating altogether to their tandem partners), and to identify which features of tasks make them more or less interesting in the context of e-mail tandem language learning.

According to Keller there are "four basic categories of motivational conditions that the instructional designer must understand and respond to in order to produce instruction that is interesting, meaningful, and appropriately challenging" (1983:395). These four categories are *interest*, *relevance*, *expectancy*, and *outcomes*.

The category of *interest* is also referred to as 'curiosity' in subsequent literature. Keller makes reference to Berlyne's (1965) work on curiosity which identifies the following characteristics as stimulating curiosity: novelty, paradox, incongruity and

complexity, and integrates these elements in his suggestions for conditions and strategies that will arouse interest in the learner (see table 3.3).

Relevance is defined thus: "Sustained motivation requires the learner to perceive that *important personal needs* are being met by the learning situation" (Keller 1983:406). Keller's factor of *relevance* is similar to Chapelle's criterion of *authenticity*, but with a crucial difference. Chapelle states that the learner should perceive that his L2 needs for outside the classroom activities are being addressed whereas in Keller's model he is concerned with important personal needs which are not necessarily displaced outside the classroom. The problem with making the link to real L2 activities outside the classroom in a foreign language context is that these activities are unlikely to be relevant to students at that point in time. Acknowledging the importance of needs analysis in instructed SLA, I would say that emphasis on real future needs runs the risk of being detrimental to the learning experience if the learners' needs at the time of learning are not valued. This is particularly so in the various contexts in which the studies of this thesis take place. Most subjects involved are first-year students whose immediate reality is their learning experience in college, and future 'real' situations will occur years later.

Keller includes under *relevance* instrumental-value which is close to authenticity in Chapelle's model, but he also includes personal-motive and cultural value (when a goal is consistent with the value of reference groups). He elaborates the construct of personal motive inspired by the work of McClelland, Atkinson, Clark & Lowell (1953) on motives for behaviour. He explains personal motive as desire for achievement, affiliation (desire for close personal relationships with other people), or power (desire to influence other people) among other factors. The conditions and strategies in table 3.3 under the category of relevance concentrate on personal-motive value.

Expectancy refers to "the belief that a person's attitude towards success or failure have a causal influence on actual events" (p.415). This belief can be about others (Pygmalian effect) or about oneself (some theories that have dealt with this concept are self-efficacy (Bandura 1977) and attribution theory (Weiner 1974)). Close to the category of expectancy is the question of how challenging a task is, a factor that I

discuss in greater detail in Chapter 7 below. Keller indicates that making a task easy does not imply that motivation will increase; on the contrary, if an individual is too sure about his/her expectancy for success, s/he is likely to become bored because of the lack of challenge (p.418).

Category	Conditions & Strategies
Interest	• To increase curiosity, use novel, incongruous, conflictual and paradoxical events. Attention is aroused when there is an *abrupt change* in the status quo. • To increase curiosity, use anecdotes for injecting a *personal, emotional element* into otherwise purely intellectual or procedural material. • To arouse and maintain curiosity, give people the opportunity to learn more about things they *already know about* or believe in, but also give them moderate doses of *unfamiliar* and unexpected. • To increase curiosity, use analogies to make the strange *familiar* and the familiar *strange*. • To increase curiosity, guide students into a process of question generation and *inquiry*. pp. 401-406
Relevance	• To give opportunities to achieve standards of excellence under conditions of moderate risk. Factors under this condition are feedback and competition. • To make instruction responsive to the power motive, provide opportunities for *choice, responsibility* and interpersonal *influence*. • To satisfy the need for affiliation, establish *trust* and provide opportunities for *no-risk, cooperative interaction*. pp 408-414
Expectancy	• Increase expectancy for success by increasing *experience* with success • Increase expectancy for success by using instructional-design strategies that indicate the *requirements* for success. • Increase expectancy for success by using techniques that offer *personal control* over success • Increase expectancy for success by using *attributional feedback* and other devices that help students *connect success* to personal effort and ability. pp. 418-422
Outcomes	• To maintain intrinsic satisfaction with instruction, use task-endogenous rather than task-exogenous rewards. To maintain intrinsic satisfaction use *unexpected, noncontingent* rewards rather than anticipated, salient, task-contingent rewards (except with dull tasks). • To maintain intrinsic satisfaction with instruction, use verbal *praise* and informative *feedback* rather than threats, surveillance or external performance evaluation. • To maintain quantity of performance use *motivating feedback* following the response. • To improve the quality of performance provide *formative (corrective)* feedback when it will be immediately useful, just *before* the next opportunity to practice. pp. 424-429

Table 3.3 Conditions and strategies for Instructional design, adapted from Keller (1983).

The category of *outcomes* is also referred to by Keller as 'satisfaction' and refers to "the satisfaction of goal accomplishment and the motivation to continue pursuing similar goals" (p. 422). The strategies here mainly concern how to provide feedback or reward. Note that the first condition regarding task-endogenous rewards (rewards that follow naturally from a task) and task-exogenous rewards (rewards that have a controlling influence, e.g. a pass mark depending on a certain number of assignments handed in) is in accordance with findings reported by Crookes & Schmidt: extrinsic rewards have little effect in stimulating motivation.

3.3.3 Willingness To Communicate

MacIntyre *et al.* (1998) borrow the concept of willingness to communicate (WTC) from McCroskey & Baer (1985), who first conceptualized WTC within the field of communication as a trait of a person that defines the probability that this person will choose to communicate when free to do so. MacIntyre *et al.* apply the concept to L2 communication and in doing so treat it not as a trait but as a situational variable, which is one of the features that Chapelle (2001) finds appealing for its application to research in CALL, which according to her should be situation-dependent. It is important to note that MacIntyre *et al.* claim no correspondence between L1 and L2. They argue that their model provides an arena for combining linguistic, communicative and social psychological variables, and that it allows for description, explanation and prediction of L2 communication (p.545).

The model of WTC takes the shape of a pyramid (fig. 3-1) that contains the variables that have an influence on it, and illustrates the interaction between them. The pyramid has six layers, the bottom three represent enduring influences and the top three are the situation-specific influences. The latter are, in principle, the influences that should be of most interest when designing tasks that should foster L2 use (the tip of the pyramid), since these should be the variables that we have the capacity to change when designing a task. In what follows, I describe each of the layers of the pyramid starting from the bottom.

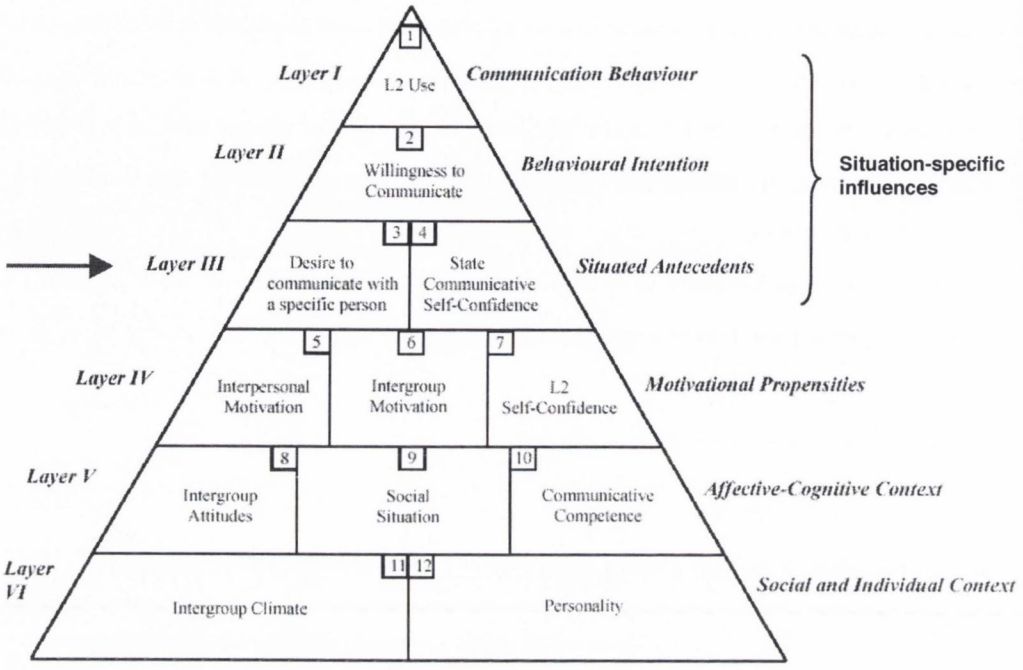

Fig 3-1 Heuristic Model of Variables Influencing WTC (MacIntyre *et al.* 1998:547) (the arrow and curly bracket are added)

The bottom layer, Social and Individual Context, consists of Personality traits and Intergroup Climate, which refers to social issues between the learner or the learner's community and the TL community. The following layer is that of Affective-Cognitive Context which comprises variables related to the individual's attitudes and previous experience. In this layer we find the learner's level of communicative competence, social situation (previous experience with communication in the L2 as well as with L2 speakers), and Intergroup Attitudes. Within Intergroup Attitudes MacIntyre *et al.* identify three factors: integrativeness as defined by Gardner (1985) (a desire for contact with the TL community which does not necessarily imply a desire to become integrated into this community); fear of assimilation, a factor which is not relevant to the studies in this thesis set in a foreign language learning context; and motivation to learn L2, which does not necessarily turn into WTC since a learner may decide to study the language in a different way (by reading for example). The two bottom layers have so far focused mainly on aspects of motivation related to social approaches.

The third layer from the bottom, Motivational Propensities shifts the focus to cognitive factors: Self-confidence, Intergroup motivation and Interpersonal motivation. Intergroup and interpersonal motivation are defined in terms of affiliation and control (terms which I have discussed above within the context of Keller's model of instructional design) at a group allegiance or at a personal level. The following layer, Situated Antecedents, falls within the situation-specific influences and includes State Communicative Self-confidence (perceived competence and anxiety levels) and Desire to Communicate with a Specific Person. This last one is the closest box in the pyramid to the construct of WTC, which according to MacIntyre *et al.* is a strong predictor of the Communicative Behaviour of L2 use.

A striking feature of this model is the fact that it assumes that the communication resulting from WTC will be spoken. All variables in the pyramid are elaborated from studies based on face-to-face spoken interaction. The concepts of affiliation, control and self-confidence are present at almost all layers of the pyramid, more or less explicitly. However, affiliation is looked at from a face-to-face perspective: "Research in social psychology reveals that affiliation often occurs with persons who are physically nearby, persons who are encountered frequently, physically attractive persons, and those who are similar to us in a variety of ways" pp. 548-549 and ignores research done on affiliation on the net, such as the work described above in Chapter 2. At a different point in their paper MacIntyre *et al.* claim that "Control and affiliation motives are extremely important in determining the specific persons with whom one will speak" (p.551). The assumption that communication will be oral is most surprising in a model that has been developed at a time in which new modes of communication are changing the way people communicate all over the world, and specifically in the foreign language classroom opening new opportunities for communication with native speakers of the TL. MacIntyre *et al.* suggest at the end of their paper that WTC could be expanded to include other modes of communication but do not indicate how. Having said this, I found the model useful enough to explore WTC in an e-mail tandem context and applied it in the analysis in Chapter 7 below. The revision of the model in the light of new modes of CMC would be a worthwhile project to carry out in the future.

3. 4 Cognitive conditions

3.4.1 Introduction

Any attempt to describe the ideal cognitive conditions for second language acquisition within a task-based approach needs to consider the processing demands tasks can make. Chapelle's (2001) outline of conditions that may influence allocation of attention during L2 tasks is based on Skehan's work (1998), and concepts from Interactionist accounts of SLA (Long 1983; 1985). In what follows, I elaborate on both these areas.

Focus on Form

Focus on meaning and comprehensible input are necessary conditions for language learning (but not sufficient). Focus on form can enhance rate of learning and ultimate attainment (Long 1988). A great deal of research has been devoted to finding the best ways in which the learner's attention can be directed to form within a meaningful context. Schmidt (1990) distinguished between input (the language the learner is exposed to) and intake (the part of input that the student notices and takes in) and put forward what is known as the 'noticing hypothesis'. Much debate has followed on the nature of noticing, whether this is necessarily a conscious act or not, whether it needs to be intentional from the learner's side or not, whether it needs to be explicit or not or be transformed into explicit knowledge.

It is important to clarify that focus on form does not refer to decontextualized grammar instruction. Doughty & Williams (1998) make the following distinctions: "focus on form entails a focus on formal elements of language, whereas focus on formS is limited to such focus, and focus on meaning excludes it" (p.4). In the context of e-mail tandem exchanges there is the danger that focus on meaning will take over, and the challenge is to find ways to prompt focus on form.

One way of fostering focus on form is by the manipulation of features of the environment. For example, we can provide a separate corrections box to remind the user to provide corrections, or we can facilitate the storage of a log of the messages

sent and received (see Chapter 6 for a discussion of the features of the Electronic Tandem Resources site). Another way is by giving tandem learners tasks that will channel their attention in a certain direction, for example by prompting the more than usually frequent occurrence of certain structures, or forcing learners to negotiate. Skehan (1998) outlines a number of factors which have an impact on the allocation of attention and which Chapelle integrated into her model for evaluation of tasks: time pressure, modality, support, surprise, control and stakes. These factors are not necessarily linked to interactive situations, and are interesting in the context of this thesis because of the asynchronous nature of e-mail.

Finally, we can also train learners to focus on form in an intentional manner. Willis (1996) proposes a model for a task-based framework in which focus on form follows the implementation of a meaningful task. She suggests that such a framework comprises three phases: pre-task, task cycle (task itself, planning and report), and language focus. She is more concerned with the implementation of tasks, than with the design of them, and argues it is the cycles of implementation that will draw attention to form. This type of implementation is the one employed in the longitudinal studies reported in this thesis.

Negotiation of meaning

Long (1983; 1985) puts forward an Interactionist Account of SLA which looks at the role of both input and output, and how these are fine-tuned to the learners' needs through negotiation of meaning. Long argues that when negotiation of meaning takes place there is opportunity for both modified input and modified output. When communication breaks down, the repair strategies employed will draw the learner's attention to the relevant aspects of language and will facilitate the incorporation of these aspects into his/her interlanguage. This happens because either input is modified to make it comprehensible, or there is a possibility to produce modified output. The concept of modified output is related to the Comprehensible Output hypothesis (Swain 1985; Swain & Lapkin 1995). This hypothesis claims that it is when the learner produces output that there is a chance that s/he will notice the mismatch between what they produced and the appropriate TL form, either through

feedback (explicit or implicit) from an interlocutor or from internal feedback. In modifying their output learners will be pushed into a syntactic mode which will allow for the incorporation of a new structure and improvement in accuracy.

Varonis & Gass (1985) propose a negotiation-of-meaning model with four phases: trigger of communication problem, indicator that this problem has occurred, response, and reaction. This model has been used to analyse transcripts of interaction and identifying instances of negotiation of meaning. The negotiation of meaning model has more recently also been applied to the analysis of CMC. Pellettieri (2000) applies it to chat interaction and finds that the interactional modifications found in face-to-face conversation also occur in synchronous written communication, and that the nature of chat allows for an increased focus on form. However, not all studies are as positive about negotiation of meaning in synchronous CMC. O'Rourke (2002) uses the Varonis & Gass model to analyse transcripts of synchronous tandem interaction and finds no evidence that the medium fosters focus on form through negotiation of meaning. Kitade (2003) uses the negotiation-of-meaning model to compare asynchronous to synchronous CMC. She reports very high levels of abandonment of negotiation of meaning for both modes of communication, e-mail being slightly more likely to elicit questions when misunderstanding occurred. Stockwell (2003) also reports that in a study of e-mail exchanges between Australian students and Japanese learners of English there were many occasions on which clarification requests were not made because learners felt too embarrassed, afraid not to be understood, or not confident enough to ask for clarification (although these results may have been influenced by cultural differences). Finally, Harrington and Levy (2000) question the use of the negotiation-of-meaning model on the basis that CMC poses a context too different to face-to-face interaction, for which this model was originally conceived.

The interactionist account has also been criticized outside the CALL field. First of all the link between negotiation of meaning and actual acquisition has not been demonstrated beyond doubt (Skehan 1998). Secondly, instances of negotiation of meaning are not as frequent as has been claimed. Interruptions in conversation are mostly avoided because they make interlocutors uncomfortable (Aston 1986).

To sum up, there are caveats to be made about the Interactionist account, but it is a model widely used and even if its conditions are not sufficient for acquisition, they can help to create a context conducive to language learning. The conditions outlined by Interactionist theories are deeply rooted in spoken interaction, and do not necessarily play the same role in asynchronous written communication, where the lack of time pressure certainly makes a difference. Combining factors such as those put forward by Skehan with interactionist accounts of SLA may help us gain a better understanding of the factors that influence attention in e-mail tandem language learning.

Robinson (2001) puts forward a model for the analysis of pedagogical tasks which adopts a processing perspective as well as the construct of negotiation of meaning. Robinson also adopts a novel account of double channel of attention which breaks with the traditional view that form and meaning compete for the same resources. His model is a comprehensive account of elements of tasks, laid out in such way that it lends itself to experimental purposes, exploring relationships between elements. This model is adopted for the studies in Chapters 7 and 8 below.

3.4.2 Robinson's (2001) framework for examining task influences on SLA.

Peter Robinson puts forward in his edited book *Cognition and second language instruction* (2001) a theoretical framework for tasks in a chapter entitled "Task complexity, cognitive resources and syllabus design: a triadic framework for examining task influences on SLA". The purpose of this framework is to identify the factors affecting task design that can be manipulated proactively and thus provide task designers with a model to follow in planning how to sequence tasks for a given syllabus. The motivation for this framework is influenced by Robinson's choice of pedagogic tasks as the unit of analysis for syllabus design, in agreement with the approach undertaken by Long & Crookes (1993) and Skehan (1998). Robinson also rejects the use of linguistic structures as the criteria for sequencing tasks, and explores cognitive factors related to task complexity for this purpose. This feature of Robinson's model suits a tandem framework because it allows us to identify common factors for both sides of the exchange by not being tied to features of each of the two

languages involved. Using task and task complexity as the units of analysis allows for the design of a common syllabus for both members of a tandem partnership.

The link between task complexity and L2 linguistic gains is formulated by Robinson in the *cognition hypothesis of task-based L2 development* illustrated in figure 3-2. The more cognitively demanding tasks are, the more cognitive resources are drawn upon and these resources engage learning mechanisms responsible for the incorporation of new linguistic forms and subsequent restructuring of the learner's interlanguage. Communicative consequences are of higher stakes in cognitively complex tasks and therefore learners are more likely to pay attention to input salience. In relation to the integration of input, Robinson draws on learning mechanisms from different cognitive theories such as proceduralization/ automatization (e.g. DeKeyser 2001) or cue-strengthening (used in connectionist approaches (N.Ellis 2001 & Harrington 2001) and competition models (MacWhinney 2001)), but also looks at the role of input fine-tuning mechanisms described by Interactionist Theories (e.g. comprehension checks, clarification requests, etc). Communicative consequences are related to modification of output. The more complex the task the more important it becomes to communicate accurately, and so, it becomes more likely that either external or internal (i.e. noticing the gap between the form used by the learner himself and the appropriate TL form) feedback will occur in order to ensure that communication has been successful. In such a context the learner is being pushed to produce modified input/output (Swain 1985; Swain & Lapkin 1995). Another factor is that more cognitively demands pose more functional complexity. Robinson bases this formulation on the argument by Givon (1985) and applied to SLA by Sato (1988; 1990) that structural complexity is usually linked to functional complexity. In Chapter 8 I use Robinson's model to explore how the manipulation of one of the participation variables impacts on complexity by measuring functional variety and drawing conclusions about functional complexity. However, while structural complexity usually does go hand in hand with functional complexity, it is a different issue whether this is also true the other way round, especially when the speaker is a language learner.

Task demands		**Cognitive resources**		**Learning mechanisms**		**Performance effects**
more cognitively demanding tasks	→	more attention to input/ output and noticing/ rehearsal in memory	→	more rule and instance learning/ stage shifts/ proceduralization/ cue strengthening	→	more incorporation of input more modification of output

Fig 3-2 Tasks, resources, learning and performance (Robinson 2001:302)

A very interesting aspect of Robinson's cognition hypothesis, which can have major implications for the implementation of a task-based approach, is that he rejects the limited-capacity, single-resource models of attention proposed by VanPatten (1990) and Skehan (1998; also Skehan & Foster 2001), which have been widely accepted in the field of SLA. A limited-capacity view of attention claims that form and meaning compete for attention resources. Robinson makes a radical departure from this position and draws from work on dual-task performance and divided attention in fields other than SLA (2001, 2003).

> I would argue that form and content need not always be in competition for scarce attentional resources (Robinson 1995), and that alternative models of attention and time-sharing based on multiple resource theory (Navon & Gopher, 1980; Wickens, 1989), which do not entail this assumption, may be suitable for L2 task research ... This view proposes that there [is]... no competition for attention, unless this involves attention switching (an executive/action control problem, not a capacity problem) between resource pools (Wickens,1989). Consequently where tasks are made increasingly complex simultaneously along dimensions which draw on different resource pools, there should be no competition for attentional resources. (2001:306-307)

If we can establish that form and attention do not draw from the same resource pools, and are therefore not competing for attentional resources, the design of our tasks needs to take this information into account. It is certainly an appealing approach that meets the formulation in socio-affective conditions that challenging tasks increase motivation.

Robinson's model identifies three types of factors affecting tasks: learner factors related to *task difficulty*, interactive factors related to *task conditions* and cognitive factors related to *task complexity*. Each of these types of factors constitutes a column

in table 3.4. Robinson distinguishes between task complexity and task difficulty. He defines task complexity as "design features of tasks, which are proactively manipulable by the task designer, and can be used as the basis of sequencing decisions" (p.295). Task difficulty on the other hand "concerns learners' *perceptions* of the demands of the task, and these are determined by both *affective* variables (such as motivation to complete the task) and by *ability* factors such as aptitude" (p.295; italics in original). Robinson sees task difficulty factors as having an influence on task performance but being irrelevant for task designers since these factors are not known until the course has started and the teacher gets to know the students. At best, Robinson argues, the task designer can try to guess the ability and affective characteristics of prospective students, but these factors will still be highly variable and easily influenced by unpredictable factors. It is therefore the task complexity factors Robinson is interested in for examining tasks and how to sequence them. The third category, task conditions, which is the central column in table 3.4, describes participation variables such as whether the communication is one-way or two-way or whether participants work towards the same goal (convergent) or different goals (divergent), and participant variables such as gender or familiarity amongst participants. Robinson argues that the task conditions cannot be manipulated either, but in this case and in contrast to the task difficulty, it is not because they are beyond the control of the task designer but because they should arise from needs analysis, that is to say, the features of the tasks that a particular group of students is expected to perform in real life will determine the participation variables a task designer applies. This is in relation to participation variables, which are beyond the scope of Robinson's article; to my knowledge he has not published any further on the topic.

Task Complexity (cognitive factors)	**Task Conditions** (interactive factors)	**Task difficulty** (learner factors)
a) resource-directing *e.g., +/- few elements* *+/- here-and-now* *+/- no reasoning demands*	a) participation variables *e.g. one-way/ two-way* *convergent/divergent* *open/closed*	a) affective variables *e.g., motivation* *anxiety* *confidence*
b) resource depleting *e.g., +/-planning* *+/- single task* *+/- prior knowledge*	b) participant variables *e.g., gender* *familiarity* *power/solidarity*	b) ability variables *e.g., aptitude* *proficiency* *intelligence*

Table 3.4 Robinson's triadic task model (adapted from Robinson 2001, p. 294)

Even though Robinson claims that only task complexity factors can be manipulated, he does indicate that the interaction between factors in all three columns should be further explored since changes in the interactive and learner factors can impact cognitive factors. In particular, participation variables under interactive factors can have a direct influence on these cognitive factors. For example, working towards a common goal in a convergent interactive condition may affect the +/- *single task* factor since learners may be exchanging information as well as negotiating how to pursue the goal of the task. Robinson's argument that participation variables should be stipulated according to a needs analysis and can therefore not be manipulated can be disputed. This is related to my discussion above on the definition of Chapelle's criterion of *authenticity* (section 3.9 above). If by manipulating participation variables we can have an effect on task complexity factors, which in their turn influence learning mechanisms, I see no reason why this should not be done. While a needs analysis is important to inform and guide syllabus design, it should not preclude the use of activities that are relevant to the student's present contextual situation, or that can lead to the acquisition of linguistic knowledge even if by indirect means. In a foreign language context, and especially in a college situation in which students learn a language for four years, it is important that a needs analysis based on the L2 needs of these students 4 years down the line does not prevent the inclusion of tasks that will be relevant to the students day-to-day life.

To summarize, although Robinson's model was designed for sequencing purposes, which is not the object of study here, it is a model that comprises the different elements/variables that can be identified and sets them up in a way that facilitates the study of interaction of these variables. In Chapter 7 I look at the role of the factors in the third column, task difficulty, in a number of tasks I designed and used for e-mail tandem. I discuss how these variables influence the production and sustainability of correspondence. But it is also true that in doing so, I need to look at factors that are in the other two columns, such as prior knowledge or participation variables. This is inevitable since all these factors are interrelated. I'd like to argue that the analysis in Chapter 7 should be able to inform e-mail tandem task design prospectively. Psychology gives us grounds to think we may have an influence on motivation, and even though many of the issues arising from learner factors have to be dealt with on-line, as Robinson points out, I believe there are still aspects that can be factored into

the design process if a description of learners and needs analysis is available. In Chapter 8 I explore how the manipulation of the *convergent/divergent* variable under interactive factors affects the sustainability and functional variety of the messages written by learners.

There is one more difference one could argue differentiates the purposes for which Robinson's model was designed and my application of it in this thesis. All the examples of tasks that Robinson describes in his examples are one-lesson tasks, that is, they take place within a very constrained period of time which means that controlling the input provided to students is manageable. However, Robinson does not explicitly state that his model should not be applied to a task that runs over several lessons or weeks. In fact, none of the definitions listed by Ellis (2003) in his review of different definitions of task list time as defining feature. It is my view that all the elements in Robinson's task can be identified in the tasks employed here and therefore there is no reason not to apply the model as long as it is acknowledged that from a methodological point of view, it is going to be much more complex to design an experimental setting for researching these elements.

Finally, it is necessary to enter a caveat concerning Robinson's model. This model, like the willingness-to-communicate model discussed above, only considers interaction which is face to face. Robinson's model would gain from incorporating the use of technology and different modes of communication. These are part of everyday life, are becoming an integral part of classroom practice, and so cannot be ignored by a framework for sequencing tasks according to complexity. The model as it stands can account for some of the affordances of e-mail: we could, for example, say that it implies a minus for the *here-and-now* element and a plus for the *planning* variable. However, this would be an interpretation of e-mail tandem as a stand-alone task, but would not allow for the analysis of tasks carried out through e-mail. I would suggest that the addition of media affordances should be made under the column of Task Conditions to account for the fact that interaction during a task can take place through a number of different media.

3.4.3 Psycholinguistics: syntax priming and communication dyads[1]

Skehan (1998) argues very strongly for a greater influence of psycholinguistics on SLA research. Along the same line, Doughty & Long (2003) in their discussion of the scope of inquiry and goals of SLA in the recently published *The Handbook of Second Language Acquisition* suggest that SLA is a branch of cognitive science (p.4). Two areas of research in such fields are of particular interest for the work in this thesis and are further explored in chapter 9: syntactic priming and communication within groups and in isolated pairs.

Priming is when the occurrence of an event increases the likelihood that another event of the same type will occur. Priming is available at all levels of linguistic representation: phonological, semantic, conceptual and syntactic. Branigan, Pickering, Liversedge, Steward, & Urbach (1995) have used syntactic priming effects to provide evidence for the cognitive reality of phrase structure. They make use of the semantic equivalence between sentences like (1) and (2).

(1) The child gave a ball of yarn to the cat.

(2) The child gave a cat a ball of yarn.

(3) The child's sister had loaned....

Subjects were asked to provide sentence completions[2] for items like (3). What Branigan *et al.* found was that subjects presented with the prime involving one of the objects of the verb marked with the preposition "to" (1) were significantly more likely to use corresponding explicit dative marking in their completion. Moreover, subjects primed with the sentence involving two unmarked objects (2) were significantly more likely to complete the sentence with two unmarked objects. Note that the verbs in the

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[1] Parts of this section were published as Appel, C. & Vogel, C. 2001: "Investigating syntax priming in an e-mail tandem language learning environment". In Cameron, K.(ed.)*: CALL, The challenge of change*. Proceedings of CALL 2001, University of Exeter, 1-3 September. The research undertaken for the study reported in this chapter was done in collaboration with Dr. Carl Vogel who has acted as the second supervisor of my doctoral work.

[2] Their actual materials provide far richer scenarios, but these concocted examples illustrate the paradigm.

prime and in the completion task are similar in expecting two objects, whether the dative argument is marked with a preposition or not. The latter prime is important: because there is no preposition in that case (and because the scenarios were rich enough for completions to involve entities not mentioned explicitly), the priming is not lexical but syntactic, and evidence for syntactic priming is evidence for the underlying reality of syntax.

In a review of syntactic priming in language production Pickering & Branigan (1999:141) claim that it is possible to gain insights into syntactic representation and processing through the study of syntactic priming. They point to the fact that little research has been conducted on syntactic priming, especially research making use of subjects other than normal adults. They cite two studies examining different types of subjects: one on Broca's aphasics (Hartsuiker & Kolk 1998) and one on children (Garrod & Clark 1993). Both studies report strong priming effects and Pickering & Branigan conclude: "Priming might therefore be very effective in young children and those less practised in language use" (p.141). We can say that second language learners would also fall within the group of those less practiced in language use. Many questions can derive from syntax priming in second language learners: are there any long-term effects of syntax priming on SLA? Are there any structures which are more likely to be primed? Does priming only provide practice and consolidation of previously acquired structures? Or can it also prompt the acquisition of new structures? These questions could shed light on how second language acquisition takes place though interaction. In Chapter 9, due to the size of the study I only report measures of syntax priming in relation to dyad design, but the methodology employed could be used to examine further the links between SLA and syntax priming.

Another major influence on the design of the experiment in Chapter 9 is research on communication within groups and isolated pairs. In communication oriented to task solution, it has been shown that actual participation in the communication is essential — overhearers who are not given the possibility to engage in communication in order to solve a task are disadvantaged in being able to complete this task (Schober & Clark, 1989). Thus for tandem language learning, whether participants are in a community forum or in isolated pairs, one would expect full participation throughout the relevant community to be important to overall success. Garrod and Doherty

(1994) compare the degree of conceptual coordination in communities of communicators and isolated pairs, also in the context of task-oriented settings. They find a higher degree of convergence in the community situation (in which ultimately each participant had a game with someone who played each other player) than among the isolated pairs. This research is quite relevant to related issues in computer-mediated tandem language learning: the question here is whether having a single tandem partner is better than participating in a full tandem community in terms of the L2 of a learner converging with the language of the native speaker.

3. 5 Researching in e-mail tandem language learning

We have seen in this chapter that there are a number of elements which interact and influence the activity of tandem e-mail. Little & Brammerts (1996) postulate two principles for tandem learning: the principle of reciprocity and the principle of autonomy. I would argue that the activity is shaped by the tension between two driving forces. On the one hand we find learner autonomy and reciprocity. Learner autonomy drives the learners' actions, and reciprocity will depend on the level of autonomy of the learners and the extent to which they live up to the commitment made to a tandem partner. Observing a balanced use of both languages, providing feedback and writing regularly is the learners' responsibility. There is also the fact that tandem learning has a strong emphasis on meaning. In addition to the feedback learners provide each other with, it is also necessary that the learner sets his language learning goals and attends to the e-mail interaction not only in terms of meaning but also paying attention to new lexical items, patterns, and linguistic structures. And finally, if the learner is autonomous enough s/he will sustain interaction for a long enough period of time to allow for the language learning process to take place. By now it has become clear that we are going to find very few students who will be able to show this behaviour without any support or training. Learners of course have the support of their tandem partner, but if neither of them has developed a significant degree of learning autonomy, it is very unlikely that they will be able to develop it out of their interaction alone.

The second force that drives tandem learning is the mode of communication, which heavily influences the way students proceed in their tandem learning. For example, if

students are meeting face-to-face, focus on form after meetings will be more difficult than for a tandem meeting in a MOO, for which there is a log of the interaction that takes place. Face-to-face tandem activities may, however, make it more difficult to interrupt an exchange without any explanation, something that very often happens with e-mail tandem partnerships.

The question, then, is how can we influence the two driving forces in order to make tandem exchanges a worthwhile activity for language learning. We need to find a way to integrate language learning into a tandem partnership's social and intercultural dimension. In the case of e-mail tandem language learning we have to look at the affordances of the medium and how these interact with the tandem framework. E-mail has an interactive collaborative dimension which can combine due to the lack of time pressure with processing demands associated with writing skills alone. Therefore it is not enough to look at Interactive accounts of SLA when looking for a theoretical framework for it, and we need to look at more general models of attention and processing demands.

The implementation of e-mail tandem language learning has so far shown great potential but not a great deal of actual success. One reason for this is the complexity of the logistics for setting up a project with participants in two different countries, and with two languages involved. The main obstacle however has been the interpretation of e-mail tandem language learning as a task in itself. The judgemental analysis above and the empirical evaluations carried out in chapters 4 and 5 show the limitations of such an interpretation. E-mail tandem language learning becomes much more manageable if we define it as a pedagogical application of collaborative learning, with a number of features determined by the type of participants and medium that are highly beneficial for language learning. Having established this, we need to look at optimal modes of implementation.

Let's review the two driving forces mentioned above, namely learner autonomy and the medium, and what the elements and participants are in tandem language learning. Two main factors depend on learner autonomy: focus on form and the development of a good rapport to ensure sustainability. The medium of e-mail was not designed for language learning and can be modified to suit the needs of tandem learning. The

participants in e-mail tandem projects are the learners placed in different geographical locations and the teachers of these learners. We should also consider the possibility of the presence of a researcher, who may or may not be the teacher. We need an environment that will facilitate communication between tandem partners, tandem partners and the rest of the class, as well as learners and teachers. The environment should also allow for data collection for research purposes. An issue related to data collection is that of privacy of mail between partners and the need for the teacher to have some information about the exchange in order to monitor the progress of correspondence in order to intervene in those cases where there is a problem of reciprocity or sustainability. The teacher in such a context becomes a facilitator or coordinator and ceases to be the main source of L2 input for learners.

There are two elements that are crucial in the research of e-mail tandem language learning. One of these elements is the manipulation of the dyads. How we pair or group students up for communication, for how long, or in what numbers will affect how learners allocate attention in their communication. The other element is the task that is to be carried out in tandem. Different features of the task will contribute to the complexity of this task and the cognitive demands it poses to the students. The design of tasks is one of the ways in which we can influence the activity and manipulate attention.

The concept of task is one on which there is little agreement in the field of SLA, and many definitions have been put forward. Different terms such as activity, task or project are often used interchangeably in the context of collaboration between different educational institutions making use of computer-mediated communication. Debski (2000) for example, in describing his practice of Project-Oriented Computer Assisted Language Learning states that it is based on the tenets of the model used by Barson *et al* (1993) who refer to their own work as task-oriented learning. Projects as described in the literature tend to last over the period of one academic semester. I view the collaboration between two institutions in arranging tandem language learning as a project. The tasks however, even though they may take place over several weeks (one of the reasons being the asynchronous nature of e-mail: there would be no point in arranging a one-hour task which required e-mail communication), provide a well defined need to communicate and have a structure:

they are goal-oriented, have an outcome, require language use of an interactive nature, and are designed for language learning purposes.

The Virtual Language Environment (VLE) mediates between all the elements above (my proposal for a VLE in this thesis is the ETR site, see chapters 5 and 6 for a description of its development). Teachers can set up dyads, links to task instructions/materials, or add tools for the tasks. The ETR site also provides space to administer questionnaires or keep logs of interaction or patterns of behaviour for research purposes. Learners communicate with each other, privately with their tandem pairs, through the group board to the rest of the group and teachers in the process of building a learning community. Physical characteristics of the environment such as the size of the composition box, the provision of a separate box for providing corrections, or pop up messages reminding the learner to respect the bilingual principle, as well as tools that encourage reflection on the learning process (e.g. the data page) will support the learners in developing the skills/capacities that will ensure a balance between focus on meaning and focus on form and make their language learning possible.

Even if the activity is orchestrated by the VLE, this should happen in such a way that it remains as unintrusive as possible. The VLE should shape the learning context in such way that learners become the main characters in the process, and that there is plenty of easily accessible support. At the same time the VLE should facilitate the manipulation/design of tasks and dyads.

3. 6 Summary

This chapter has explored what theoretical frameworks can be used for research into e-mail tandem language learning. It started by looking at the debate in CALL about research paradigms and adopted the model developed by one of the main voices in CALL, Carol Chapelle. Her model (Chapelle 2001) provides a number of criteria to consider when evaluating a CALL task, and adopts two levels of analysis, a judgmental level relative to the software and activity *per se* and an empirical level to

be applied to the performance of learners. Accordingly, a judgemental analysis of e-mail tandem language learning was carried out in this chapter and the empirical analysis is conducted in Chapters 4 and 5 below on the data and observations obtained from empirical studies.

From the results of both the judgemental and the empirical analysis we gain a general picture but it becomes clear that we need to extend Chapelle's model further if we wish to examine e-mail tandem language learning in more detail. The criteria in Chapelle are based on cognitive and socio-affective conditions for language learning, and this chapter took each of these and looked for more in-depth models in the SLA literature.

For the discussion on socio-affective conditions this chapter considered Keller's (1983) instructional design model, a model Crookes & Schmidt (1991) make reference to when calling for a change in direction in the agenda of motivation in SLA. This model, gives useful hints for the design of tasks which are taken up in the discussion in Chapter 7 below. The construct of WTC (MacIntyre *et al.* 1998) which Chapelle uses for her model was described in this chapter and is referred to as well in Chapter 7 below.

For the discussion of cognitive conditions, I elaborated on mechanisms for channelling attention from an information processing perspective (Schmidt 1990; Skehan 1998) and from an Interactionist theory perspective (Long 1983; Varonis & Gass 1985) and finally described in detail a model which encompasses both these views: Robinson's (2001) triadic model for sequencing tasks. This model is adopted for the studies carried out in Chapters 7 and 8.

One of the conclusions of this chapter is that CALL does not provide a research framework of its own, but rather can provide criteria for adapting frameworks from SLA. It is necessary to explore the new elements that CALL brings with it and seek a way to modify SLA theories to include these elements. For example, in Robinson (2001) the possibility that collaborative tasks may be computer-mediated as well as face-to-face is not contemplated. This I view as a shortcoming of Robinson's model which needs to be addressed rather than a justification for developing a completely

different model to be applied only to tasks that are carried out in a computer-mediated environment.

The last section of this chapter took on board the results of the analysis of the empirical studies in this thesis (Chapters 4-9) and put forward a number of elements which I suggest are the key elements to be researched in order to make further progress in e-mail tandem language learning.

Chapter 4. A preliminary case study using e-mail

4. 1 Introduction

This chapter presents a case study of an e-mail tandem exchange between learners of Spanish based in Dublin and learners of English based in Barcelona. This exchange replicates the case study described in Appel (1997) and attempts to overcome some of the difficulties that were encountered in the setting up of the earlier study. The organisational considerations are mainly based on the author's experience as reported in Appel (1997) and Little *et al.* (1999). Chapter 2, section 2.3.2 above gave a detailed account of these studies and came to the conclusion that

a) Asynchronous written communication for tandem exchanges holds a great deal of potential for language learning.

b) There are many problems involved and these cannot be underestimated. These problems are related to the organization of these exchanges since they involve groups of people situated in different geographical places who are likely to have access to different systems and who may be coordinated by different persons. In brief, potential problems to be found in organizing any other type of activity in one place with one group of people are multiplied. There are also problems related to student motivation. We have seen in the literature that reports on learner response and perception are very positive; however, reports on levels of participation, where a record of these is available, reveals a less positive view of such exchanges: after three or four initial messages communication starts to peter out. Another problematic issue is data collection, which is time-consuming and unreliable due to the fact that often only incomplete sets of data are available.

c) More research is needed in order to enable teachers and course designers to make informed decisions on their use of e-mail tandem exchanges.

The case study presented in this chapter is, then, the first attempt in this thesis to explore possible solutions to the problems outlined so far.

4. 2 Description of study

4.2.1 Subjects

17 subjects participated in the exchange under study here. They were all volunteers and they all undertook the exchange on a self-access basis. There were 8 English native speakers from Ireland, all based in Dublin. Six of them were females and two males. They were all civil servants and had previous experience of using computers and e-mail at work. They were all attending an evening class in Spanish as a foreign language once a week. Their level of proficiency in Spanish was advanced. They were offered the possibility of engaging in a tandem exchange as an activity in addition to their language class. Their teacher (not the researcher) assisted in providing information in a leaflet (see appendix A) but was otherwise not familiar with any type of tandem language learning activity and she did not intervene in any way with the exchanges after passing on the information.

There were 9 native speakers of Spanish, 6 males and 3 females. There is one more Spanish subject because one of the Irish subjects was assigned a new tandem partner after his original tandem partner stopped writing. Four of the Spanish subjects were computer scientists based in different locations (one in Palma, two in Madrid and one in Dublin) who volunteered to participate in the exchange after receiving by e-mail a Spanish version of the leaflet that was handed out to the Irish subjects (see appendix B). This leaflet with information on e-mail tandem exchanges was also posted in the Intranet of a company based in Barcelona. Five of its employees, working on quality control, volunteered to participate. None of the Spanish subjects were attending classes in English as second language while participating in the exchange.

Ages of subjects ranged from 25 to 48 and they were randomly assigned to tandem partners. Their level of L2 proficiency was high intermediate/advanced, except for three subjects whose level was intermediate (see table 4.1).

All subjects were highly motivated, but with a difference: overall the Irish subjects' motivation was integrative and the Spanish subjects' motivation was instrumental

(Gardner & Lambert 1972). All Irish subjects were interested in learning Spanish because of a personal liking for Spain, and a desire for a closer contact with its culture and people; they had all been to Spain and/or were planning to travel to Spain in the future. The Spanish subjects working for the Quality Control Company needed English on a daily basis for work purposes, and were actively encouraged by their employers to develop their proficiency in English. Among the four Spanish computer scientists, one was spending a year in Dublin because of work and was under pressure to improve his English. This was the only Spanish subject who also reported integrative motivation. The other three computer scientists reported a need to develop their English skills in order to improve their job prospects.

4.2.2 Instructions given to subjects

Students were given information about the project in their first language. This information included instructions which followed the guidelines given by the International Tandem E-mail Network (Little & Brammerts 1996). Instructions stressed the importance of sending corrections, and of writing in both languages in order to give both members of the tandem pair a chance to read as well as write in the language they are learning. Advice on how to give corrections was also outlined (e.g. discussing with the tandem partner a code system, including comments as well as corrected forms, etc).

The last paragraph contains an e-mail address where to send requests for a tandem partner. In this same paragraph the prospective participant is also asked to send copies (Cc) of all messages to the coordinator and is informed that these messages will be used anonymously for research purposes.

During the exchange, messages were sent to participants with reminders of the importance of writing regularly, different styles of corrections, and suggestions for topics of conversation.

All contact between subjects and the researcher took place through e-mail, and contact was first made by those individuals who requested an e-mail tandem partner after reading the information given out in the variety of ways described above.

4.2.3 Data collection

General information was collected informally through e-mail to ensure that subjects had an appropriate level in their L2, and were native speakers of either Spanish or English. Information about their age, gender, computer literacy and motivation for learning their L2 was also collected.

As I have already pointed out in the previous section, subjects were asked to Cc all messages to my e-mail account. Asking subjects to type in the researcher's e-mail address in the Cc header each time they write an e-mail to their tandem partner is not without its shortcomings: it directs the subject's attention to the fact that somebody else is reading the message, which may influence what and how subjects write to an even higher degree than if students are requested to forward messages at the end of the exchange. However, having experienced the difficulties of data collection in previous studies, I decided to experiment with the collection of Cc e-mails. In principle such Cc e-mails should provide a real timestamp for the message and no additional formatting, which means that the researcher has access to the same layout of the message as the intended recipient.

Cc messages sent to the coordinator's mailbox were filtered and automatically directed to a mailbox exclusive to the individual and his/her tandem partner's exchange. To facilitate this process subjects were asked to type a specific subject line in all their messages (their first name followed by a hyphen and their tandem partner's first name). The mailer used for this was Eudora Light 3.0. This software package, like most other e-mail packages, offers the possibility of creating separate mailboxes and setting up filters that redirect messages automatically to a certain mailbox. There are two files stored in the Eudora folder in the hard disk for each mailbox. These files allow you to select one message at a time from the Eudora interface. However one of these files (with extension .mbx) can be saved as a text file that contains all messages in that mailbox one arranged in chronological order. By the end of the exchange a text file with all messages received from each tandem pair was retrieved from the .mbx file and saved to be analysed.

This method of data collection presented several problems:

- Subjects often forgot to Cc messages to the coordinator. Sometimes they would remember at a later stage, recover the message from their sent messages mailbox or the reply from their tandem pair, and send it to the coordinator. When students sent messages at a later stage, this resulted in confusing headers that complicated the identification of timestamps and placing the messages within the chronology of the other messages in the exchange, and also added at times a variety of formatting changes (e.g. some mailers will add angle brackets > when using the forward function which means that the researcher will then receive text that belongs to a new message but is in the formatting of text of a previous message embedded in a reply, that is, with each line preceded by an angle bracket).

- Subjects often forgot to type in the agreed subject line, which meant that the message was not filtered into the right mailbox. At other times students used the agreed subject line for Cc'ed e-mails in message for the coordinator. This meant that e-mail from subjects to the coordinator was sometimes filtered into the data mailboxes. This resulted in unwanted messages being inserted in the final exchange mail file, and a delay in the correspondence between the subject and the coordinator in cases where difficulties had arisen and assistance from the coordinator was needed.

- Subjects resorted very often to including their messages in full, or sometimes only corrections in a separate Word document attached to the e-mail. This was perhaps the greatest problem for three reasons. First of all, some subjects using different mailers had difficulties in opening these attachments. This made for a difficult start, which is not desirable when subjects are already busy with other obligations and can only spare a certain amount of time for the e-mail tandem exchanges. In another case, both members of the exchange had compatible mailers but the coordinator was not able to open these attachments. This resulted in loss of data. One of the subjects, Eduardo, updated from Windows 95 to Windows 98 so that he could open attachments sent by his tandem partner. In this case the subject was a computer scientist and extremely enthusiastic; it would be unrealistic to expect the same from other subjects. Finally, extracting the text from these messages, accounting for the right date, stripping off added formatting (see fig 4-1 for an example of an attachment sent by Sarah to Eduardo) and incorporating this text into the text files that originated from the mailboxes proved to be extremely time-consuming.

- Differences in mailers also resulted in difficulties with special characters. Some mailers would display these characters as three-digit/ASCII character combinations. Unfortunately, these combinations vary according to the mailer and system used and therefore an automatic substitution of these combinations is not always possible. Timestamps are also differently formatted depending on the system or mailer the messages originate from. This made automatic processing of the text files extremely difficult.

ESPAÑOL

Hola Eduardo,

Muchas gracias por tu primer mensaje. Escribas bien en ingles. Como sabes, mi llamo Sarah y vivo en Dublin. Soy ingeniera de los canales. Estoy casada con un espanol de Alicante. Hablamos en ingles siempre ! Juego al squash y nado. Vivo en el centro de Dublin y mi familia vive muy cerca. Tengo una hermana que ha vuelto a Dublin despues 8 anos en Londres. Como ves no tengo accentos en mi ordenador !

ENGLISH

The level of spanish you wrote is perfect. You asked some questions about Ireland. It is a very small country compared to Spain. You can drive from east to west in approximately 4 hours and from north to south in about 6 hours. The roads are not great in some parts; but they are improving. You would have no problem driving on the left; however you may need to concentrate at roundabouts! Here is my code for your corrections:

(bold letters)= incorrect spelling

italis bold= a better way of saying the phrase

underlined word= a word that should have been used in the phrase

CAPITAL LETTERS= Full stop

red text = delete this word

Let me know if the code is working ok for you. I hope that the colours work on your computer, otherwise you won't have a clue about the corrections!

YOUR LETTER CORRECTED

Hi Sara (**Sarah**),

I'm going to tray (**try**) to introduce my self (**myself**).

My name is Eduardo, **and** as you guess I'm from Spain (FULL STOP). Since 1978 I'm I have been trying to learn English, but with a very bad results(FULL STOP). because I speak like Indians in the cowboys films. I hope to learning with this system a little more.

In this mail I'll explain what I do in my leisure time.

Well, I live in a little village in the centre of Spain, close to Madrid, (FULL STOP). Do you know Spain? ,I suppose at least you know Madrid, but it belong to Guadalajara, another town. During the week , when I finish my work, I go home and spend a lot of time watching TV. I like to hear listen to music and to play some instruments, (FULL STOP). I have many but I don't know how to play anyone them(FULL STOP)., However I sit in front of the music player and accompany the sings **songs** (FULL STOP).(more or less, I think that more less that more) That is it more or less.

Figure 4-1 Example of a message sent as an attachment by Sarah to Eduardo.

It is clear that sorting out the data collected was not straightforward. The text was first tagged manually, marking sections in different languages and corrections, and reducing long headers to a single line with general information about each message. This general information included a number which places a message chronologically within an exchange, the name of the sender and a number showing how many messages have been sent before by this particular sender, the name of the recipient,

and date on which the message was sent. In the example in figure 4-2 we see the header of the first message sent in the Nando-Ciara e-mail exchange. Below this header we see the information retained in the mark-up system I have used: *ch1* means that it is the first message in the chronology of the exchange, the message was sent by Nando to Ciara, the number attached to Nando means that it is the first message sent by Nando, and the last piece of information is the date. Several timestamps appear in the original header of the message, the one selected for the mark-up date tag is the timestamp displayed in the interface with Eudora Light. The number attached to the sender's name allowed for automatic search of messages at a certain stage, for example, to search for all first messages in order to investigate how subjects initiate communication and introduce themselves. A number of Perl scripts were written to extract automatically from the tagged text files the information displayed in figure 4-2 (number of messages, number of words in each message, etc).

From ???@??? Mon Mar 16 10:18:35 1998
Received: from xxxxxx.xxxxxxxxxxxxxxxx.es (xxxxxx.xxxxxxxxxxxxxxxx.es [195.53.80.2])
by dux4.tcd.ie (8.8.7/8.8.7) with ESMTP id XAA06868
for <appelm@dux4.tcd.ie>; **Sun, 15 Mar 1998 23:02:41 GMT**
Received: from xxxxxxxxxxxxxxxx.com ([194.179.56.44])
by xxxxxxx.xxxxxxxxxxxxxxxx.es (Netscape Mail Server v1.1)
with ESMTP id AAA16068; Sun, 15 Mar 1998 23:58:42 +0100
Message-ID: <350C5D65.B4BEDA23@xxxxxxxxxxxxxxxxx.com>
Date: Sun, 15 Mar 1998 23:59:49 +0100
From: Nando <XXXXXX@xxxxxxxxxxxxxxxxx.com>
X-Mailer: Mozilla 4.03 [es] (Win95; I)
MIME-Version: 1.0
To: Ciara <ciara@xxxxxxxx.ie>
CC: Marie Christine Appel <appelm@tcd.ie>
Subject: Tandem Nando-Ciara.
Content-Type: text/plain; charset=iso-8859-1
Content-Transfer-Encoding: 8bit
X-UIDL: 49c1aed5fc43f869d34ac350a9b32168

<ch1><from Nando_1><to Ciara><date 15 Mar 1998, 23:02:41>

Figure 4-2 Example of conversion of e-mail header into set of tags (private information has been substituted by a string xxxx)

4. 3 Results

4.3.1 Levels of participation

Table 4.1 shows a summary of the levels of participation of subjects and their L2 proficiency. The first column to the left shows the Spanish subjects and their corresponding tandem partners appear in the column on the right of that same row. The table displays the total number of messages written by each subject, the total number of words and their breakdown into total Spanish and English words, the number of messages that contained feedback on their tandem partner's L2, the subject's proficiency level and the total duration of the exchange (date of first message, date of last message and the total number of days over which the exchange took place).

To simplify the interpretation of the numerous factors affecting the progress of an exchange (frequency of writing, number of words, equal use of both languages, and provision of feedback), the data for each tandem pair is represented graphically in figures 4-3.1- 4-3.8. In these figures each bar symbolizes one e-mail message. Red-yellow bars stand for messages written by the Spanish member of the tandem pair and dark green-light green bars stand for the messages written by the Irish member of the pair. The use of two colours in each bar shows visually the proportionate parts of each message in each language. The black dot on top of a bar means that in that message feedback was provided to the tandem partner on his/her L2 use. Question marks have been inserted where there is evidence that a message was sent but the data is not available. These graphs make it possible to estimate at a glance which exchanges were successful in terms of subject participation and sustaining the principles of reciprocity and bilingualism described in Chapter 2 section 2.3.1. In the next section each exchange is discussed in more detail.

Table 4.1 Summary of data on subject participation & L2 proficiency level

Spanish partner	M*	Words Total	Words ESP	Words ENG	F**	Prof. level	Duration	Prof. level	F	Words ENG	Words ESP	Words Total	M	Irish partner
Eduardo	8	3139	1602	1537	7	advanced	19/03-17/06 **90 days**	advanced	7	907	602	1509	7	Sarah
Roser	3	740	329	411	2	advanced	31/03-05/05 **36 days**	high-intermediate	3	357	395	752	4	Michelle
Nando	2	318	155	163	1	intermediate	15/03-30/04 **46 days**	advanced	2	144	284	428	2	Ciara
Jose	3	1033	308	725	2	high-intermediate	08/03-09/06 **93 days**	high-intermediate	2	723	753	1476	4	Martin
Luis	3	1161	320	841	2	advanced	10/02-20/04 **63 days**	advanced	2	287	254	541	2	Fay
Javier	9	1818	627	1191	2	advanced	03/04-28/05 **55 days**	advanced	1	184	216	400	2	Paula
Blanca	3	1097	463	634	1	advanced	26/03-29/05 **64 days**	intermediate	0	546	116	662	3	Nick
Julio	1	130	51	78	---- --	advanced		intermediate	--- ---	0	0	0	0	Nick
Celia	7	1657	644	1013	6	advanced	03/04-16/06 **74 days**	intermediate	2	1115	1140	2255	6	Mary
Total	39	11093	4499	6593	---- --	------	———	------	--- ---	4263	3760	8023	31	------

* Number of messages

** Number of messages with feedback on tandem partner's L2

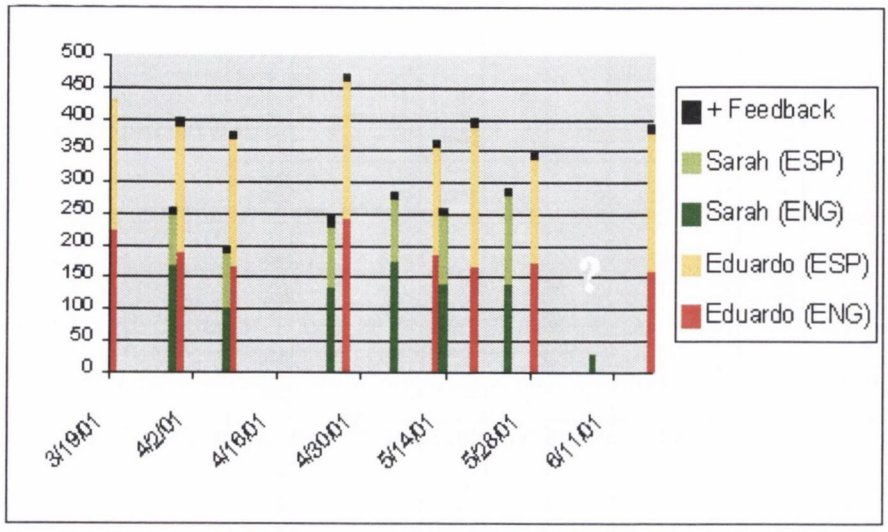

Figure 4-3.1 Overview of e-mail exchange Eduardo-Sarah

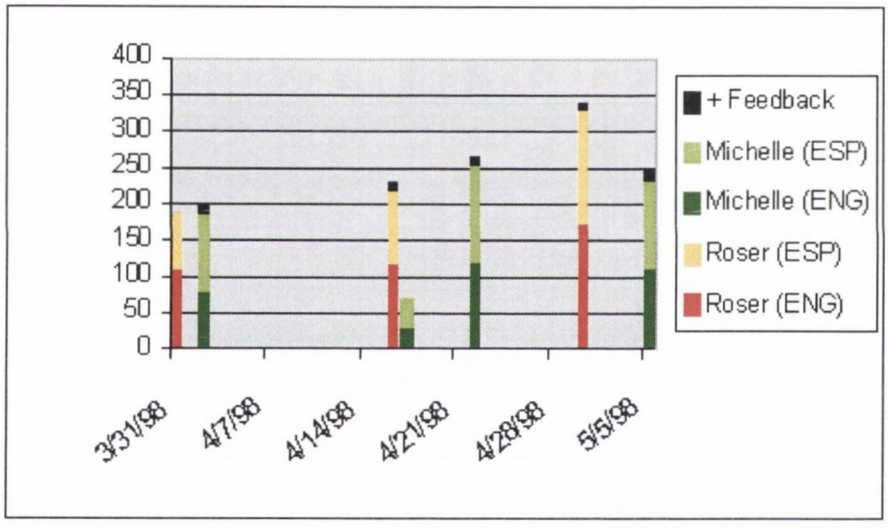

Figure 4-3.2 Overview of e-mail exchange Roser-Michelle

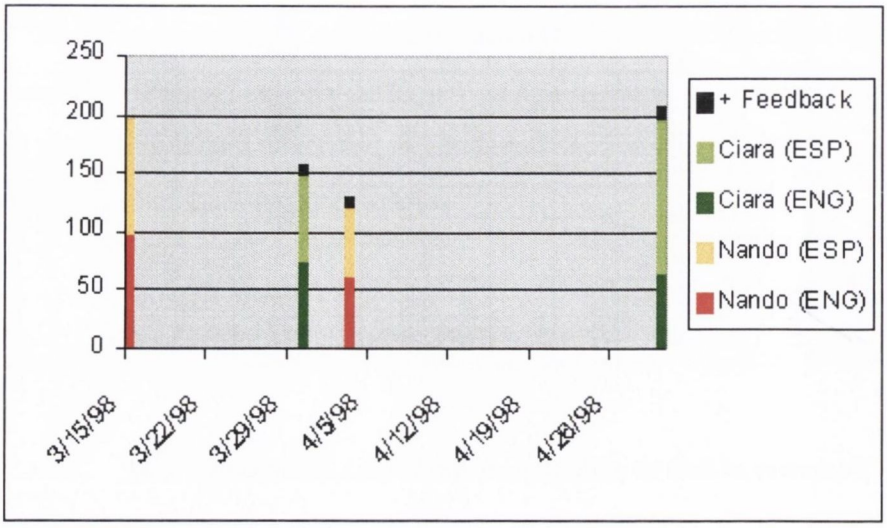

Figure 4-3.3 Overview of e-mail exchange Nando-Ciara

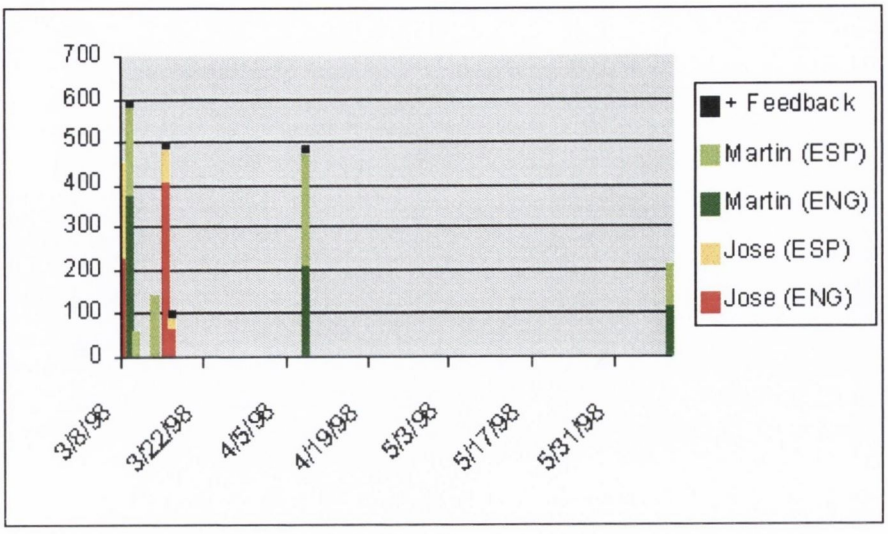

Figure 4-3.4 Overview of e-mail exchange Jose-Martin

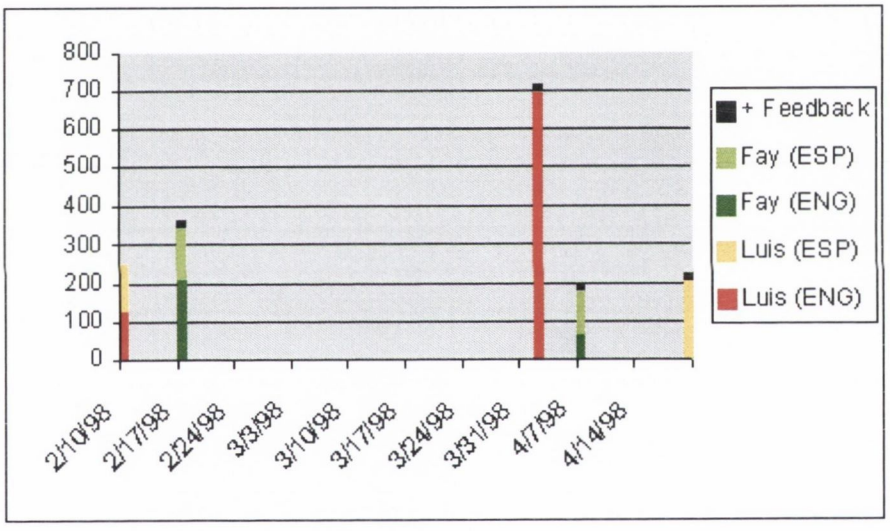

Figure 4-3.5 Overview of e-mail exchange Luis-Fay

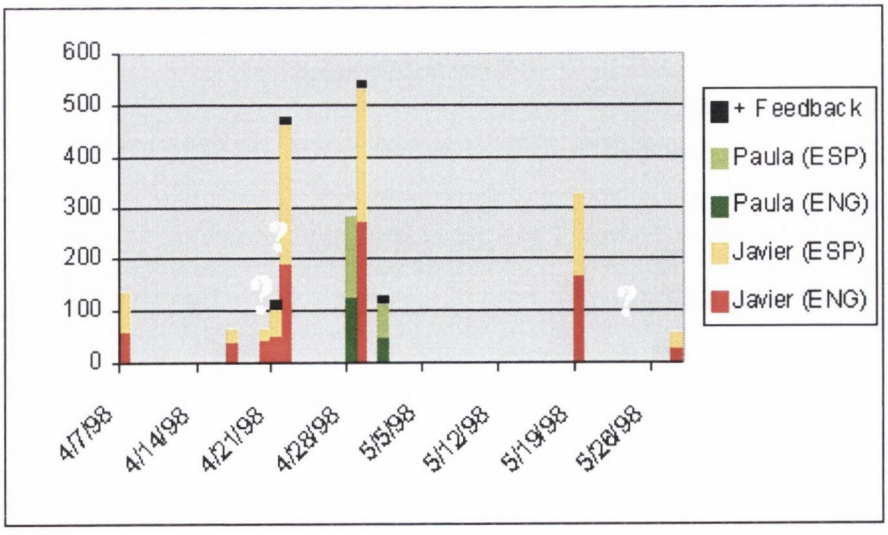

Figure 4-3.6 Overview of e-mail exchange Paula-Javier

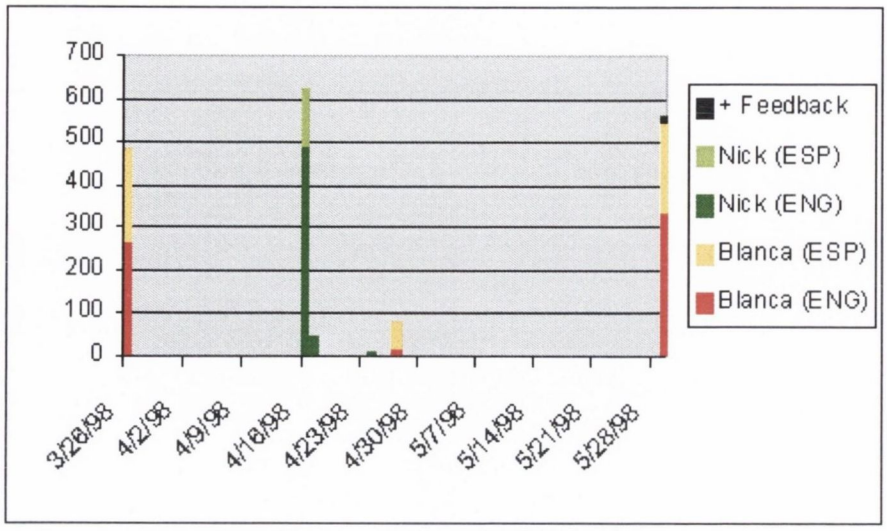

Figure 4-3.7 Overview of e-mail exchange Blanca-Nick

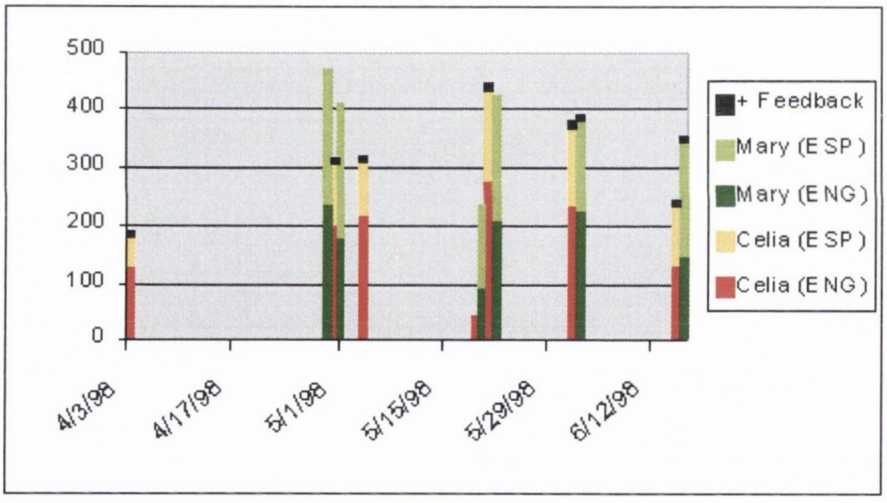

Figure 4-3.8 Overview of e-mail exchange Celia-Mary

4.3.2 Description of pairs

The graphic in figure 4-3.1 illustrates the e-mail exchange between Eduardo and Sarah. They wrote the highest number of messages and highest number of words over the longest period of time: 15 messages with a total of 4,648 words[1] in 90 days. They followed the guidelines closely and wrote all messages 50% in Spanish and 50% in English, writing to each other regularly. All messages included a section on corrections. Both Eduardo and Sarah took the task seriously, providing detailed

[1] The word count of messages is exclusive of corrections and feedback provided.

feedback. Sarah suggested in her first e-mail that they should use a very structured format, with sections clearly delimited for Spanish, English and corrections (see fig 4-1) outlined in a table within a Word document sent as an attachment. Eduardo used this format with one difference: he reversed the order of the languages so that the English section was first and the Spanish section second, adding corrections last in the same way Sarah did. They developed a good rapport, and exchanged information about Spain and Ireland as well as personal information. They also made explicit reference to their language learning, encouraged each other to improve, and invested effort in giving feedback to each other. They developed a colour code for corrections, gave alternative ways of expressing sentences and detailed explanations on errors. Eduardo was based in Dublin but did not tell Sarah so until three months into the exchange. After that point they decided to meet face-to-face for their tandem exchange. They reported to me shortly after that a personal friendship had developed and the tandem exchange was interrupted, which is a common problem in these type of exchanges.

Fig 4-3.2 shows the progression of the exchange between Roser and Michelle. The data collected from this exchange is 7 messages with a total of 1,492 words sent over a period of 36 days. The number of words per message for each participant grows with time, and after an initial 14-day gap due to the Easter holiday break, the exchange seems to take place regularly. However, shortly after this, the participants stopped sending copies of the messages to the researcher. The content of the messages in this exchange focussed exclusively on personal matters, and even though feedback was provided in all messages (except the 4th message, in which Michelle tells Roser that she cannot open the document attached to the e-mail and asks her to send the message again), the feedback only included a few corrections with no explanations given. It is possible that, given the content and focus of the messages, these participants decided to continue the exchange on a more personal level, and did not wish to share the e-mails with the researcher. They did not report the reasons for this decision so I can only speculate from the content of the last messages.

The exchange between Nando and Ciara (fig 4-3.3) was initiated by Nando. He sent an introductory message observing the principle of bilingualism, and included a question about St Patrick's Day celebrations in Dublin which were taking place a few

days later. Ciara did not answer till 15 days later and in her message her only response to Nando's question about St Patrick 's Day was that she had had a great time at the parade and in the pub with no further explanations. Nando replied 4 days later asking Ciara about her plans for the Easter break. Ciara replied 27 days later and did not answer Nando's question. In this last message Ciara also wrote most of the message in Spanish. Nando reported to me having lost interest in the exchange and stopped writing. The gap of time between messages was the reason reported by Nando, but one could also argue that Ciara's lack of response to his questions and possibly also the fact that her last e-mail was mostly written in Spanish contributed to Nando's decision to give up the exchange. An interesting point concerning corrections is that in most pairs the code for corrections is set by the first person sending them, the tandem pair adopting this code for the rest of the exchange. In this case Ciara started by sending an attachment with inserted corrections with no explanations. In the following message Nando adopted a different system, extracting the error and giving a more elaborate explanation. Ciara then adopted this more efficient method of correction.

The exchange between Martin and Jose in figure 4-3.4 covers a period of 93 days, although most of the messages were sent during a period of 8 days. After that it took Martin 23 days to reply and Jose never wrote back. Martin tried to re-establish contact again two months later but never got a reply. Both subjects here were under pressure at work and found that even though their intention was to write more, they did not have the time. They were also very unstructured in their messages. They had a tendency to write either very long messages, or a number of very short messages over a few days, which did not favour the development of a work routine for the e-mail exchanges. Another possible problem may have been that Jose initiated the exchange by sending a full message in English followed by its translation into Spanish. Martin responded using the same method and his reply resulted in a lengthy message because he sent two versions of the same message, one in each language, on top of elaborate corrections of an entire message in English since Jose's previous message had been translated into English in its entirety. There are two points to consider about this method. Firstly, the long messages entailed a larger amount of work for each message in comparison with the normal tandem procedure in which only half the message is written in the L2, which also means that there is less text to

be corrected; it is a more time-consuming activity and learners are less likely to find the time to write. Secondly, both subjects wrote first a message in their L2 which means that when they received a message they would first read for content in their L1, which is likely to result in a lower degree of attention when they continued to read the same content in their L2.

Figure 4-3.5 shows a clear example of an exchange that did not take off because of the lack of reciprocity. First of all the Spanish subject, Luis, did not reply to his tandem partner's first e-mail for 45 days, and the message written on this occasion was entirely in English. Fay responded with a short message and devoted most of it to giving corrections on the previous message. Luis' reply arrived 14 days later, this time all in Spanish, but Fay had given up the exchange before that. Luis reported that he found the idea of the exercise good but that he did not have the time to write on a regular basis because he was under time pressure from his job.

The record of the exchange between Javier and Paula is incomplete. The chart in figure 4-3.6 indicates with a question mark where there is clear evidence (from corrections or comments in a subsequent message) that a message was sent to the tandem partner but not to the researcher. It is very likely that more messages were sent between the 1st of May and the 19th of May: the e-mail sent on the 19th by Javier starts with no apology for the delay in replying, and it is obvious from Javier's reference to a previous message by Paula that there is at least one message which is missing from the collected data. Javier comments in this message that he had lost the attached document received by Paula and could therefore not provide feedback to her. Javier reported that the exchange was interrupted because Paula went on an extended trip. He also provided copies of two messages from Paula he had managed to save. Paula never Cc'ed messages to me. However from the transcript of messages collected one can infer that it was quite a fruitful exchange. The topics treated were politics, legal issues and current affairs and communication seems, from the available data, to have been lively and stimulating.

Looking at the chart for the exchange between Blanca and Nick (fig 4-3.7) we see that Nick did not respond to Blanca's first message until 20 days later and that she took over a month and half to respond. The short messages in between are messages from

Nick enquiring whether she is still interested in the exchange and a message from her promising to write soon. Nick had asked for a tandem partner before he eventually received Blanca's response. He never replied either to Blanca or his new tandem partner Julio. Blanca reported that she had not had the time to respond sooner. Two other factors could have had an influence: the age gap was the widest of all pairs (27/48), as was the difference in their L2 proficiency level (Nick's level of Spanish was only intermediate while Blanca's English was quite advanced).

Celia and Mary (fig 4-3.8) wrote a total of 13 messages and 3,912 words over 74 days. After an initial delay in Mary's reply to Celia's first message due to technical problems, communication took place on a regular basis. After the 74-day period they stopped sending copies of the messages to the researcher but they continued writing to each other and developed a personal friendship. Mary did not send any feedback in her first four messages but Celia insisted on requesting it until Mary started including a few comments in the last two messages available for analysis. Celia was planning to spend three weeks in Dublin during the summer and the arrangements were discussed in the e-mail exchange as well as personal topics such as weekend activities or home renovations.

4.3.3 Discussion

In this section I discuss the results of this pilot study, addressing the questions for the empirical evaluation of CALL tasks put forward by Chapelle (2001). These questions are related to the criteria she suggests for CALL task appropriateness. These criteria, their corresponding evaluation questions and the arguments for their use in this thesis have already been presented in Chapter 3, section 3.2.2 above.

a) Language learning potential

The answer to the first question, - What evidence suggests that the learner has acquired the target forms that were focused on during the CALL task? -, is difficult to find in this context. There was no target linguistic structure from the outset of the activity. No specific task was given to students either; they were free to write about anything they wanted to, and linguistic structures emerged depending on the content

of the message. The only common structures were those used for introducing oneself, but because of the subjects' advanced proficiency level, we can assume these structures would already have been acquired. This is also evident from the transcripts of correspondence. One way of proceeding in these cases might be to select a structure for which there is evidence in the transcript that it has not been acquired and trace subsequent examples of attempts to use it or avoid it in contexts where it is clear that this structure should have been used. However, we would need larger samples of data collected over longer periods of time to be able to do this usefully.

Related to the question above is the fact that e-mail tandem language learning is a fairly new activity and that language used in this communicative context has not yet been thoroughly documented. Chapter 2, section 2.2.1 discusses several studies that have described language forms used in e-mail and other varieties of computer-mediated communication, but so far to my knowledge there has been no attempt at describing a corpus of learner language in asynchronous written communication in tandem. For this type of study it is necessary to have access to a large corpus, and compiling such a corpus is not trivial. The development of the ETR tool is a step towards the collection of a corpus of an adequate size, and Chapter 6, section 6.6.1 includes a discussion of the types of analysis that can be carried out with a large corpus of asynchronous written learner language.

A qualitative examination of the e-mails collected for the case study this chapter is concerned with yields the following list of common functions for all exchanges:

- greeting the tandem partner and initiating communication
- apologising for the delay in replying, often used as part of the opening of the message (this occurred in 25% of all messages collected)
- excusing oneself for deficiencies in L2
- praising one's tandem partner's level of L2
- describing one's occupation
- describing daily routine
- describing likes/dislikes
- describing aspects of Irish/Spanish culture
- describing weekend activities and holidays in the past

- describing plans for weekend activities and holidays
- direct questions
- closing of message

However it is difficult to assess whether forms are acquired when only a few messages are exchanged. At this point all that can be said with certainty is that all subjects used these functions. A close look at the messages of Eduardo and Sarah, the pair who wrote the highest number of messages, suggests that their messages improve in both fluency and accuracy. In the case of Celia and Mary, the length of sentences in Mary's Spanish increases considerably during the exchange, but accuracy decreases to a certain extent. In the first messages sentences are short and few risks are taken, but Mary gradually starts to attempt more complex grammatical structures. Below is a fragment from early in the exchange and then from later in the exchange (ungrammaticality is signalled in bold).

Extract from Mary's second message:

> Este fin de semana tenemos **una fiesta** tembien. Es muy bueno tener mas tiempo libre. Espero **que** visitar mis tiios en el campo **en** el Lunes proximo. **Conduzco alli** en el coche. La distancia no es muy larg**o**. Me gusta ver los animales y los arboles en el campo.
>
> *This weekend we also have a bank holiday. It's good to have time off. I hope to visit my uncles in the countryside next Monday. I'll drive there. The distance isn't very great. I like to see animals and trees in the countryside.*

Extract from last message in the exchange:

> Esta manana no me **prond el velo** a la oficina. Decid**io** andar y v**eio** muchas cosas **difirante como** de costumbre. Una hora pasa rapidamente y **entonces arrivio** al trabajo. El sol **brila y cada cosa es** bonita - las casas, los arboles y el pequeno rio al lado del camino. Cuando el tiempo es **sole** estoy **en un** buen humo**ur**, **es seguro**.
>
> *This morning I did not cycle to the office. I decided to walk and I saw many more different things than I usually do. An hour passes by quickly and I arrived at work. The sun was shining and everything looked beautiful - houses, trees and the small river along the path. When the sun shines I'm in a good mood, that's for sure.*

Concerning the second question for the evaluation of the language learning potential criterion - What evidence indicates that learners focused on form during the CALL task? -, we can examine the corrections and feedback provided and see whether the structure or word concerned is used correctly in subsequent messages. The amount and quality of correction can also indicate whether there was a focus on form. There is anecdotal evidence that feedback is assimilated and affects the subsequent use of the form in question but there is equally anecdotal evidence that this does not happen.

Requests for help with form are most often signalled with a question mark between brackets immediately after the word/construction help is needed with. The majority of these question marks are requests at word level, not at sentence level. Below is an example from a message written by Paula. Javier had introduced the term *Libertad de prensa* (freedom of the press) in the previous e-mail and Paula used it in her reply but was unsure of the verb to be used with it:

> Sin embargo ellos no introdujeron (?) la ley de Libertad de Prensa
>
> *However they did not introduce (?) the law for Freedom of the Press.*

There are also some explicit comments that show some focus on form, for example, Eduardo comments referring to their correction colour scheme (see fig 4-1):

> I have to tell you off for your last letter. If you look at it you can see that it seems like a rainbow, what means that you wrote it very quickly or you didn't pay too much attention writing it, did you?

In general, there is some evidence that focus on form took place. However, explicit focus on form (and learning strategies) occurred to a lower degree than in the Appel (1997) case study. In this latter case study all Irish subjects were college students, which may have influenced their approach to the exchange, which was more explicitly focused on language and learning strategies, whereas in the present one subjects seemed to value more the contact with a person from the target community.

b) Learner fit

Looking at the set up of an e-mail tandem exchange, one would think that there should be ample opportunity for engagement with the target language: students choose how much they are willing to write and how often. Unfortunately it is not always the case that both members of an e-mail tandem pair are willing or able to write with the same frequency and the same amount of text. It is clear from figures 4-3.3, 4-3.5, and 4-3.7 that it was the same person in each exchange who slowed down the exchange, or broke the recommendation for writing 50-50 in the two languages, causing dissatisfaction on the side of the more active participant. Nando, Fay and Nick expressed frustration that they did not receive more messages and eventually lost interest. Even in apparently successful exchanges such as the one between Eduardo and Sara there was a problem of reciprocity: Eduardo wanted to write more often than Sarah did and even though he did not express this to her, most of the times he replied within one or two days, whereas Sarah would reply 5 to 10 days after receiving a message. Eduardo approached me asking if he could have a second tandem partner since he was eager to write more. I did not find another tandem partner for him, but by the end of the exchange Sarah started replying more rapidly.

When we consider the impact of learner characteristics on the appropriateness of the task, we need to take into account the characteristics of both members of a tandem pair and how they combine. For example, this type of task may be appropriate for a wide range of ages, as long as the age-difference of tandem partners is not too big. It is possible that the exchange between Blanca and Nick may have suffered from this factor. There should be room for different learning styles in a tandem exchange, but in terms of corrections and focus on form, the transcripts seem to indicate that partners benefit more if they have similar learning styles. For example, Jose wanted to translate the message in full, but that could have been a burden for Martin since he would have to read the same content twice and would have a higher load of corrections. Celia made an effort to provide detailed feedback which was not appreciated by Mary, and Mary was not interested in reading the feedback she received or in providing it and she only started sending corrections after much insistence from Celia, and even then her corrections were few and not elaborated.

As for evidence suggesting that the targeted linguistic forms were at an appropriate level of difficulty for the learners, we could say that successful communication took place, none of the subjects found the reading of their tandem partners' text too difficult, and subjects were able to aim at an appropriate level for their own L2 proficiency development. As far as writing is concerned, subjects could resort to their L1 when they did not know how to express themselves in their L2. However, there seems not to be much evidence that the learners were pushed to produce structures beyond their level. Only in a few instances in which they departed from descriptive language for which understanding was not essential is there evidence of subjects being pushed to make sure they thoroughly understand and are able to convey the intended meaning by requesting and making modifications to their input (Chapter 8 below examines features of tasks that will push participants beyond merely descriptive language). In the following example Sarah asked Eduardo for some information on how to get a certain magazine. In this case it was essential that they both understood all the details in order for her to get the magazine. The following extracts belong to successive messages in the Eduardo-Sarah exchange.

Message 6 from Sarah to Eduardo

> Do you know if there is a magazine published in Spain for Civil and Electronic Engineers, perhaps published by the Engineering Institution?

Message 7 from Eduardo to Sarah

> Respecto a la revista española, ¿qué es lo que buscas realmente?, porque hay varias revistas de electrónica, y me imagino que también de ingeniería civil, algunas de ellas editadas por los colegios de ingenieros, si me dices que es lo que quieres concretamente yo te puedo indicar lo que hay.
>
> *Concerning the Spanish magazine, what is it you are looking for exactly? there are several electronic journals, and I guess also civil engineering ones, some of them published by the association of engineers, if you tell me what it is you want in more detail I can tell you is available.*

Message 8 from Sarah to Eduardo

> The kind of engineering magazine I was thinking about was something not very technical; but would keep the reader informed of new developments and maybe have some feature articles about a company or a particular project. Should I write to the Engineering School?

Message 9 from Eduardo to Sarah

> Talking about the magazine, did you try to find something using internet?. May be the Engineering Association had a web page. I wrote "Colegio de Ingenieros" that is an association. There are a lot of them, as much as Engineers studies: College of Civil Engineers, College of Electrical Engineers, etc.

Message 10 from Sarah to Eduardo

> I wrote "Colegio de Ingenieros" that is an association. There are a lot of them, as much as Engineers studies: College of Civil Engineers, College of Electrical Engineers, etc. ????????? (I'm not sure what you want to say)[2]

In general, there does not seem to be a problem of task difficulty because of the option of using the L1 and availability/ support from the tandem partner who can be asked about unknown words. The question is whether the task is difficult enough. For an autonomous learner who takes initiatives, it can be, but we cannot assume that this is the case. On the contrary, most students show lack of initiative in pushing themselves to perform at the upper limits of their abilities. They choose the topics themselves, which may mean that they choose those topics they are able to talk about, but they may be avoiding more difficult topics. All exchanges remained very personal. Only Paula and Javier treated topics which may be more challenging like politics, censorship in TV, freedom of speech or the situation in Northern Ireland. Paula's level of Spanish was very advanced. The other participants had a proficiency level in their L2 which should have allowed them to discuss these topics, but the question is whether they did not pursue such topics because they were avoiding to use more complex language structures, or because of other reasons such as lack of interest in the topic itself or apprehension in discussing controversial topics with a tandem partner. If a tandem programme were to be subject to closer coordination, it might be better to introduce some topics that can prompt more challenging discussions or tasks which set goals to achieve to students. (see Chapters 7 and 8 for a more elaborate discussion on this type of tasks).

[2] The colour scheme is preserved from the original message and indicates that red text is from a previous message written by Eduardo and black indicates comments inserted by Sarah.

c) Meaning focus

The question here is not only whether there is a focus on meaning, but also whether the construction of meaning aids language learning. Instances of negotiation of meaning can be found in the exchanges (see the example above under point *c) Learner fit* from Eduardo and Sarah's e-mails). However, the use of two languages and the choice of language for each topic can enhance or result in loss of opportunity for linguistic development. In many cases tandem pairs answer each other's questions, responding to L2 in L2, and L1 in L1, which defeats the language learning potential of the activity to a certain extent. If they were to discuss the same topics in the same language they would get input that they could recycle in their own output. This is particularly well illustrated in the following example in which Roser makes two corrections in Michelle's description in Spanish of a past holiday. Roser then comments in English on Michelle's future holiday plans. Had she responded to this particular point in Spanish, Michelle would have received the correct forms as input, which would have been a chance for implicit reinforcement of information received as explicit feedback.

Message 6 from Roser to Michelle (the first paragraph is the original text Michelle sent in her previous e-mail and the numbers were inserted by Roser pointing to the corresponding correction).

> Lo pasé estupendamente. Visitamos muchas lugares de interé. Me gusto mucho flamenco bailando (5). Tambien me gusto el sol. Este año voy a ir de vacaciones a (6)Costa Brava para diez dias.
>
> *I had a great time. We visited many places of interest. I liked a lot dancing flamenco. I also liked the sun. This year I'm going to Costa Brava for ten days.*
>
> (5)bailar flamenco
>
> (6) in spanish we use article "la Costa Brava"

Roser's main message:

> I am sure you will enjoy Costa Brava. It is different from Costa del Sol.There are mountains a lots of trees. Usually the beaches have mountains at the back. The food is also very good

but different from Costa del Sol, and maybe you will not find flamenco so easily.

The following example illustrates the same point. This time it is an example from Eduardo and Sarah's correspondence that arises when they talk about Eduardo's occupation, and they both make errors in their L2. They both receive feedback on the errors but they do not get a chance to see the right form in the context of their tandem partner's L1.

Message 3 from Eduardo to Sarah

I'm lecturer in the University of Madrid, in the Department of Electronics.

Message 4 from Sarah to Eduardo

mi marido es ingeniero **de electronicas** tambien.

my husband is also an electronics engineer

The following example is from interaction between Mary and Celia. Celia explains in English that she has builders in at home. In the following message Mary comments on how difficult such a situation can be in Spanish making plenty of errors. She then suggests in Spanish as well that Celia treat herself to an Irish coffee. She goes on to talk about the Amsterdam Treaty in English. In the following message Celia tells Mary that she had an Irish Coffee and liked it very much, but she does so in English and she then goes on to initiate a new topic in Spanish.

Message 10 from Celia to Mary

Besides all the workload in the office I have the bricklayers at home.They are changing all the windows, painting the walls and so on. It looks like Bosnia or Lebanon after the war. You can imagine.

Message 11 from Mary to Celia

Entiendo que estas muy **occudada** en la oficina y en su casa.Es muy dificil si tiene **pinturas** o decoradores **haciendo trabajo** en la casa.Es necessario **protector** las muebles y **objectores** de

valor. Estas haciendo **mucho cambias** con las ventanas y pintando las **paredezes**.

…

Prond un descanso con una taza de cafe con un poco de guisqui. Es muy popular en **Irelanda** especialmente durante **las** meses de invierno y primavera cuando el tiempo hace frio y llueve mucho. Se llama un Cafe **Irelandesa**.

I understand that you are very busy at the office and at home. It is difficult to have painters and decorators doing work in the house. You need to protect the furniture and objects of value. Are you making many changes to the windows and painting the walls?

…

Take a break with a cup of coffee with a bit of whiskey. It's very popular in Ireland, specially during the winter and spring when the weather is cold and it rains a lot. We call it an Irish coffee.

Message 12 from Celia to Mary

I feel very sorry for the delay to answer you. You were so kind and so friendly encouraging me with all the mess I had at home. The Irish Coffee really works, meanly having into account that when the works finished I got a terrible cold …

However, there are also some positive examples where a response is given in the same language and one can see how the construction of meaning and linguistic development go hand in hand.

Message 3 from Roser to Michelle

In the rest of Spain it was raining ,snowing and raining little pieces of ice. (I would like to know how do you call this type of rain, **"granizo"** in spanish.)

Michelle responds in the following message (4) in the corrections part (I have added the underline):

In the rest of Spain there was rain, snow and showers of <u>hail stones (piedra de granizo)</u>

And in the actual body of the message when she talks about the weather in Ireland she uses the same expression:

It was nice for you Roser to have been able to spend Easter on the beach. Here in Ireland, the weather was very cold with <u>showers of hail stones</u> and icy winds.

d) Authenticity

Authenticity refers to the extent to which learners make the connection between the task and a real situation in which they may have to use their L2. In this sense this kind of task is very authentic. E-mail is a widespread medium for communication nowadays, and it is no longer necessary to argue that second language learners need to learn how to communicate in this medium. The performance of this task corresponds with the expected performance if they were to e-mail in a real situation for personal reasons; the messages focused more on personal communication than on the language learning exercise. We cannot say the same for business e-mail. In this respect the connection to a real task may be more obvious to the Irish learners since their goal was to communicate with members of the target community informally, most likely in a holiday environment. The connection may not be so straightforward for the Spanish subjects who needed to develop their L2 for professional purposes.

There is also the question of transferring from written skills to spoken. Students seem to assume this transfer more readily than researchers, perhaps because one often refers to the writing of these e-mails as 'talking' to tandem partners, or the contact with tandem partners as 'meeting' them. At this point it suffices to say that a study monitoring the spoken skills of subjects would be necessary to confirm the theoretical claim that the communicative nature and type of register used in e-mail will have an impact on spoken skills.

e) Impact

There is evidence that the subjects learn about the society and culture of the target language community. This will of course happen only if students are interested in the topic. There are some examples of political discussion (Paula-Javier), as well as daily routine, traffic jams, geography and holidays. In the Appel (1997) case study many more examples of both covert and overt examples of intercultural exchange were found. The reason may be that in this study learners were older and focused more on their family lives, which may be less different in both countries.

I cannot provide evidence for impact on learning strategies, as I did not administer a questionnaire to elicit this type of information. This was not possible because of the way in which this study was set up. Interviews with subjects might have yielded more data on this aspect. To the question of whether subjects had a positive experience, they all reported positively except for the cases in which frustration grew out of lack of contact with the tandem partner (particularly Nick and Nando). In general, the idea of writing e-mail was undertaken enthusiastically. Some of the Spanish subjects reported that a positive aspect of the experience was the fact that they were able to write in their own time since their timetable at work prevented them from attending a language course.

In relation to the last point above, I would also like to interpret this criterion in the following way: is this a suitable activity for self-access? The evidence from this study suggests that it could be if a) students are carefully paired up, taking into consideration learner characteristics, and b) there is some task provided that will direct communication to push them further in terms of grammatical complexity and vocabulary range. Possibly, distance learning may be better than self-access since the learner has to rely on the tandem partner to continue writing with the initially agreed frequency. This does not always happen, even highly motivated students often fail to comply with the initial agreement. The presence of a coordinator within a course framework may facilitate the continuity of the exchanges by providing external support. Subjects approached me on numerous occasions with questions and requests for help and this would not have been possible if the exchange had taken place on an entirely self-access basis.

f) Practicality

Concerning the question – What evidence suggests that hardware, software and personnel resources prove to be sufficient to allow the CALL task to succeed? -, one could say that in this particular case the signing up procedure for the project selected subjects who had the resources available. The only technical requirement for this task was access to e-mail, and to sign up for the project subjects had to send an e-mail with their request. In a class situation one would have to make sure that all students had an e-mail account. This is not a problem in most colleges nowadays but may be a

problem in other settings such as evening courses. In these cases, if students have access to the Internet, they could make use of a free e-mail account on the web (e.g. Yahoo). It is very easy to sign up for such an account and the only shortcoming would be that these types of account often receive a higher proportion of spam e-mail, which may be a factor to be taken into account in some cases such as those when students are under-age.

Another type of difficulty that arose during the exchange was caused by factors such as compatibility of systems for reading attachments or compatibility of mailers for interpreting special characters. I tried to help to a certain extent, but I was not familiar with the details of the subjects' different systems, and distance obviously prevented me from helping them as well.

In terms of sustainability of the task, evidence from this case study shows that it is not a straightforward matter. In this case all subjects were highly motivated, selected themselves by volunteering for the task, and were all professional adults. In terms of time they all reported that they were under enormous pressure at work and found it hard to find the time necessary for the exchange. The fact that there was no assessment associated with the tandem activity and therefore no visible rewards to the subjects' employers did not alleviate this situation. These were factors that even if not related to the actual software used, did affect the practicality of the task.

4. 4 Summary

This chapter reported on a qualitative study conducted along the same lines as Appel (1997), but with a number of organizational mechanisms put in place to help monitor the study and collect data. The subjects in this case were all adults and were in touch through e-mail with a coordinator who provided support throughout the exchange. The transcripts of e-mail correspondence, feedback from subjects, and the coordinator's log of observations were analysed using Chapelle's criteria for the empirical evaluation of CALL tasks.

In terms of language learning, the results are not as high as one might have expected. There is some evidence that suggests that it took place, but the size of the study and

its qualitative nature, means that one cannot draw definitive conclusions. There is also the difficulty inherent in longitudinal studies that one cannot be certain that language learning is attributable to the e-mail exchange and not to other input the subjects may have been exposed to. The purpose of this study was not to control for certain structures, but to explore the activity as a whole. The impact of the task was mostly in the area of motivation, bringing learners closer to the target language community and providing positive personal contact. However, despite the initial enthusiasm sustainability proved to be a major problem.

Guidance as regards content seems to be necessary, not so much because there was nothing to say (which is the case in other studies with younger learners, see case studies in Chapter 5), but because the topics and nature of the communicative task did not require full understanding or challenge the learners' current level of interlanguage. Perhaps with students at a lower proficiency level this might not have been the case the type of communication taking place might have been challenging enough. The subject with the lowest level of L2 proficiency in this case study, Mary, was trying to use structures she did not fully control.

Under the *Practicability* criterion a number of problems caused by incompatibility of systems were identified. If we want to encourage teachers and students to engage in tandem language exchanges it is necessary to facilitate technical arrangements so that the teacher and students can concentrate on the actual exchange and language learning. From a research point of view the time invested on the analysis and organisation of data was prohibitive. Larger-scale studies are necessary to throw more light on the potential of tandem language learning, but it would be impossible to carry out a larger scale-study with the tools used for this case study.

The next chapter describes a tool designed to facilitate the collection of data. It also attempts to provide an environment that will be the same for all participants in the exchanges (as opposed to subjects using different mailers with different features) in the belief that this will allow for a deeper understanding of the processes involved. The case studies in Chapter 5 also introduce novelties in the pedagogical approach in order to solve some of the problems that were identified here.

Chapter 5 A Common Gate Interface for web-based tandem language learning

5. 1 Introduction

This chapter describes the development of a Common Gate Interface (CGI) for web-based tandem language learning. This interface was designed bearing in mind both the practical problems related to data collection and the pedagogical problems related to the language learner. The application is named *Electronic Tandem Resources* (ETR) and is accessible via the World Wide Web. The chapter consists of two parts, each of them describing a cycle of development of the ETR. The first part describes the first version of the ETR and a case study which employed this interface. The feedback and analysis of this case study was then integrated in the development of the second version of the ETR. The second part of this chapter describes the interface of this second version of the ETR and a case study conducted with it.

5. 2 Electronic Tandem Resources, first version[1]

The ETR makes use of CGI scripting in Perl to create a limited read-write interface between the web and the coordinator's own file system. It is hosted in an Apache server on a Unix machine. Its design was inspired by existent web mailers such as *Hotmail*[2] or *Yahoo*[3], with the difference that the ETR system only allowed for one recipient: the user's tandem partner. By setting up my own web-based mailer I intended to keep all the features of electronic mail which were useful for tandem language learning projects, while disposing of those features which were troublesome. The following is a description of the first version of the ETR site.

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[1] The materials of section 5.2were published in Appel, M.C., & Mullen, T., (2000): "A Common Gateway Interface for Tandem Language Learning". In Strotmann, B. (ed.): Proceedings of the International Congress on Technology in Teaching, jointly organized by IATEFL Computer SIG, TESOL-Spain and Universidad Europea de Madrid, 20-22 November 1998. Universidad Europea: CEES Ediciones. Tony Mullen's contribution to this publication was his involvement in the programming of the ETR application prototype.

[2] http://www.hotmail.com

[3] http://www.yahoo.com

In order to access the site, students require a web browser application such as Netscape or Internet Explorer. Access through the web means that the user is not constrained to use a particular machine or be in a particular location. The site can be accessed through an Internet connection from anywhere in the world. Access to the site is restricted to students in the exchange who have previously registered as users. Students are each supplied in advance with a username and password, which grant them access to the messages left for them by their tandem partners.

The first page, to which the student is directed via URL, is the homepage of the site (fig 5-1). This page includes a form for the student's username and password, required for admittance to the site. Upon entering the site, the student is presented with a page containing the new message written by his/her partner, and the student's own previous message, with corrections or comments by the partner (fig 5-2). The new message from the partner and the partner's comments are written in dark red, and the student's own previous message is written in dark green. Both colours are easy to read against the white background, but they also allow the student to note at a glance what portions of the message have been written by the tandem partner. Also, the corrections portion and the new message portion are separated by clear headings.

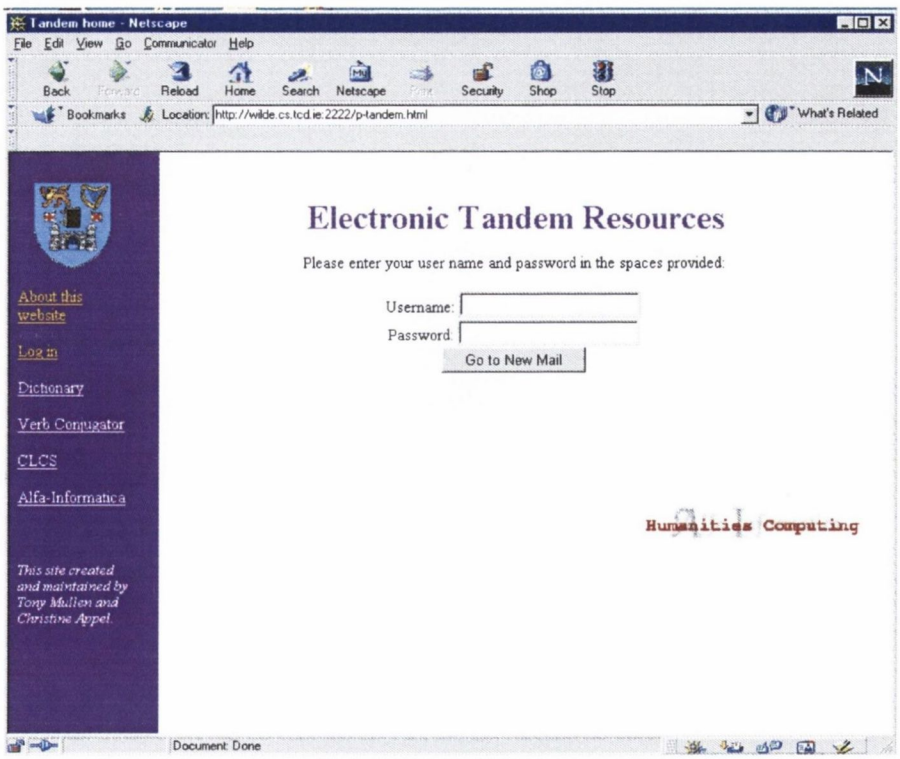

Figure 5-1 Login Page

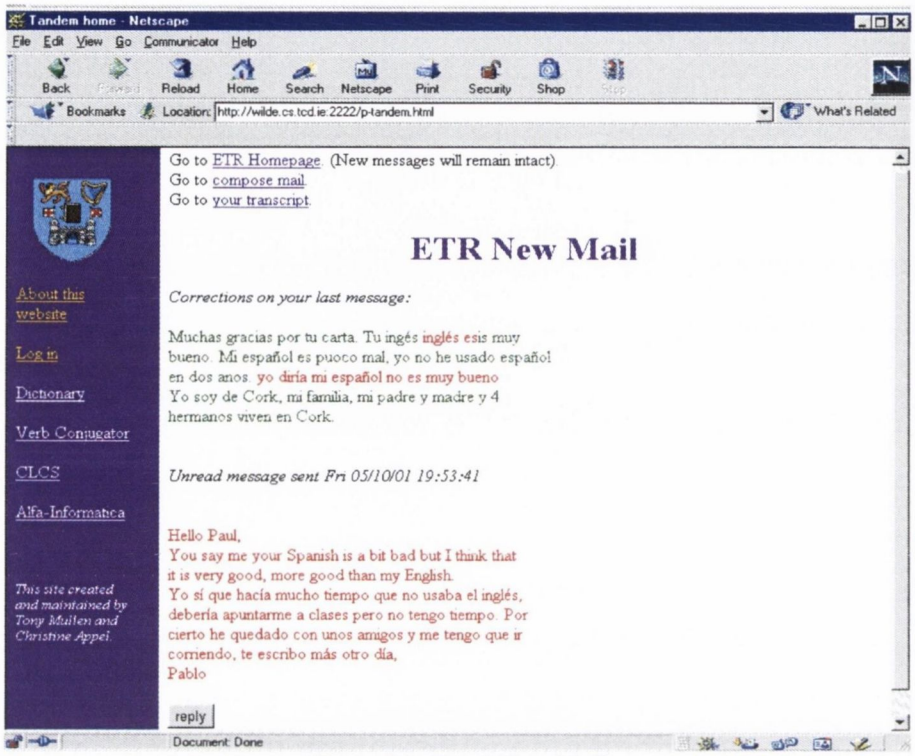

Figure 5-2 Read New Mail

The student may choose to exit to the homepage, leaving the new messages intact (they will be appended to subsequent messages from the partner), or to reply to the message. Pressing the reply button will bring the student to the compose page of the site (fig 5-3). On this page are one or two text entry areas, depending upon whether the student is responding to a new message from the partner (and thus has corrections to make) or is writing a message which is not a response to another new message (in which case there are no corrections to be made). If there has not been a message from the partner, no text entry area will appear for corrections. If there is a new message from the partner, the text of this message will appear inside the text entry area and the corrections may be made directly into the area. Students are asked to write all corrections within square brackets. This is later used by the system to differentiate between corrections and original text from the partner. This is obviously not an ideal or elegant solution, but a compromise had to be made between user-friendliness and reliability of data collection. Several possibilities were considered for alternative correction-box formats. It would be possible to insert single-line correction boxes to correspond with each line of text, thus eliminating the need to rely on students bracketing their own corrections. The insertion of square brackets was finally adopted because it allows the students to write their corrections directly into the text

in the most natural way. Line by line correction boxes would take up much more space, particularly in the case of long messages, and make the layout of the page less transparent. A different approach was adopted in a later version (see Chapter 6 below).

The second text entry field is specified for the new message. This should contain the portion of the correspondence which does not consist of linguistic corrections. It is important that the students write both in their native language (to give the partner practice in reading) and in their target language (to give themselves practice in writing) when engaged in tandem language learning. Both languages are written in the same text area (note that this is identical to e-mail, in which no differentiation is made in writing space). It is open to debate whether separate text entry fields should be made for target and native language writing. On the pro side, such separation would emphasize the importance of writing in both languages (and, by requiring that all fields have some entry before submitting, could also enforce this rule, if desired) as well as making it easier for the researcher to measure how much was written in each language. The use of different boxes for different languages could also encourage students to reply to topics in the language they were initiated in. This would address issues illustrated by examples in Chapter 4 (section 4.3.3) where learners responded to each other in their L2, missing out on opportunities to learn new language in context. On the other hand, however, it might be argued that this would add an undesirably artificial feeling to the exchange, perhaps impinging on the naturalness of the communication. In previous e-mail studies, it has been shown that students often like to intersperse native and target language, and separating them would restrict this tendency. It would also make genuine code-switching impossible.

At the bottom of the compose page, a copy of the entire transcript of the e-mail exchange so far is reprinted, most recent messages first, so that it may be referred to easily at any time during the writing of the messages by simply scrolling down the page. Segments may be copied and pasted into messages by use of the toolbar provided by the web browser. The transcript (fig.5-4) can also be accessed through a link from the 'Read new mail' page in the ETR site.

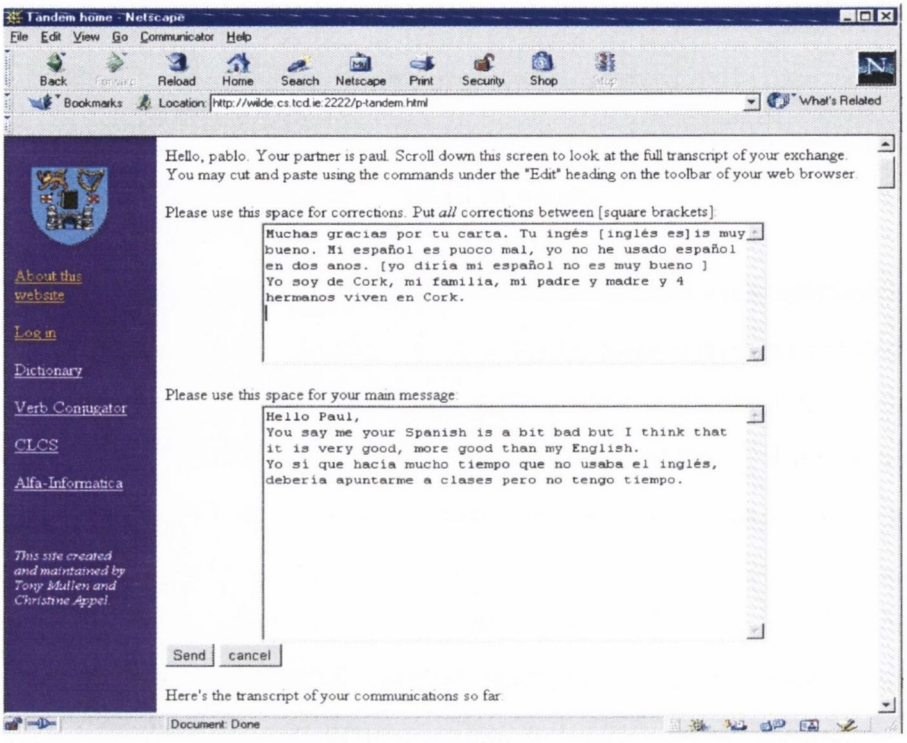

Figure 5-3 Compose New Mail

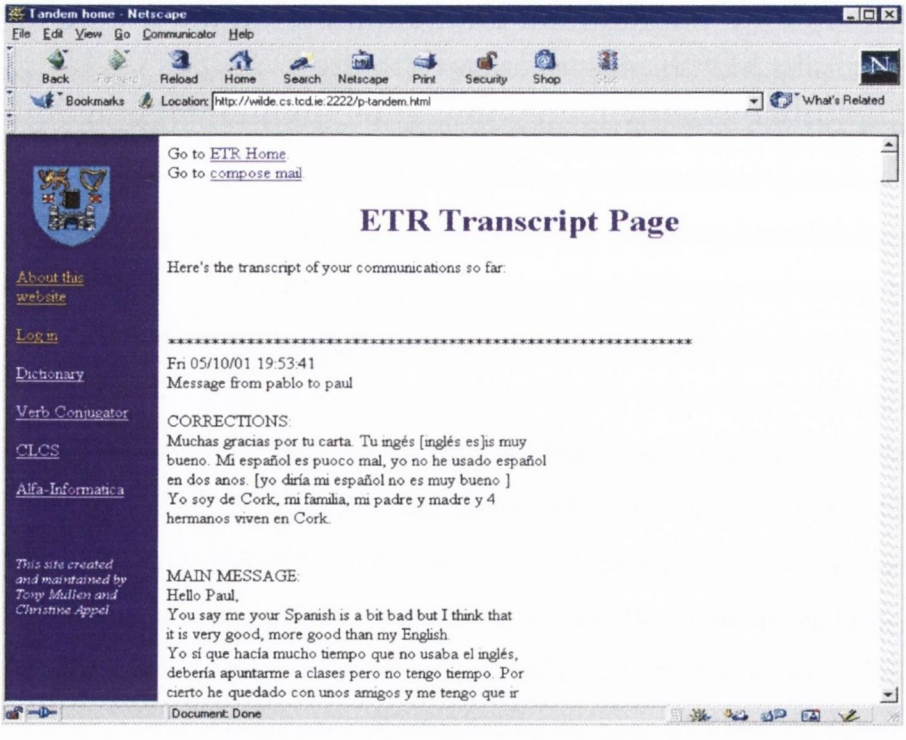

Figure 5-4 Transcript of all messages

Every page in the website, including the login page, features a bar running down the left side containing hypertext links. Among these links are the "About this website" link, which contains information on how to use the site and several pedagogically motivated links. In this first version we included a link to an online dictionary[4] and the Verb Conjugator page created by Germán, Lashua & López-Ortíz.[5] These sites were entirely unrelated to the ETR site, but served as valuable resources for students engaged in Spanish-English tandem exchanges. When these links were activated, the destination site appeared in a newly opened browser so that the resource site could be navigated independently, allowing for easy switching between the resource and the tandem environment. These resources were accessible from any point within the ETR site.[6]

In terms of data collection, all "incoming" and "outgoing" messages are stored as files, as well as a single transcript for each participating pair to which each message is appended as soon as it is sent, along with information about its date, time, and sender. This means that a complete transcript of the interaction for each tandem pair is gradually accumulated. Problems due to attachments are avoided since it is impossible to send an attachment through the ETR site. System compatibility problems with regard to special characters are also avoided: subjects are no longer using different mailers, and it does not matter which operating system they use or if they switch operating systems from time to time (for example if different machines are available to the user). Finally, only limited additional formatting is necessary to sort out repetition of texts on replies since main messages and corrections are automatically marked up.

Pedagogically speaking, the fact that the ETR website is so specifically geared to the tandem exchange means that students who access it are also more focused on language learning than students simply checking their e-mail. They are more likely to have assigned some time for the activity, and their attention is more focused on the task. The accessibility of the site through the web and the centralised storage of the

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[4] http://www.anaya.es/diccionario/diccionar.htm
[5] http://aries27.uwaterloo.ca/~dmg/lando/verbos/conjgador.html

[6] Both links have been discontinued since the creation of the site and links to different resources have been added to the most recent version (see Chapter 6)

data made it easier for students to engage in tandem language learning (students could access it on school computers, at home, or even from Internet cafés or similarly available computers), yet the act of entering the site becomes the learner's own initiative. The site facilitates access to the tandem partner's e-mails within an environment which incorporates online resources and is specifically designed for language learning, but the control and time-management of the activity remains in the student's hands. The motivation behind such an arrangement is to support the development of learner autonomy by facilitating without taking control.

5. 3 Case study: Dublin-Pamplona

This section describes the first exchange I set up using the ETR site for a tandem language learning project. The project itself suffered from several shortcomings; this section describes the experience and draws some lessons to be learned. Little can be said about language learning progress since few exchanges lasted long enough to yield any conclusive evidence, but a number of issues arose related to organizational matters and the interface of the ETR site. There are a number of differences between this study and the case study presented in Chapter 3 and therefore any comparisons should be made with caution. The main differences concern age group and pedagogical framework. Most subjects in this exchange were college students and they were all attending a language class where registration for the course implied participation in the tandem project. This study influences the ongoing development of the software tool and a pedagogical framework fit for tandem language learning.

5.3.1 Subjects

All English-speaking subjects were college students attending an evening class in Spanish as a foreign language. This course was extra-curricular and even though attendance was required in order to complete the course and achieve the final mark, if students opted to drop out of the course their main degree was not adversely affected. The course involved two contact hours a week on Thursday evenings (7-9pm). These hours, together with the fact that all students except for two were first-year students who were not entirely aware of their degree workload had two consequences: the drop-out rate was very high, but students who remained in class for the whole year

were highly motivated. The course was offered at the Centre for Language and Communication Studies in Trinity College, University of Dublin to students who came from a number of different departments. Since students were taking different degrees, the Spanish class did not focus on language for specific purposes but rather on developing students' general language proficiency and communicative skills both written and spoken. The pedagogical approach was task-based, with an emphasis on group work and the integration of new technologies in the classroom (Little & Ushioda 1998b). A self-access centre was open to students all day long, with two rooms equipped with computers, all of them with an Internet connection. These same facilities were used for the introductory session on the use of the ETR site.

The Spanish-speaking subjects were all attending an English as a foreign language course at the Escuela Oficial de Idiomas in Pamplona, Spain. The policy of this language school was to have smaller groups than in Dublin and therefore the tandem partners of the students in Dublin were not all in the same class group in Pamplona. Students had typically from three to five contact hours a week in two different sessions. The pedagogical approach was communicative, with activities taking place within class time and hardly any group work. There was only one computer in the school for students to use outside class time.

5.3.2 Instructions given to subjects

Students in Dublin had to complete tasks within four-week cycles, at the end of which they were assessed on their oral and written performance. Students worked in groups, gave their oral presentation together with the other members of their group, and also worked together in completing a dossier submitted for written assessment. The tasks given for the year were four: *Poster presentation, Debate, Web Page, Video.* These tasks had been designed for all the evening language modules offered by the Centre. They were geared towards fostering collaborative work but were not specifically designed for collaborative work with tandem partners. I encouraged students to use their correspondence with their tandem partners as one more resource of information for their tasks by asking them to give a Spanish dimension to the topics chosen for the tasks. For the *Poster presentation* task students were asked to choose a topic of interest to them and prepare a poster treating this topic from a Spanish point of view

and an Irish point of view. One for example, made a poster on the TV show *The Simpsons* and included information about the voices used in the dubbing of the show in Spanish. For the *Debate* task students where asked to select a motion for debate, split themselves into two teams and prepare cases for and against the motion. Students were encouraged to integrate a Spanish perspective and one group succeeded in doing so by having a debate on terrorism and more specifically ETA and the IRA. For the third task, *Web Page*, students designed a web page with information for Spanish students planning to study or work in Ireland. Different groups in class took responsibility for different sections of the site. The result can be viewed at http://www.cs.tcd.ie/appelm/web_project/intro.html. Finally, for the last task, the whole class worked together in writing a script for a story which they would perform and video-record. We then planned to send the tape to their tandem partners so that they could see what the Irish students looked like.

As far as the interface of the ETR site is concerned, students were given an introduction in class using overhead transparencies with screenshots of the different pages in the site. A week later the whole class was taken to the computer lab to make sure that they all knew how to use the site. This was done in the hope that more questions might arise after the students had used the site on their own, and with the purpose of collecting feedback on the user-friendliness of the site.

The Spanish students were introduced to the concept of e-mail tandem language learning by their teacher. The design of the course made it impossible for them to work on tasks in groups, but they were told this was the way the Irish students were working and were asked to help their tandem partners in doing their tasks. The teacher also introduced them to the ETR site.

All students gave their permission for the transcripts of their exchanges to be used anonymously for research purposes. Since I was the teacher of the students in Ireland I promised not to read any transcripts until the academic year was over and marks had been awarded.

5.3.3 Data collection

Transcripts of all messages for each tandem pair were collected automatically by the ETR page. With the help of a simple Perl script the formatting of the ETR transcripts was easily translated into the same set of tags used for the case study described in Chapter 4 and illustrated in fig 4-2. Corrections were also automatically tagged, which allowed for an automatic word count of new messages. The language of each text (Spanish or English) was manually tagged, and after that I used a Perl script to do the wordcount for each language. The output of this script was imported into Microsoft Excel to create the charts that give an overview of the exchanges (figures 5-5.1 /5.6).

Using the transcripts of the ETR greatly reduced the time spent in sorting out the data, and made it much easier to create programmes that would automatically quantify the number of messages and words and format the results into data to be imported into Excel. However raw figures were unavailable until the whole exchange was over and I was able to retrieve the full transcripts. From a teacher's point of view, it was not easy to find out which students were writing regularly and which were not. In order to check that, I would have had to open the transcript files and read the most recent timestamp. This was not desirable for two reasons: it could be time consuming and it would compromise the privacy of the students since I had promised not to read the messages until the end of the academic year. However during the course I realized that an overview of how the exchange was progressing would have been extremely useful because it would have enabled teachers to identify pairs where one member was not writing and to intervene. There was a considerable amount of e-mail communication between the teacher in Pamplona and me to coordinate and transmit student complaints that they were not receiving mail (complaints which were not always reliable). This experience, and the feedback from the teacher in Pamplona were the main motivation for the development of the data page and the teacher interface in the next version of the ETR site, described in sections 5.4.

5.3.4 Results: Levels of participation

Table 5.1 shows the number of messages and total words written by all 52 subjects who registered for the courses of Spanish and English as a foreign language in Dublin and Pamplona. The poor levels of participation stand out. A number of factors may have contributed to this. First of all, there was a high drop-out rate on both sides, due to the optional nature of the courses. This was the case for pairs Bd and Ax at the bottom of the table: both members dropped out. One student in pairs Ae, Av, Al, Ag, Be, and Aw dropped out of his/her course and therefore never answered the first message sent by their tandem partners. One student in pairs An, Am, Ak, and Aa dropped out of his/her course at a later stage and after having sent a first message. Overall 14 students (8 in Dublin and 6 in Pamplona) dropped out of the course at different stages; of these 4 were paired together, and 10 students lost their partner. This caused frustration among students and meant that collaboration with tandem partners could not be central to class work since the breakdown in correspondence affected such high numbers.

Table 5.2 shows more detailed data from the six pairs who participated the most in this group (Pairs Ai, Ap, Ac, Ad, Ba, and Ar which appear in bold face in table 5.1). The progression of the exchanges is graphically illustrated in fig 5-5.1/5.6. Since so few messages were exchanged, and no student sent more than five messages, which according to Stockwell (2000) is the threshold beyond which language learning starts to happen, I will only focus on how the interface worked, and most importantly, the reasons why students wrote so little. For this I include qualitative comments on observed behaviour and content.

Spanish students	*Words*	*Messages*	*Messages*	*Words*	*Irish students*
ESP_Ai	**559**	**5**	**3**	**389**	**ENG_Ai**
ESP_Ap	**750**	**3**	**3**	**874**	**ENG_Ap**
ESP_Ac	**734**	**4**	**2**	**230**	**ENG_Ac**
ESP_Ad	**361**	**2**	**3**	**342**	**ENG_Ad**
ESP_Ba	**528**	**2**	**3**	**529**	**ENG_Ba**
ESP_Ar	**552**	**2**	**2**	**371**	**ENG_Ar**
ESP_As	221	1	5	866	ENG_As
ESP_Aj	534	3	1	174	ENG_Aj
ESP_Au	638	3	1	197	ENG_Au
ESP_Af	231	2	1	126	ENG_Af
ESP_Aq	203	2	1	72	ENG_Aq
ESP_Bb	578	2	1	291	ENG_Bb
ESP_Ah	101	1	2	175	ENG_Ah
ESP_Ao	357	1	2	545	ENG_Ao
ESP_Aa	169	1	1	84	ENG_Aa
ESP_Ak	253	1	1	131	ENG_Ak
ESP_Am	126	1	1	87	ENG_Am
ESP_An	170	1	1	74	ENG_An
ESP_Aw	186	1	0	0	ENG_Aw
ESP_Be	286	1	0	0	ENG_Be
ESP_Ag	93	1	0	0	ENG_Ag
ESP_Al	54	1	0	0	ENG_Al
ESP_Av	0	0	1	197	ENG_Av
ESP_Ae	0	0	1	67	ENG_Ae
ESP_Ax	0	0	0	0	ENG_Ax
ESP_Bd	0	0	0	0	ENG_Bd

Table 5.1 Overview of levels of participation of all subjects involved[7] (Pamplona-Dublin exchange)

[7] Only the top six pairs (in bold) have been asigned ficticious names in table 5.2. Any references to the rest of the subjects uses the letter code.

Table 5.2 Overview of levels of participation of the 6 exchanges with highest number of e-mails (Pamplona-Dublin exchange)

Pair	Spanish students	Age	Words	M	Duration	M	Words	Age	Irish Students
Ai	Pilar	19	559	5	01/12/98-09/02/99 **70 days**	3	389	18	Sue
Ap	Laura	40	750	3	05/11/98-01/03/99 **118 days**	3	874	51	Maire
Ac	Esther	21	734	4	13/11/98-21/01/99 **69 days**	2	230	28	Eric
Ad	Dunia	23	361	2	05/11/98-26/02/99 **113 days**	3	342	18	Cynthia
Ba	Arantxa	32	528	2	19/11/98-27/01/99 **70 days**	3	529	18	Mairead
Ar	Rosa	23	552	2	05/11/98-07/12/99 **32 days**	2	371	20	Bill

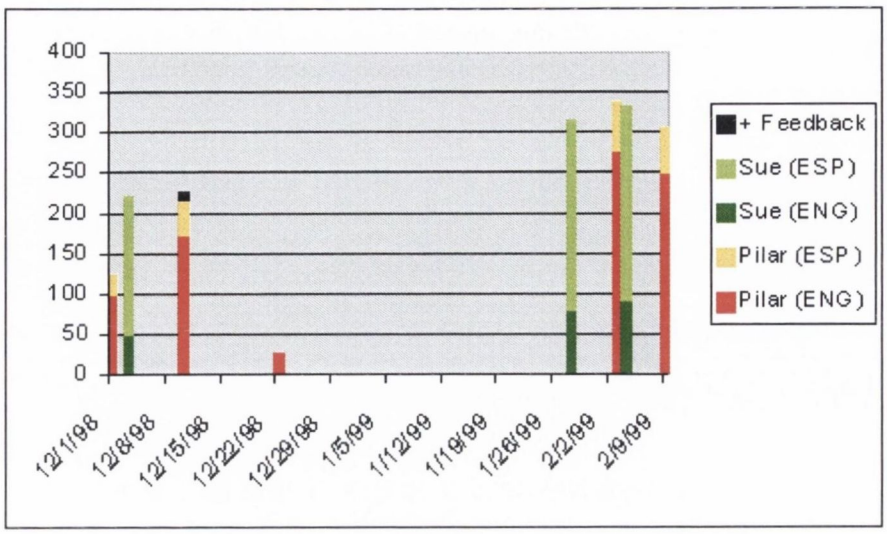

Figure 5-5.1 Overview of e-mail exchange for pair Ai

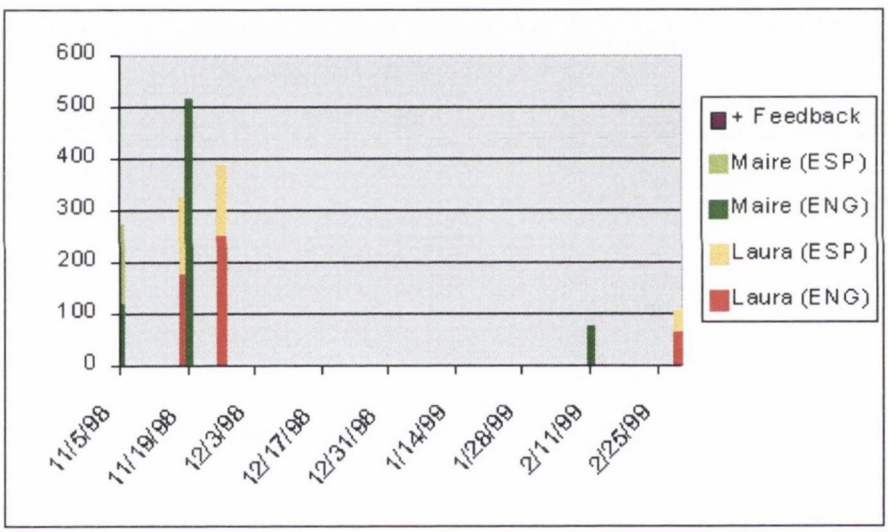

Figure 5-5.2 Overview of e-mail exchange for pair Ap

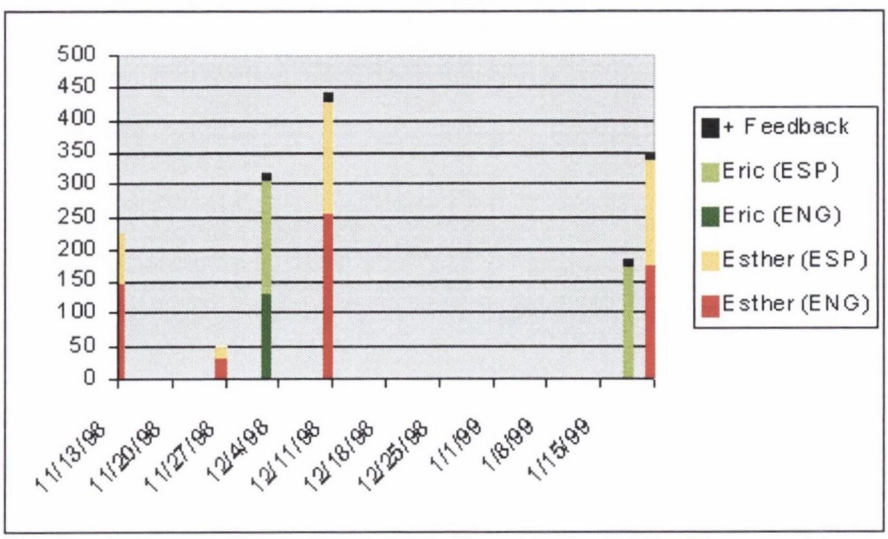

Figure 5-5.3 Overview of e-mail exchange for pair Ac

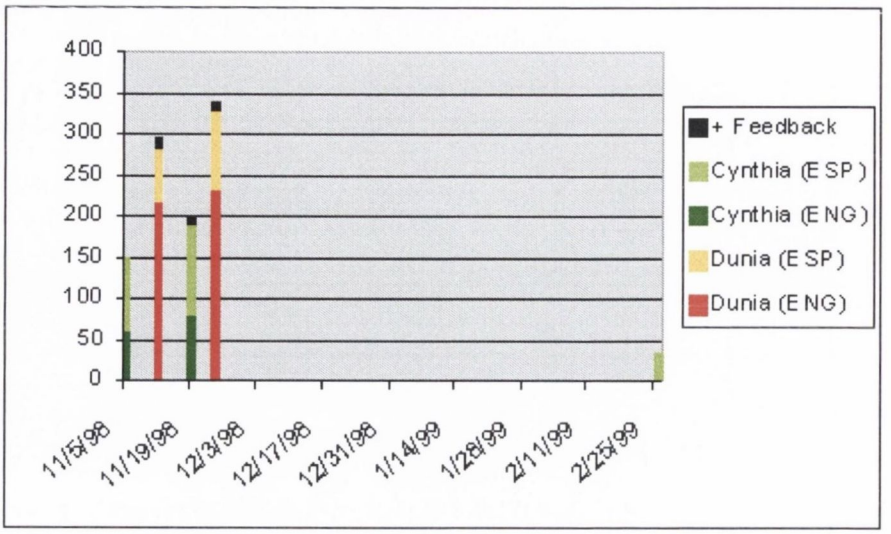

Figure 5-5.4 Overview of e-mail exchange for pair Ad

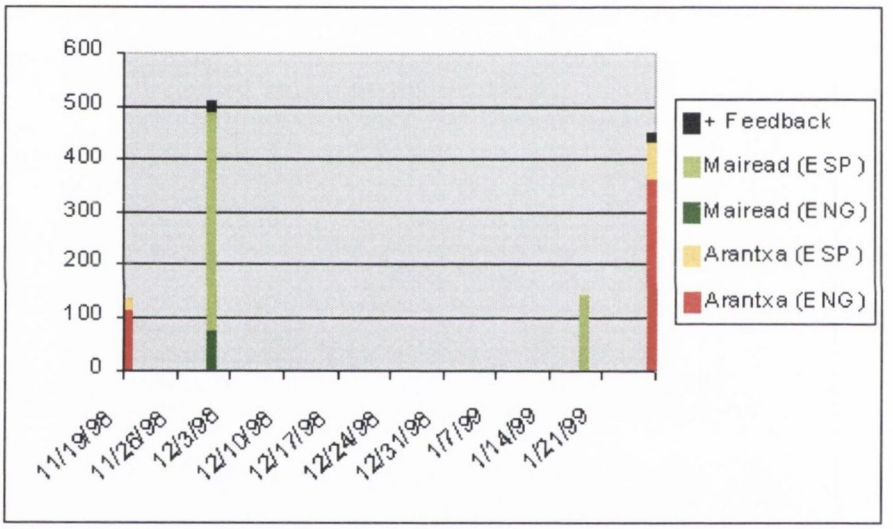

Figure 5-5.5 Overview of e-mail exchange for pair Ba

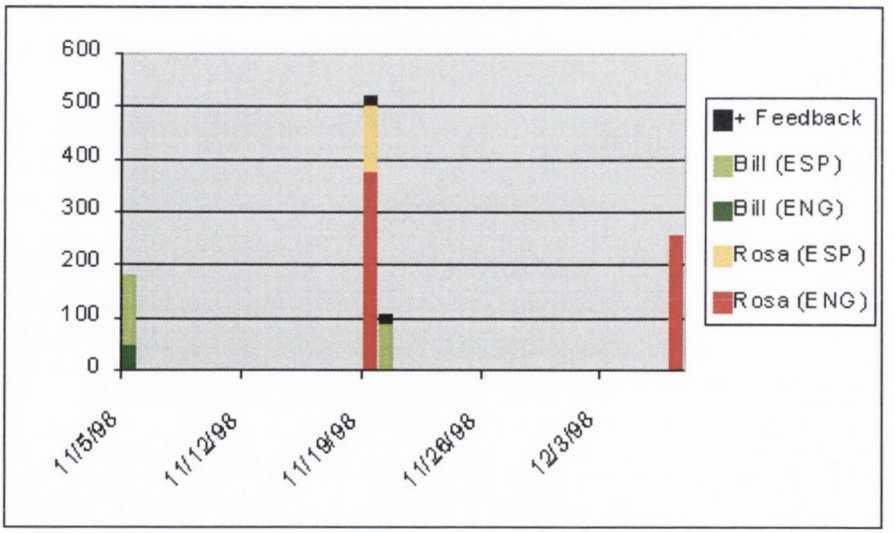

Figure 5-5.6 Overview of e-mail exchange for pair Ar

5.3.5 Results: Description of pairs

In this section only the pairs in table 5.2 illustrated in figures 5-5.1/5.6 are discussed. Figure 5-5.1 illustrates the exchange between Sue and Pilar. Both learners wrote most of their messages in their L2 (red for Pilar and light green for Sue). Pilar's second message was the only message with feedback, which consisted of corrections at sentence level. Unfortunately Pilar deleted Sue's original text and replaced it with her suggestions for changes, making it more difficult for Sue to pay attention to her own mistakes. No more corrections were exchanged after that. Pilar said in her second message, 'I don't know what to say you', a comment that seems to appear quite frequently in many exchanges. Sue did not write again until 49 days later. The delay in Sue's reply could be partially explained by the Christmas break, though it extended until the third of February when she needed Pilar's help for the oral presentation in the *Debate* task for which she was going to be assessed. Sue had chosen the topic of ETA, the Basque terrorist group, for a class debate and needed Pilar's opinion. Pilar responded six days later addressing Sue's questions and Sue replied immediately. However even though Pilar continued to discuss the topic in her following e-mail, Sue lost interest after the class debate had taken place and never wrote again. In her last e-mail Pilar again commented on the fact that she did not know what to write about.

Maire and Laura (fig. 5-5.2) were both mature students and found that they had a lot in common (studies, family, etc). Maire had no previous experience with computers and found working with tandem e-mail very challenging. She approached the writing of the e-mail as a way of making an acquaintance in Spain and did not make any corrections or focus on language. In her second and third e-mails she only wrote in her L1. She reported that she enjoyed the exchange and would have liked to write more if time had allowed for it. The big gap between her second and third e-mails was also partly due to a small accident just before the Christmas break. Laura had more time on her hands and reported that she would have liked to continue with the exchange.

We can see in figure 5-5.3 that the Spanish student Esther initiated the exchange, Eric on the other hand did not respond till a month later when he needed to get information

for his task. He sent corrections and respected the principle of bilingualism. Unfortunately Eric dropped out of the course in January, and even though he said that he wanted to continue with the exchange, he only sent one more message in which he wrote entirely in Spanish, and never responded to Esther's reply. Eric reported that he did not find the time to write without the pressure to seek information for the class tasks.

Cynthia and Dunia (fig. 5-5.4) had a good start, respecting the principle of reciprocity and including corrections. However, Cynthia lost interest after the pressure of her first presentation was over. She tried to re-establish contact two months later, when she was working on the web task for which Irish students were encouraged to write to their tandem partners again. However, by that time Dunia had stopped checking the site for new mail and never read the message sent by Cynthia. Incidents like this point to the need of a link between the tandem site and learner's regular e-mail system. A solution (automatic e-mail notifications) is described below in section 5.4.1.

It took Arantxa almost two months to answer Mairead's message (fig. 5-5.5). There are several factors that may have played a role. One is the big age gap: Arantxa was 32 and Mairead 18. Another factor was that Arantxa had little experience with computers and difficulties in getting access to the computer in her school. She reported that because of her job she did not have time to stay in the school outside class hours in order to use the computer.

Figure 5-5.6 illustrates the exchange between Bill and Rosa. Bill was already writing e-mail with Spanish-speaking friends, and found that the frequency of writing with Rosa was not enough to develop a good rapport. Rosa took two weeks to respond to Bill's two messages, and her last e-mail was written in English only. Bill's second message included a question for his *Poster presentation* task but Rosa did not answer or acknowledge the question in her reply. After that Bill reported that he did not wish to continue with the exchange.

5.3.6 Discussion

In this section I will make reference to Chapelle's criteria for task appropriateness (see Chapter 3, section 3.2.2 for a description and discussion of these criteria) as I did in the discussion of the results described in Chapter 4, section 4.3.3:

a) Language learning potential.

In view of how little data was collected I will not consider this point. It is only worth mentioning that the messages collected in this study included all functions mentioned in previous case study: apologies at the beginning of messages, praising each other, direct questions, closings and mainly descriptive language.

b) Learner Fit

In relation to the question of whether the task was of the right level of difficulty for learners, all students were of an intermediate level and able to write about themselves. Difficulties arose mostly when students attempted to discuss topics which did not belong to the personal domain. At some points there is evidence that students find it too difficult to express themselves in the TL, but they can then resort to their L1. For example, in talking about the terrorist groups ETA and the IRA Sue switches to her L1, English, in the middle of the sentence and then acknowledges further down the message that she did so because she found it difficult to write about such topics in Spanish. However, she needed to do so for her exam on the following day. If Sue had written about the topic earlier she might have had the opportunity of gradually building her confidence around the topic.

> Tengo el exam de Esanol manana y tengo mucho miedo . Tengo un pasaje que escribir sobre ETa y los Vascos y no se lo que voy a decir.Es muy dificil. Pero ETA no es comc el IRA> ES que[8] the English came to our country and tried to make it like England and in the end they kept the North of Ireland. They destroyred our traditions and our language and the IRA are trying to get back the freedom of the North and make Ireland whole again. The Basque

[8] I have the Spanish exam tomorrow and I am afraid of it. I have to write an essay on ETA and the Basques and I don't know what I'm going to say. The thing is that

> Country was never free so ETA are fighting for something new. I don't agree with the bombings and the deaths but in Ireland both the IRA and the British UVF are killing, Many Catholics have died. Pero no puedo escribir este en Espanol!!.[9]

In terms of individual characteristics, there was a considerable age difference between the students in Dublin and Pamplona and it is interesting to see that the pairs that wrote the highest number of messages included the one pair where the age gap was smallest (Pair Ai, 19 and 18) and the mature student of the group in Dublin aged 51 who wrote to a student aged 40 in Pamplona (Pair Ap).

c) Meaning focus

In an exchange of e-mail the assumption would be that the focus is on meaning since it involves communication between two individuals. However in this study, where most of the exchanges were unsuccessful in that they were discontinued very early, we can see how students ignored the content of the messages they received. They often ignored questions and requests for help made by their tandem partners. In the following example the Irish partner of pair Af makes 4 direct questions in her first message, and the Spanish student does not respond to any of these questions in her reply. Instead she writes about herself.

Message 1 from ENG_Af to ESPAf

> buenos dias. me llamo ENG_Af y soy tu compañero tamdem. tengo 19 años y vivo en greystones un pueblo bastante grande en wicklow, cerca de dublin. estudio filosofía en trinity. estoy en mi primer año. ¿que sujecto sujeto estudia y en que universidad? tengo un projecto sobre los simpsons por mi classe. ¿te gusta los simpsons? ¿de que tipa de musica escucha? me gusta la musica alternativo ó musica indie. me gusta el arte y libros.[10]
> i have been told that half the e-mail should be in english so heres the english bit. is there anything in particular you would like to know about me or what i'm studing? can i help with an english project, plaese ask if i can i will? Bye

---

[9] But I can't write this in Spanish!

[10] good morning. my name is ENG_Af and I am your tandem partner. i am 19 years old and live in greystones, a fairly big village in wicklow near dublin. i study philosophy in trinity. this is my first year. what subject do you study and in which univeristy? i have to do a project on the simpsons for my class. do you like the simpsons? what kind of music do you like? i like alternative music or indie music. i like art and books.

Message 1 from ESP_Af to ENG_Af

> How are you? I am ESP_Af, but I prefer you call me E., because everybody calls me E.. It is the same name, but E. is in Basque language.: I am from a little village near Pamplona, called Bera. I am 26 years old, and I am a journalist. I write for a newspaper called xxxxx[11]. In my free time I like reading, cycling and walking. I hope to receive your answer ASAP.
> La idea de tener una amiga por Internet me parece muy interesante, y creo que las dos podremos aprender mucho con esta experiencia. Espero que corrijas mis errores, y yo haré lo mismo con los tuyos. Gracias a Internet, además, podremos conocernos mejor y conocer lo que cada una hace en su país.
> Escríbeme pronto. Hasta entonces, un saludo,[12]

Student ENG_Af was not sufficiently interested in this reply and never continued with the exchange.

In the majority of the exchanges where only one or two messages were exchanged learners also failed to comment on personal information provided by their tandem partners and focused on writing about themselves. In the following example student ENG_Aq explains that she lives in Dublin but that she is American:

> Soy de los Estados Unidos, pero mucho de mi familia es de Irelanda. Asi, yo decidé estudiar aqui. Estudió español en los Estados Unidos por cinco anos, pero mis profesores fueron muy males. Tengo diceocho anos. Por favor dime informacion como usted. Me gusta esta programa mucho, y espero oír de usted pronto.[13]

The Spanish tandem partner never made any comment or reference to the fact that ENG_Aq is American and not Irish, or on the criticism ENG_Aq made of her former Spanish language teachers. She wrote instead about herself, her job and interests. Student ENG_Aq lost interest in the exchange and never responded.

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[11] Information which may reveal the identity of subjects has been replaced by a string of Xs.
[12] The idea of having an Internet friend is very interesting and I think we can both learn a lot from this experience. I hope you will correct my mistakes and I'll do the same with yours. Also, thanks to the Internet we will get to know each other and what we each do in our countries better. Write soon, till then.
[13] I'm from the USA, but most of my family is from Ireland. Therefore I decided to study here. I studied Spanish in the USA for five years, but my teachers were very bad. I am 18 years old. Please give information about yourself. I like this programme a lot and I'm hoping to hear from you soon.

There are numerous examples like the two above and it is intriguing that students so blatantly ignored the information they received. It may be the case that some learners because of their young age were still at a stage of their lives where they were very much self-absorbed. Another possibility could be that in traditional language teaching students are most often asked to write about themselves and therefore may be repeating acquired patterns of L2 behaviour. Alternatively, students may need to develop their private speech in the L2 and are not yet capable of engaging in interactive L2 use. There is a clear example of private speech in the messages written by subject ESP_Aj. Student ESP_Aj replied to her Irish tandem partner's first e-mail on the 13th of November. She never received a second message from the Irish student but despite this she wrote two more messages, and the following is an extract from her third message, sent after more than three months had passed with no news from her tandem partner:

> This is my last yeaar at university and I´m worried. Can I finish my career? Can I find a job? Will my life change?
> These are difficult questions, aren´t you? I love my career and in future, I´ll study another similar career.
> Today it´s raining but Pamplona is still beautiful. The day is cold and at the same time it´s peaceful.
> I love my city and I´m sure of one thing I wnat to live here for ages.

It's significant that ESP_Aj writes about very important issues in her life within the tandem page. She is not writing this text to inform her tandem partner of the coming changes in her life; rather it is the frame of mind that the medium puts her in that prompts her to produce such type of writing (Chapter 2 above made reference to the rapid self-disclosure that takes place in e-mail).

For many students, it may be the first opportunity to engage in an interactive use of the L2. In any of these cases, if we could succeed in extending the sustainability of the e-mail exchanges these could prove to be very valuable exercises for developing the capacity of responding to others in the L2.

d) Authenticity

This exchange took place in 1998 when the use of e-mail was not yet so widespread, in particular in Spain. It may be the case that students did not perceive e-mail as a

real task relevant to their everyday lives. This has certainly changed in the last few years when the use of e-mail has grown hugely.

The fact that the Irish students were given tasks for which they could use their tandem partners as a source of information had a limited impact due to the fact that the Spanish students were not asked to carry out the same tasks and often failed to understand the role they played in the classroom programme in Dublin. For further studies tasks will be given to students on both sides of the exchange.

e) Positive Impact

The discussion here should be seen within the context that only few messages were collected and the exchanges were not successful. Some students in Spain had a negative experience in that they were not familiar with the Internet and access to Internet in their school was restricted to certain times. This situation has now changed and from studies described in Chapters 7 and 8 it is clear that nowadays more and more students have access to the Internet at home. College students also have easy access to the Internet. It is a different matter for Spanish language schools offering evening language classes, and after this experience I abandoned the idea of implementing any tandem exchanges with language schools. The design of their curriculum and the methodology they employ implies that the workload required from the student outside the classroom is too small to carry out tasks involving research of topics. Conversation in the e-mail exchanges is thus reduced to personal information and exchanges become too dependent of the development of a good rapport, without which communication peters out. It is a further problem that in order to develop a good rapport students will most often need to write a minimum number of messages. Unless learners on both sides of the exchange are seriously committed to a full programme of learning and devote a certain amount of time to their language learning outside their classroom contact hours, it is highly unlikely that e-mail tandem exchanges will be successful.

f) Practicality

Students who persevered with their tandem partnership wrote when they needed information for their class work. This provides more evidence that tasks are a crucial element for e-mail tandem language learning. However, the fact that the Spanish students did not have tasks worked against the principle of reciprocity. They often failed to respond to questions, not realizing the importance of the tasks to the students in Dublin. There are many instances of comments where students do not know what to talk about in between tasks or at the beginning of the exchange when they had still not been given a task which required them to write to their tandem partners with questions. The following are some examples:

Message 3 from Pilar to Sue

> I don't know what to say to you, it's twenty past nine in the morning, and I'm sleep …

Message 1 from Bill to Rosa

> Que tal? Me llamo Bill. No tengo ningunas ideas sobre que quiero hablar contigo.[14]

Message 1 from ENG_As to ESP_As

> i'm sorry the e-mail was so boring, i don't really know what to write to someone i don't know!

In many instances where students delayed in answering, their tandem partners stopped checking the ETR site for new e-mail. Students would also forget to check the site if they were under time pressure because of other commitments. It became clear that a link to their personal e-mail accounts would be greatly beneficial (see 5.3 below).

Message from ENG_As to ESP_As

> Hi! sorry i didn't write before but i thought you weren't answering so i didn't check it. i'm in class now, so i have to go- i'll write to you later!

ESP_As did not read this message until two months later when the lecturers wrote to each other about the lack of response. If both lecturers had had access to an overview

[14] How's things? My name is Bill. I have no idea what I'd like to talk about with you.

of the traffic of messages, this problem could also have been solved earlier in the exchange.

5. 4 Further development of the ETR site: evaluation and improvements

Having tested the first version of the ETR over the course of two semesters with the group of students discussed above, and taking into account the possible improvements that emerged, several changes were implemented in preparation for the new academic year dates. The main development is the teacher interface, which greatly facilitates the integration of tandem activities with classroom learning. The login page in the new version instructs the user to select between two radio buttons depending on whether s/he is a teacher or a student (fig 5-6). Selecting the student radio button, provided the right student username and password are typed in, brings the user to an interface like the one described above in section 5.1 with two new additions: a new link to a data page, and the automatic notification which is sent to a user's personal e-mail account when his/her tandem partner has sent him/her a message to the ETR site. These two new features are described below in more detail. The teacher interface is further described below in section 5.3.2.

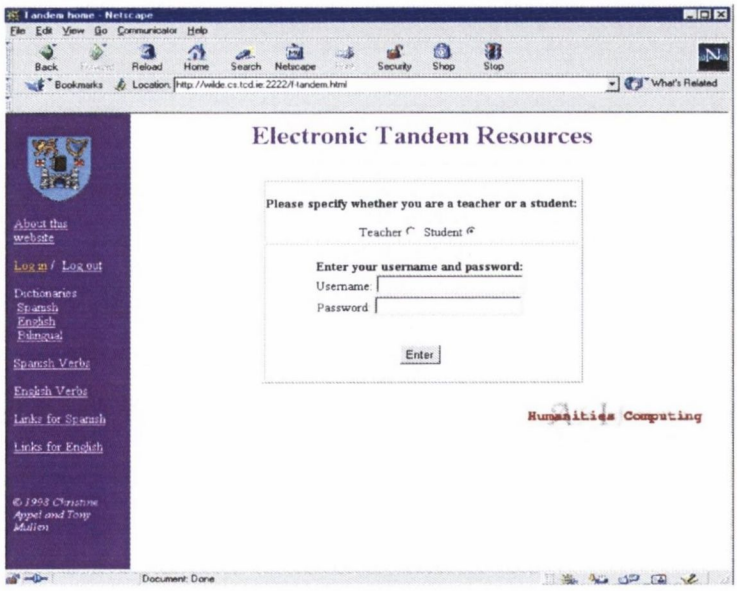

Figure 5-6 New login page, ETR 2

5.4.1 Student Interface

Automatic e-mail notification

In the case study above there were several instances in which students commented that they would forget to check if there were new messages in the ETR site. There were also cases in which, for a variety of reasons, students took longer periods of time to write to their tandem partners and never received an answer, simply because their tandem partners had stopped checking the ETR site for new mail. For these reasons a new feature was added to the site which sent an automatic notification to users' personal e-mail accounts when there was a new message to be read. The subject of the automatic message is 'You have new mail' and the sender's name is 'E-Tandem Resources'. The text of the message is the following:

> Your tandem partner *Tony* has sent you a new mail. Please visit the tandem homepage
>
> http://wilde.cs.tcd.ie:2222/f-tandem.html
>
> to read your new message.

It is obvious that the message is machine-generated and its purpose is to inform the student that there is a new message in the least intrusive manner. The message includes a link to the page so that if the learner has time to read the message sent from the tandem partner s/he can just click on the link to open a browser with the login page of the ETR site. The message includes the name of the user's tandem partner so that if an individual has several e-mail partners s/he will know which one sent the message.

Data page

When the student logs into the ETR site a new link to a *data page* appears in the top left hand corner of the page (below the *transcript* link, the *compose mail* link and the *ETR Homepage* link). Students can gain access to more detailed information about the exchange on the ETR Data Page (see figure 5-7). The information on this page is

collected automatically and updated each time a message is sent. Like other information, it is stored in a special database file on the server's file system. This page contains the total number of messages received and sent by the student, the average message wordcount, and the total wordcount devoted to corrections. This allows the student, for example, to compare the number of corrections given to the number of corrections received, so as to increase the amount he or she sends, if necessary to maintain maximal reciprocity in the exchange. In addition to this information, the data page tells the student the approximate percentage of native and target languages which have been used throughout the exchange by both students. At the time of sending, each message is analysed using the freely distributed TextCat language guesser (Noord 1997). TextCat uses the statistical n-gram modelling technique of Cavnar & Trenkle (1996) to classify sections of text by language, based on character co-occurrence statistics. The application is capable of very accurate[15] classification for over sixty languages given several lines of text. For this working version of the ETR website, which is designed for Spanish-English exchanges, a modification of the TextCat application is used with access to only two language models, Spanish and English. The restriction to two languages allows efficient prediction on the basis of much shorter text segments. In the ETR application, messages are analysed sentence by sentence. The resulting ratio is certainly approximate. It depends on sufficiently long sentences, properly punctuated messages, and students maintaining consistent language use within sentences. It is not necessary that this number be precise. It is intended only as a rough guideline. Students are encouraged to check the data page from time to time, and if the percentages of what each student has written in their first language and their target language stray too far from 50/50, to make an effort to even them out. Students are free to write messages of any length as long as they write half the message in their

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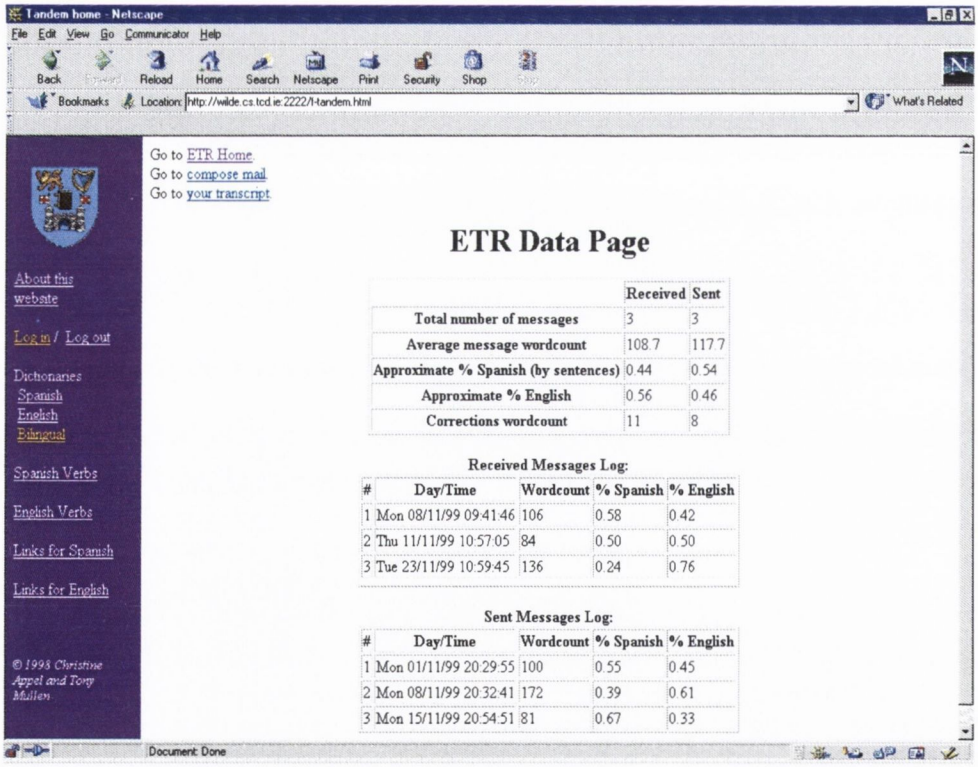
[15] N-gram-based text categorization has been shown to be capable of high levels of accuracy. Cavnar and Trenkle (1996) report achieving a 99.8% correct classification rate in one test using Usenet newsgroup articles written in different languages. In our case, rather than several lines of text, we are comparing only single sentences. This would tend to reduce accuracy. However, the fact that we only require the model to distinguish between two languages, rather than having to select from among one of many possible languages, makes the task considerably easier. We have not conducted rigorous accuracy tests, but on sentences over five words long we have had near perfect results, and on sentences ten words or longer we have yet to see one mis-classified. In our application, we seek only a general knowledge of students' language usage, and the TextCat program as we use it is more than sufficiently accurate.

mother tongue and half the message in their target language, in order to ensure that both students in the tandem pair will have a chance to read and write in the language they are learning. In general, the numbers provided by the ETR Data Page are a good indicator of the level of language reciprocity of the exchange. In addition to overall averages, the data page contains count results for each message in the form of dated and timed logs of received and sent messages.

The intended use of the data page was twofold. First of all it should prompt the learner to evaluate his/her performance in the exchange, as well as his/her tandem partner's, providing some objective figures which can be contrasted to the learner's perception of the exchange. Since both members of a tandem have access to the same information it is hoped that it could be a topic of conversation in the exchange. Secondly, the data page also provides a tool for discussion between the teacher and the student in those cases where teachers detect a problem or when the institutions involved provide counselling for students involved in tandem exchanges.



ETR Data Page

	Received	Sent
Total number of messages	3	3
Average message wordcount	108.7	117.7
Approximate % Spanish (by sentences)	0.44	0.54
Approximate % English	0.56	0.46
Corrections wordcount	11	8

Received Messages Log:

#	Day/Time	Wordcount	% Spanish	% English
1	Mon 08/11/99 09:41:46	106	0.58	0.42
2	Thu 11/11/99 10:57:05	84	0.50	0.50
3	Tue 23/11/99 10:59:45	136	0.24	0.76

Sent Messages Log:

#	Day/Time	Wordcount	% Spanish	% English
1	Mon 01/11/99 20:29:55	100	0.55	0.45
2	Mon 08/11/99 20:32:41	172	0.39	0.61
3	Mon 15/11/99 20:54:51	81	0.67	0.33

Figure 5-7 Data Page

5.4.2 Teacher interface[16]

Teachers are given a special user name and password, and may log into the teacher interface of the website by selecting the teacher radio button on the login page. In this area they may add students' accounts and gain access to data regarding the progress of their students' language exchange. For reasons of student privacy, the teachers do not have access to the text of the exchange. It is likely, in an actual class situation, that tandem assignments such as the composition of dossiers, learner diaries or essays will be expected to be handed in, so students often give some selection of the material to the teacher in any case. However, during the exchange itself, the content of the messages is not visible to the teacher, and it is left to the students' discretion which parts of the exchange are revealed. It is hoped that this privacy will also allow the student to proceed more confidently than if he or she felt that every mistake was being observed.

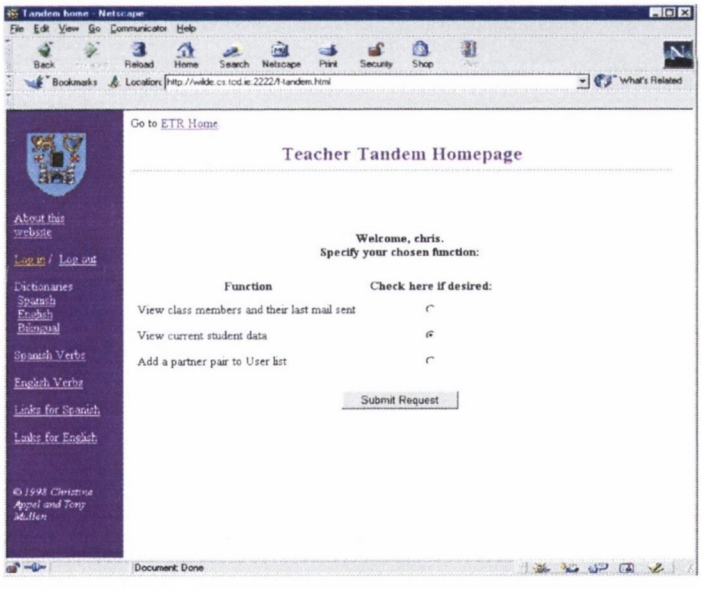


Figure 5-8 Teacher interface entry page

[16] This first version of the teacher interface was developed by Clodagh Moriarty in her final year project (Moriarty 1999) for the degree in Computer Science, Linguistics and a Language in Trinity College, University of Dublin. I contributed to the supervision of this project and provided Moriarty with the required specifications and support for the development of the teacher interface.

When a teacher logs in, a page is displayed with three options (see figure 5-8): *View class members and their last mail sent*, *View current student data* and *Add a partner pair to user list*. The first option takes the teacher to a page showing a list of all students in a group (both the Spanish speakers and the English speakers), and next to each student name is the date of the last message sent by the student (see figure 5-9). This overview page is particularly useful for identifying rates of participation. The page can be printed and brought to class so that the teacher can discuss with students any problems that may have arisen.

For the reasons mentioned above, the teachers' access to data is limited to the dates of the students' messages, the number of words in each message, and the approximate percentage of target/native language used in each message. All of this information is collected automatically and is also available to students, for their own exchanges, on the *Data Page* in the student area. Teachers can gain access to the data page of a particular student by selecting this student's name in the *Retrieve Student Information* page (see figure 5-10). All data pages are in a format which may be easily printed out if the teacher wants to bring them to class for discussion.

Finally, the third option of the teacher interface allows the teacher to create accounts for his/her students (see figure 5-11). The idea is that the two teachers involved in a tandem exchange share the same teacher account. To create student accounts you fill in a grid with the names of two students who will be tandem partners, a password for each, their target language (this information is only intended to be stored for research purposes) and, if students have e-mail accounts, their e-mail addresses, which will be used for the automatic notification feature.

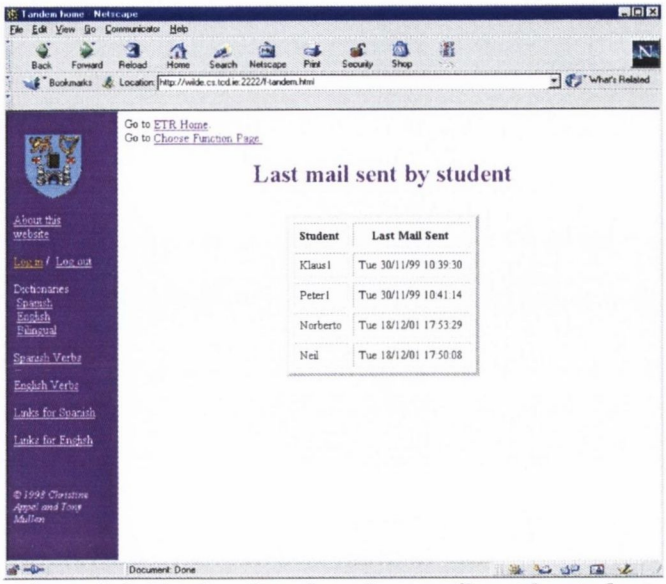


Figure 5-9 Teacher Interface: Last mail sent by student

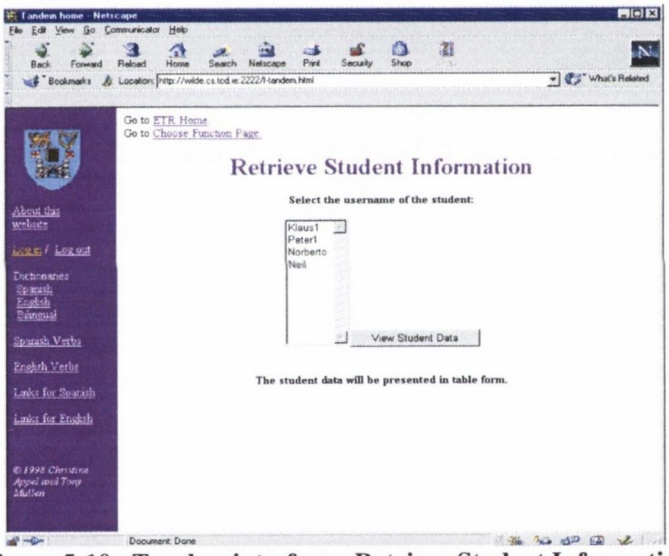


Figure 5-10 Teacher interface: Retrieve Student Information

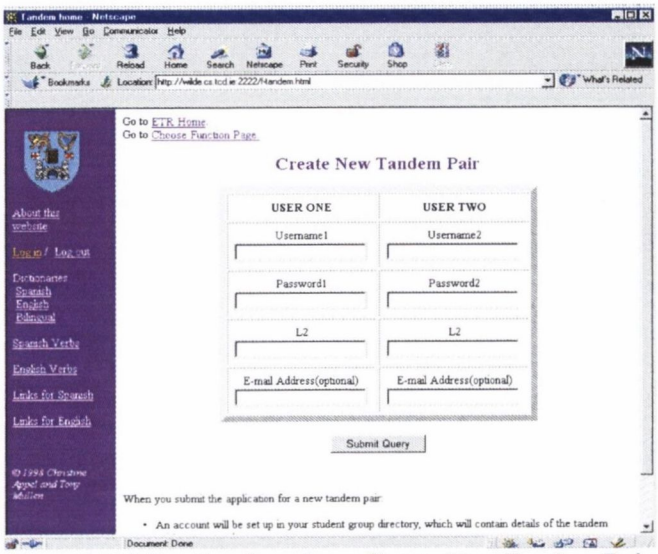


Figure 5-11 Teacher Interface: Create New Tandem Pair

5. 5 Case Study: Dublin-León

This case study took place over the course of Michaelmas term 1999. The institution involved in Dublin was the same as in the case study described in section 5.2 above (the Centre for Language and Communication Studies in Trinity College, University of Dublin) but the institution in Spain was a different one. Bearing in mind the results from the previous study, this time I searched for tandem partners at a university, ensuring in this way the same age range as well as a similar degree of commitment on both sides. The Spanish institution involved was the Department of English at the University of León. Unfortunately the teacher in León did not get institutional support to carry out the exchange and had to give it up after one task (4 weeks). Therefore this section will be short and will focus on the use that subjects made of the tandem site interface and the feedback they provided for subsequent changes in the software design.

5.5.1 Subjects

The English-speaking subjects in this study had the same profile as the students described in section 5.2.1 above. Their course was extra-curricular and involved two contact hours a week, only this time the class was held on Mondays instead of Thursdays, which may account for the lower drop-out rate. Thursday evening is generally considered a time for socializing in a college context.

The pedagogical approach in this study was also task-based, and the same means as those described in section 5.2.1 were used to introduce students to the tandem site.

The Spanish-speaking subjects were all attending an English as a foreign language course as part of the second year of their English degree at the University of León. They were participating in the tandem project on a voluntary basis as an additional activity. They had access to computers in college but the number of machines was insufficient for the total number of students on campus, which may help to explain why their messages are in average shorter than the messages written by the Irish students.

There were a total of sixteen tandem pairs, and all students were between 17 and 20 years old. Their level of proficiency was intermediate.

5.5.2 Instructions given to subjects

The setting for the Dublin students in this study is the same as the setting described above in section 5.2.2. The students were required to complete tasks in four-week cycles and produce an oral presentation and a written report by the end of the task. In this case and for the reasons mentioned above only one task was done within a tandem framework. For this task students had to learn about significant people or events to Ireland, and to Spain. This task was designed to foster intercultural communication between tandem partners and it was thought that it would encourage the students to exchange information about their own countries. The students in Spain discussed the findings of the task in meeting sessions with the teacher but were not required to hand in any written materials.

All students were taken to a computer lab for an introduction to the ETR site and for a discussion of the concept of tandem language learning. In Dublin sessions at the computer labs took place weekly and I was available to answer any questions or problems students may have had with the site. I could also observe how they made use of it during the time they were given to write their e-mail messages. Questionnaires about the ETR site were administered to the students in Dublin.

All students gave their permission for the transcripts of the exchanges and their answers to the questionnaires to be used anonymously for research purposes. As in the previous exchange described in 5.2, I promised not to read any transcripts until the academic year was over and marks had been awarded, to ensure that the content of the messages did not influence my assessments.

5.5.3 Data collection

Data collection took place in the same manner as in the previous study described above in section 5.2. This time in addition to the transcripts I had also access to a summary of the data through the data page files. These files collected automatically statistics (number of messages, words, percentages in L1/L2) which had been

processed after the e-mail exchange had finished for the case study described in section 5.3 above. With the new version of the ETR these figures were available at any point in time.

From a teacher's point of view, monitoring what was going on was much easier thanks to the teacher interface. The amount of e-mail I exchanged with the teacher in León was greatly reduced compared to the e-mail I exchanged with the teacher in Pamplona. We were able to intervene when students took a long time to write and to discuss the progress of the exchange with the class. There was one occasion when I observed that none of the students in León had written to their tandem partners. This was because these students had tests in other subjects than English, and their English teacher being unaware of these tests had not warned me about them. Having observed through the teacher interface that no new messages had been received that week I was able to anticipate the problem and prepare some materials for the class, which should have otherwise have been heavily reliant on the information received from tandem partners.

5.5.4 Results: Levels of participation

Taking into consideration that students in this exchange only did one task because the exchange came to an end after approximately 4 weeks, the relative number of messages and length of messages are higher than in the previous exchange. There are a number of reasons why this may have been so: students were of the same age and were all university students with easy access to computers, and even though the Spanish students were not assessed for the tandem task, they were required to do it, unlike the Spanish students in the previous study, who were just told to help their tandem partners. However, there were still very few students who reached the threshold of 5 messages and therefore the following section discusses the only tandem pair who wrote over 5 messages each, because they continued writing after the task ended. Figure 5-12 shows a graphical overview of this exchange which took place between Valentina and Fiachra, pair 1 in table 5.3.

	Spanish students	Mess	Words	% ESP	% ENG		% ENG	% ESP	Words	Mess	Irish students
1	Valentina	6	1324	53	47		48	52	1728	7	Fiochra
2	Blanca	3	879	39	61		46	54	719	3	Marion
3	Natalia	5	421	45	55		36	64	706	4	Lynn
4	Emilia	5	864	46	54		43	57	550	3	Elena
5	Martín	4	510	41	59		53	47	546	3	Penny
6	Gabriela	4	499	47	53		39	61	490	3	Anne
7	Mónica	2	375	45	55		47	53	486	6	Nina
8	Begoña	4	690	41	59		47	53	430	6	Cristina
9	Ricardo	6	847	46	54		56	44	418	5	Carmen
10	Aida	4	459	46	54		34	66	383	2	Fiona
11	Darío	5	641	54	46		32	68	360	4	Nelly
12	Teresa	3	326	44	56		46	54	353	3	Nick
13	Nerea	4	402	38	62		41	59	344	3	Sean
14	Juana	4	492	49	51		29	71	299	2	Sorcha
15	Beatriz	3	521	45	55		59	41	207	2	Eamon
16	Montse	2	239	46	54		54	46	153	1	Maire

Table 5.3. Overview of levels of participation of all subjects involved in the León-Dublin tandem exchange.

Table 5.3 also shows that the principle of bilingualism was observed, and that only one person reached 70% in one of the languages. The majority stayed very close to a 50/50 use of L1 and L2. The shadowed figures highlight the use of L2.

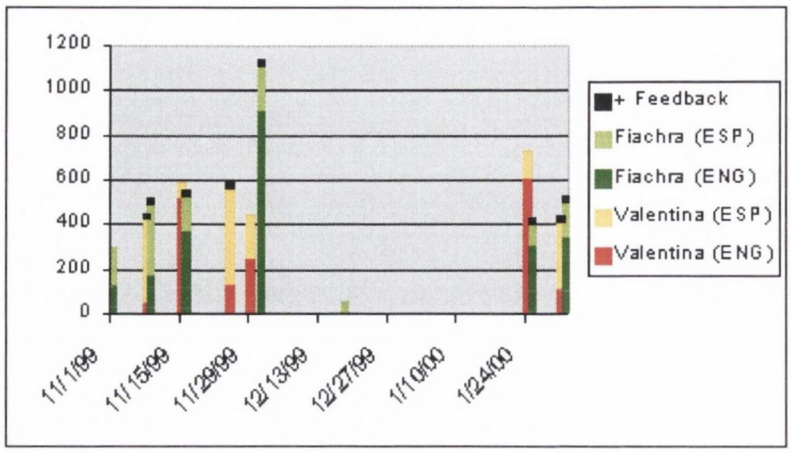


Figure 5-12 Overview of e-mail exchange Fiachra-Valentina

5.5.5 Results: Description of pairs

In this section only the pair Valentina-Fiachra, who wrote the highest number of messages, is discussed. They both had extensive previous experience using the Internet and e-mail before the start of the exchange. Valentina was 19 years old and Fiachra was 20. As can be seen in figure 5-12 the messages in this exchange are clustered around two points in time (November and end of January). The gap in between includes the Christmas break. Communication took place roughly once a week during the first four weeks. After the Christmas break they continued the exchange without having been prompted by their teachers and only stopped writing when the exchange was officially ended. The tone is very friendly and based on the development of a personal relationship. Valentina refers to herself and Fiachra as friends several times in the exchange. One of the features which I think contributed most to the sustaining of the exchange is that they both responded to the content of the messages received. With one exception, they did not react to task-related information. Surprisingly, they even prefaced task-related information with apologies for sending 'boring' information, as if task-related writing were an unwanted digression from an otherwise stimulating exchange of ideas. Obviously the topic of the task (seen by the teachers as an opportunity for fruitful intercultural exchange) did not interest these two students. In addition, this task did not require negotiation, planning or agreement as the information exchange was one-way and with divergent goals: they delivered the information for their tandem partner to use for their presentation but none of the pairs ever discussed it.

In the personal domain conversation was not challenging enough to push these students to produce output difficult enough to have required some negotiation. In this particular case, Valentina and Fiachra had an advanced level of proficiency, and even though they both made many errors, the message could be understood. They exchanged corrections in most of their messages, but the majority of corrections were at word level, and difficult to interpret because they both chose to delete the errors and insert the right answer, which makes it more difficult to compare or notice. No explanations or comments were provided to support corrections. This happened with most of the pairs, which is one reason for the changes in the ETR student interface related to the corrections box, described in the next chapter.

5.5.6 Discussion

a) Language learning potential

In this project learners were given a task for which they had to find out about significant people/events in Ireland and Spain. This task did not require or prompt any negotiation of meaning or agreement between tandem partners, only an exchange of information, and I found no evidence that learners were pushed into producing modified output. In terms of discourse functions, we see again that other than greetings, closings, apologies and praising, the rest of the language was descriptive. Finding a way to prompt more negotiation and a greater variety of discourse functions is clearly one of the challenges within e-mail tandem language learning. In Chapter 8 below I look at this problem and how to address it by identifying the features of appropriate tasks for the e-mail tandem language learning environment.

b) Learner fit

E-mail interaction allows participants to produce L2 within the limits of their interlanguage. It also allows them to get support if the input is beyond their comprehension skills. However, we could argue that if the interaction is not pushing learners into using new structures it is not addressing their needs. Again, we find that the potential is there but students in this study did not exploit it.

c) Meaning focus

The way in which Fiachra and Valentina exchanged task information was not unlike the rest of the group. In the case of Fiachra and Valentina a good rapport made it possible for them to sustain interaction. In the absence of an exchange of personal information, it becomes more important that the task should prompt communication of interest for both tandem partners. If this is not the case, and negotiation or agreement is not required by the task, we run the risk that the exchange of task-related information will show little evidence that focus on meaning takes place rather than 'cut and paste' of received messages into a different format. Chapter 7 below discusses the features of tasks that make them interesting to students and thus more likely to raise motivation and increase sustainability.

d) Authenticity

The fact that both sides of the exchange (the Spanish and the Irish students) were required to carry out the tasks made the tasks more relevant for both partners. It was also noted that students in this exchange were more familiar with the use of the Internet and e-mail than in previous studies.

e) Positive impact

Despite the low levels of participation in general, the students' feedback was very positive and the tone in the transcripts was found to be extremely friendly and lively. Furthermore, when reading the transcripts I discovered that many pairs were not happy with the abrupt end of the e-mail project and exchanged personal e-mail addresses. It is possible that had there been more time and opportunity to carry out different tasks, levels of participation in the exchange would have increased. Unfortunately, due to circumstances beyond my control, the project had to come to an end after only four weeks.

f) Practicality

The new features of the ETR site had an extremely positive impact. It was much easier for teachers to monitor the exchange, and the automatic notification e-mails

meant that the tandem exchange was more present in the students' everyday lives without intruding. Students were notified of messages received in the ETR site for them, but they were free to choose when to go to the site to write a reply. As regards corrections, these were still mostly at word level. Students also reported difficulties in interpreting the feedback received when their tandem partners removed the mistake they had corrected and substituted it for the right form. Even though the correct form appeared in bold, the students did not always remember what the original form had been. The interface for providing corrections clearly needed to be reconsidered.

Another point I observed from a teacher's point of view was that learners were still regarding their e-mail tandem work as a separate activity from the class work and that the group of students in Spain were psychologically separate from our group. Information for all students was still sent out to the students in Spain by their own teacher and to the students in Dublin by me. It was only through the teacher interface that it became obvious that there was a whole group engaged in tandem learning. The students still perceived the activity as their own and their tandem partner's concern and did not seek support or share their experience with the rest of the class unless prompted to do so by the teacher in the classroom. There was a need to mirror the group design in the teacher's interface in the student's interface.

5. 6 Summary

This chapter described the development of a dedicated environment for e-mail tandem language learning, taking advantage of the features of e-mail useful for language learning but avoiding some of the problems (such as special characters or different formatting, which can cause distractions from actual language learning). The site pushes the activity from a self-access and naturalistic environment towards a more focused and guided environment. This chapter described a case study which employed the first version of the ETR and explained how the feedback from this study was later integrated into the site by developing a second version. The improvements included a teacher interface which greatly facilitated the integration of e-mail tandem language learning. This second version was tested in a second case study also described in this chapter.

The results of the case studies show that having the right organizational procedures in place is not enough. It becomes clear that sustainability and focus on form are still problematic, and that it is necessary to investigate the exchanges more in detail and develop the pedagogical framework further. This is now possible thanks to the mechanisms set in place within the ETR site for data collection.

Chapter 6 The *Electronic Tandem Resources* site: evaluation and improvements[1]

6. 1 Introduction

This chapter describes the latest version of the Electronic Tandem Resources (ETR) web-based tandem language exchange environment, expanded for use with French, German, Italian and Catalan, as well as English and Spanish. The original versions of the ETR website (Chapter 5, sections 5.1 & 5.3) introduced the idea of a dedicated online environment for tandem language learning, inspired by previous research done in the field of e-mail tandem language exchange. For the present version, I have incorporated several years' worth of practical experience with the system, as well as feedback from participating teachers and students, to create a much improved version of the system. The basic motivating factors of the original system remain, but many of the weaknesses of the system have been eliminated, and many new features have been added. These added features address both pedagogical issues, such as the fostering of a virtual tandem community discussed in section 6.5.2 and the addition of the "automatic monitoring" function described in 6.5.1, and issues related to teaching and research. The system is designed to be used simultaneously for multiple classes by multiple teachers, and the teacher's interface has been greatly enhanced to make their work more straightforward. The new version facilitates incorporation into a classroom environment more fully than the previous versions had. Finally, the ETR has been fully fleshed out as a research tool. Since its primary motivation was originally as a tool for management of tandem exchange texts for the purposes of research, the new developments are a logical extension of the ETR's usefulness.

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[1] A shorter modified version of the material presented in this chapter has been accepted for publication as Appel, C. & Mullen, T. (2002): "A new tool for teachers and researchers involved in e-mail tandem language learning". ReCALL Vol. 14(2), pp. 195-208. I designed the specifications of the new version of the site described here and then worked together with Mullen on the programming of the CGI scripts.

6. 2 Improvements and new developments

The most fundamental changes presented here are: A) changes in the student interface, to enhance usability and transparency, as well as an expansion of the automatic monitor function, all of which allow students to concentrate more fully on the language task, B) additional features for the teacher interface, C) online questionnaires and mechanisms for automatic as well as systematic collection of data, D) perhaps most importantly from a pedagogical standpoint, the addition of a class-wide "group board" environment, where the teacher and all the students can post messages and communicate as a group. This last addition adds a "virtual tandem community" dimension to the environment and has many advantages, which will be discussed in section 6.5.2.

In addition to these changes, the site has been expanded for use with the six languages listed in the introduction, both as target languages and native languages, and can now be used in tandem exchanges between any combination of the languages incorporated. Further language expansion is possible and easy. The automatic language guesser portion of the software (Noord 1997) is already equipped with over sixty separate language models, capable of recognizing (in romanized text) most of the world's major languages. The site has been designed in such way that all the interface text (this does of course not include the messages written by users) is stored in a text file and called upon by the CGI Perl scripts. When the teacher or the coordinator creates accounts for a new tandem pair s/he is asked to enter the target language of each student. When the student logs in, the scripts calls the text file of his/her target language and displays the site in this language. This means that all that is required for the addition of a new language is the creation of a new text file with a translation of the interface text.

To sum up, the service offered by the ETR site has been developed into an environment which can be used by more people in more languages than before and which can be much better integrated into classroom activities: the use of the ETR site as a pedagogical tool for teachers to be incorporated into a full language course has been brought to the fore. The underlying conception of the present version of the ETR site is as a means of carrying out assigned tandem language tasks in addition to the

original tandem idea of maintaining regular, reciprocated language contact with a native speaker of the student's target language.

6. 3 Feedback on developmental versions

Several developmental versions of the ETR website have been tested over the course of the past years, as shown in table 6.1. This section describes the various groups of students making use of these versions and the type of feedback collected. In Chapter 5 above I described the main groups of students who used two earlier versions of the ETR site. These were however not the only sources of feedback. Here I describe in more detail all the feedback collected in relation to the use of the ETR site. Users have played a crucial role in the developmental process of the ETR site. Changes to the site are motivated by feedback from learners and teachers, a course of action in agreement with Hémard's (1999) recommendations for the design of hypermedia CALL applications.

6.3.1 Collecting feedback

Feedback on the ETR site was collected through questionnaires in class and via e-mail, through face-to-face interviews, and through dossiers written for tasks in class, by both students and teachers who were involved in the exchanges. The total number of users was 352 by the time the last version was designed. Ages of users ranged between 17 and 58, and they made use of the ETR environment in different types of context: inside or outside a class framework; laboratory language learning experiments in which students were set specific tasks to be fulfilled in tandem (e.g. the tangram experiment reported in Chapter 9 below); as the medium for communication for a German-English vocabulary learning game, *Mordo*, reported in Ní Dhea (2000); and workshops in which language teachers as well as students provided feedback for interface design. The environment has also been used in both an asynchronous and a near synchronous manner.

The method for collecting feedback has changed over time, as the system has gone through changes and different questions have arisen. Methods also varied as questions about the use of the ETR environment were often closely linked to the pedagogical

approach taken: for some students correspondence with their ETR tandem partner was their main language learning activity, whereas for others it was a means of collecting information for a task to be fulfilled in class. Feedback was collected through questionnaires with open-ended questions which were administered as part of their class assignments or independently, from patterns of behaviour in the use of the site, from comments made by users in the transcripts of messages, and finally through direct observation of subjects using the site.

6.3.2 Different versions and users

Table 6.1 shows the development of the ETR site since its first version in 1998, the chronology of the incorporation of new features and the studies which yielded the data and information which was the basis for further improvements. The first version (described in section 5.2, Chapter 5 above) was very rudimentary as regards the tools available to users. Feedback from these users and the teacher involved made it clear that there was plenty of room for improvement, and this was discussed in Chapter 5, section 5.3.6 above. The data page and language guesser added to the second version (described in section 5.4, Chapter 5 above) enforced the students' perception of the site as an environment for language learning shared with a tandem partner. The teacher interface introduced in version 2 made it much easier for teachers to have an overview of the exchange and made the teacher's role in the exchange much clearer. The experience with this site was positive and greatly facilitated research work in gathering and analysing the data from the two exchanges that took place through the use of ETR 2.

The third version improved the student interface, making possible near-synchronous communication, if desired. This interface was used for a number of experiments which required users to carry out a task within a limited amount of time (see Chapter 9). Up to that point, subjects' participation in tandem exchanges described in this thesis was undertaken on a voluntarily basis. The exchanges that involved whole classes, took place in courses which were not obligatory subjects of a degree. After the positive experience of these tandem exchanges, the decision was taken in 2000 to introduce tasks in tandem using the ETR site as part of a core course of undergraduate degrees in Dublin City University and Blanquerna, Universitat Ramon Llull,

Barcelona (see Chapter 7). At this point the site was robust enough to be used for a compulsory language course.

	Features	Users
ETR 1 **1998**	**Webmailer** ***Transcript***	Class exchange: **52** learners T.C.D (Dublin)- E.O.I. Pamplona Informal feedback: **18**
ETR 2 **1999**	**+data page** **+lang. Guesser** **+teacher interface**	Class exchange: **32** learners T.C.D (Dublin) – Universidad de León Individual pairs: **18** Feedback session (teach/ stud): **10**
ETR 3 **2000**	**+new student interface allowing for near- synchronous communication**	Class exchange: **51** learners D.C.U(Dublin)- Blanquerna, Barcelona Feedback sessions: **20+20** Experiments: **22**(tangram), **20**(Mordo), **6** (discourse analysis exercise)
ETR 4 **2001**	**+new features & design for teacher site** **+student L2 interface** **+automatic monitoring** **+Group Board**	Class exchange: **55** learners D.C.U(Dublin)- Blanquerna, Barcelona Self-access exchange:**28** D.C.U(Dublin)- Blanquerna, Barcelona

Table 6.1 Different ETR versions and user description.

6.3.3 What has been learned

Taken together, the research projects described above and the feedback garnered over the past years (1998-2001) point to several main issues which have been addressed in the developments of the environment. Early feedback prompted quick improvements in the ease of use of the interface, whereas longer-term research has suggested ways of dealing with the problem of flagging levels of student motivation. The added structure of a class environment has proved to be a huge benefit in terms of the usefulness of the ETR website, and the environment is well suited to form part of an organized language course. This is discussed in greater detail in the next section.

6. 4 Classroom integration of the ETR environment

Since 1998, the ETR environment has been used for exchanges both in a class setting and between individual language learners. The individual learners were in some cases enrolled in courses, but their work with the tandem exchange was independent of any course; in other cases students' only language learning activity was their correspondence with their tandem partner. After testing and putting into use the first two versions of the ETR site it became clear that the ETR environment was optimally exploited when integrated with a structured course for three reasons:

(i) Student motivation.

Individual students working with the tandem site outside of a class environment were more likely to lose motivation. Messages became less frequent, and in some cases stopped altogether. The exchanges tended to be maintained only by very highly motivated students. Since a tandem exchange depends upon the full participation of both students, it is necessary to have two highly motivated students paired together to maintain a successful exchange over time. This is not always possible to ensure. For this reason a large number of individual exchanges dwindled. Of the 18 subjects who were involved in individual exchanges on their own initiative, the average total number of messages written by each student was only 3 (as opposed to an average of around 16 messages per person during two semesters' worth of project work in a course). This was so despite the fact that these students approached me after reading the instructions under the link *About this website* for applying for a tandem partner (see appendix C for instructions), and would have been expected to be highly motivated having taken the first step on their own initiative. Reasons given for stopping early included lack of time, feeling awkward, and not knowing what to say. In each instance, however, the decision not to continue was taken by only one of the pair members, leaving the other one eager but unable to continue. The most motivated students, after several efforts aborted by different partners, eventually also lost motivation.

Thus while the purely independent study approach does clearly offer the greatest degree of freedom for the students, it lacks the structure required to sustain motivation

in less autonomous learners. In a formal learning context, the individual's intrinsic motivation can be stimulated by the teacher or the learning environment. The experience with the 18 learners working outside a classroom framework showed the same problems of sustainability of e-mail correspondence as the study in Chapter 4 in which students were using their personal e-mail accounts, only the length of the exchange was shorter for the learners using the ETR2 site. These two groups were comparable in size (17 and 18) and student profile (working professionals aged between 25 and 48 for the group described in Chapter 4 and between 24 and 58 for the group who used the ETR2 site). For the group described in Chapter 4, students in Ireland attended an evening class of Spanish as a foreign language. This class made no reference to the tandem exchanges and the teacher only assisted in the recruitment of volunteers. However, it is possible that these subjects maintained the exchange for longer because at some level they felt they belonged to a group engaged in the same activity and that experiences with the e-mail exchanges were at times shared informally before or after class. Subjects using the tandem site did not have any face-to-face contact with anybody related to the tandem exchanges, the coordinator (myself), their tandem partner or other participants. They exchanged e-mail with me in order to enrol and for practical matters (e.g. for signing off, asking for help if a tandem partner did not write, or answering a questionnaire). This is one of the factors that prompted the addition of a group board in order to create a community of learners who would have the activity in common. This feature is described in more detail in section 6.5.2 below.

(ii) Content guidance.

Closely related to the problem of motivation loss is the difficulty students have in coming up with fresh content for their messages. The goal of tandem exchange is to focus on language use, and the need for content, or "something to talk about", can become an impediment. Individual student exchanges leave this matter entirely in the hands of the students, which in some cases can be difficult. Personal chemistry inevitably plays a large part, and students with little in common personally often find that conversation "dries up". These sentiments came across quite clearly in feedback interviews where subjects expressed views similar to those expressed in the case studies described in Chapter 5 above:

Perhaps it would be better if we wrote to people we actually know so that there would be more to say

Difficult to know what to talk about

On the other hand, when the exchange is integrated into a class, tandem exercises may be designed by the teacher which give the students specific communicative goals to accomplish, thus easing the burden on the students of coming up with content, and allowing them to concentrate more fully on their language.

(iii) Benefits to the course

If the structured environment of a course can increase the effectiveness of the ETR tandem exchange, it is also true that the course can benefit from the use of the ETR site, which provides teachers with an excellent additional tool for use in designing exercises, and allows them to incorporate the advantages of tandem learning into their own class. A teacher of Spanish, for example, now has an entire virtual tandem community full of native Spanish speakers for use as a pedagogical resource, each of whom is paired specifically with one of the teacher's students. These resources are of course entirely reciprocated on the other side.

Tandem partners can not only provide an additional source of information about the target culture (e.g. a typical topic of discussion would be 'ask your partner how they spend Christmas in their country') but can also provide more opportunity for language use outside the classroom and a situation that calls for real use of e-mail in the L2 for a collaborative project. Students studying together for a degree in college can find it artificial, if not awkward, to use their L2 to communicate with other students with whom they communicate in their L1 outside the foreign language classroom. Setting up groups for collaborative work of for example two tandem pairs creates an authentic communicative situation in the L2 given that tandem partners are native speakers of the L2 and bilingual communication has been the mode of communication used since day 1. We cannot realistically expect students to talk in their L2 with their friends outside the classroom, or force them to use a written medium for communication if they prefer to meet face-to-face and have ample opportunity for it. However, we can change the context and their needs by introducing in their work group students in a different geographical location and with a different L1.

The new design of the ETR site, as described in the next section, has much to do with the decision to shift towards a fuller integration of the site in a class setting. This shift was prompted by the experience of using the site as described in Chapter 5. There is also emerging literature in e-mail tandem language learning that points in the same direction. Discussing the benefits of tandem language learning in terms of learner motivation and autonomy, Ushioda (2000) also affirms that these types of exchange need to be set up between two classes in order to overcome practical problems that make it difficult to sustain successful e-mail tandem exchanges over a period of time. The first version of the ETR site was quite basic, and it worked well for completely individual exchanges. There was no built-in clustering of students into class groups, and no special access to the site for teachers. The current version, described here, has been optimized and expanded in many ways to make it a more suitable tool for class use.

6. 5 A new ETR environment

The changes introduced in the current version of the ETR environment are primarily in the areas of teacher interface, student interface, and the development of a virtual tandem community environment. Each of these areas will be discussed in this section. Table 6.1 outlines the added features for each version. There was a considerable change in approach from ETR2 to ETR3 in that the interface changed in such way that it allowed for near synchronous communication and the approach adopted was strongly biased towards the integration of e-mail tandem language learning in the classroom. After testing this interface with users a number of features were added, resulting in the final version. This section describes the final version without distinguishing between versions ETR3 and ETR4 because, from a developmental point of view, the difference between ETR3 and ETR4 is that new features were added, but none of the existing ones in ETR3 were modified. However, the difference is made explicit in table 6.1. because the integration of new features in ETR4 are the result of the feedback obtained from using ETR3. Another reason to indicate the detailed chronology of development of the site in table 6.1 is that the study cases in Chapters 7 and 8 each used a different version and it is necessary to describe the environment used for each study.

Figure 6-1 shows the entry page of the latest version of the ETR site. There are a few differences from the earlier versions. On the left-hand side bar there are now links for the six languages available to the site at the present time. Clicking on any of these links displays in the left-hand side bar a list of links to language learning resources (e.g. online dictionaries and verb conjugators) for this particular language, in the same manner in which the earlier versions had these type of links for Spanish and English. (see figure 6-4 for the Spanish version of the purple left-hand side bar).

Finally, two links have been added at the bottom of the page for facilitating students who lose their password or would like to change it. These features are further described in the next section below.

Figure 6-2 shows the list of contents displayed when the user clicks on the link *About this website* in the left-hand side bar. The contents include information on tandem language learning, instructions for potential users, and instructions on how to use the site.

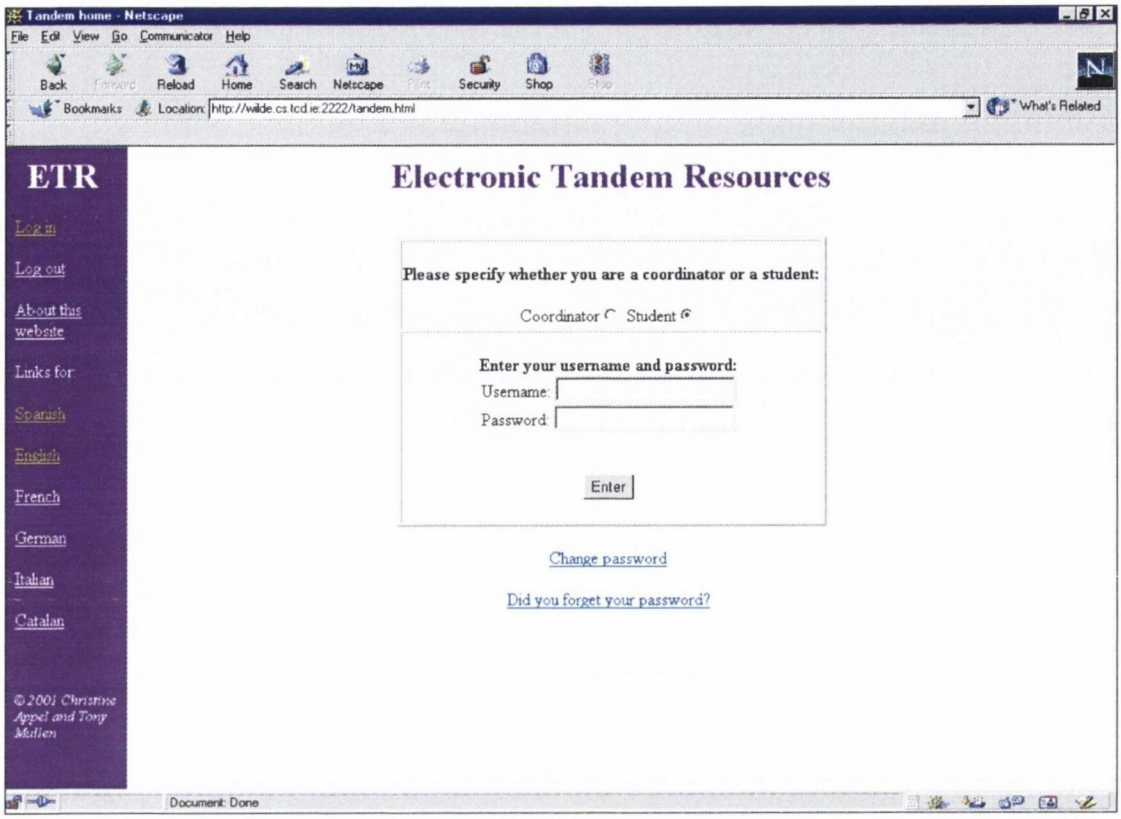


Figure 6-1 Login Page

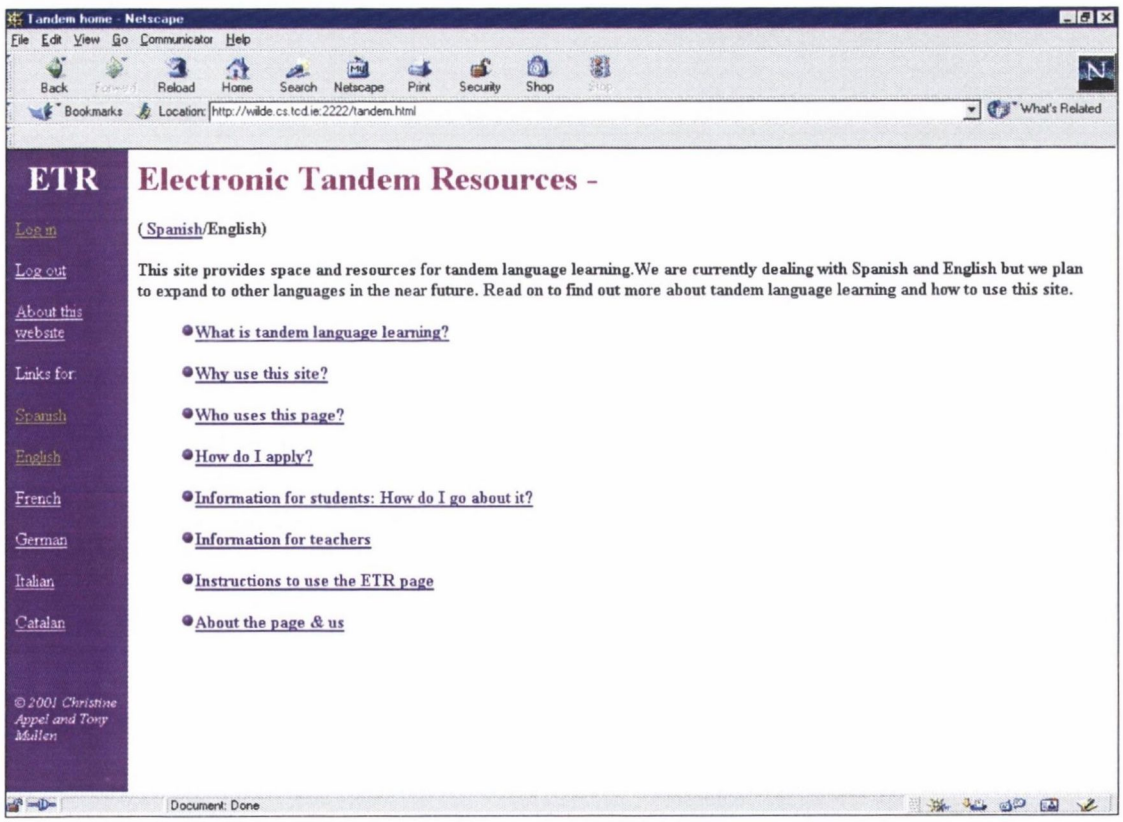


Figure 6-2 About this website

6.5.1 Student interface

A large number of navigational improvements have been made for the new version, which, among other things, allow the student to compose mail at the same time as reading new incoming mail. This new interface, which allows for near-synchronous communication, was developed for a number of reasons related to research, classroom practice and experience. First of all I wanted to carry out some laboratory experiments in order to control for some of the variables involved in e-mail tandem language learning. One of these variables was linguistic input received other than the e-mail messages. For this reason I needed to conduct studies restricted in time in which subjects would write and read messages without receiving any other input in the TL. For this purpose it was necessary to use an interface facilitating near-synchronous communication. The original interface was not appropriate for such interaction because it displayed new messages to be read and the compose box on different pages which would mean a great deal of navigation within the ETR site if subjects were to send each other a number of messages within a short span of time. Near-synchronous communication was also required for class use. As a result of using the site with class groups, teachers suggested that a session early in the exchange in which all students were at the computer at the same time would be positive to break the ice. A possible game for such a session was developed by Ní Dhea (2000) - a game called *Mordo*, in which German/English tandem partners compete to solve a murder mystery. The game is designed in such a way that students are given clues and information on the game in one window and communicate through the tandem site in a separate window. The last reason for developing the new student interface with near-synchronous communication was that the transcripts of messages sent by students often showed that they had been logged in at the same time without realizing it. It became apparent that an opportunity for further communication may have been missed because of the design of the interface.

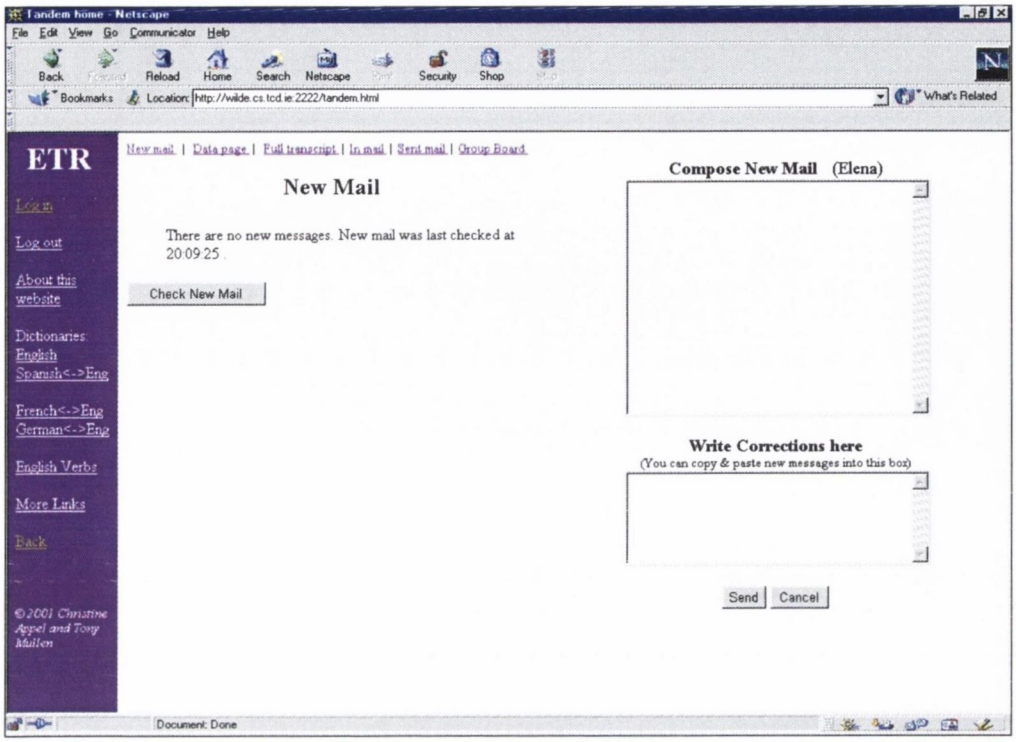


Figure 6-3 Student interface (English)

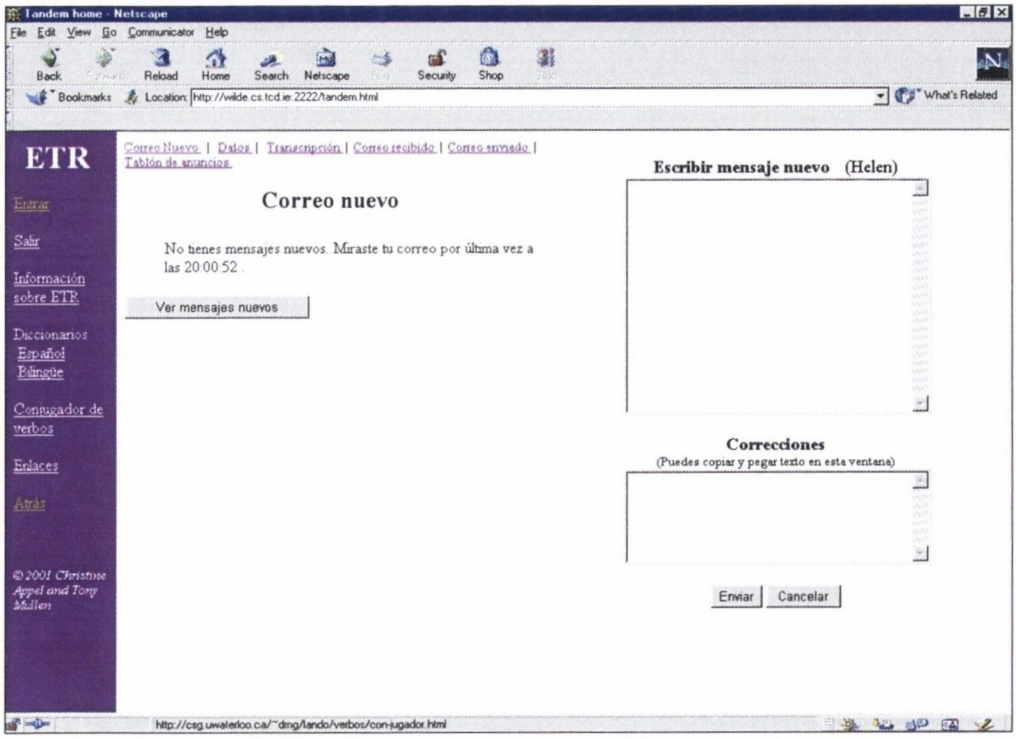


Figure 6-4 Student interface (Spanish)

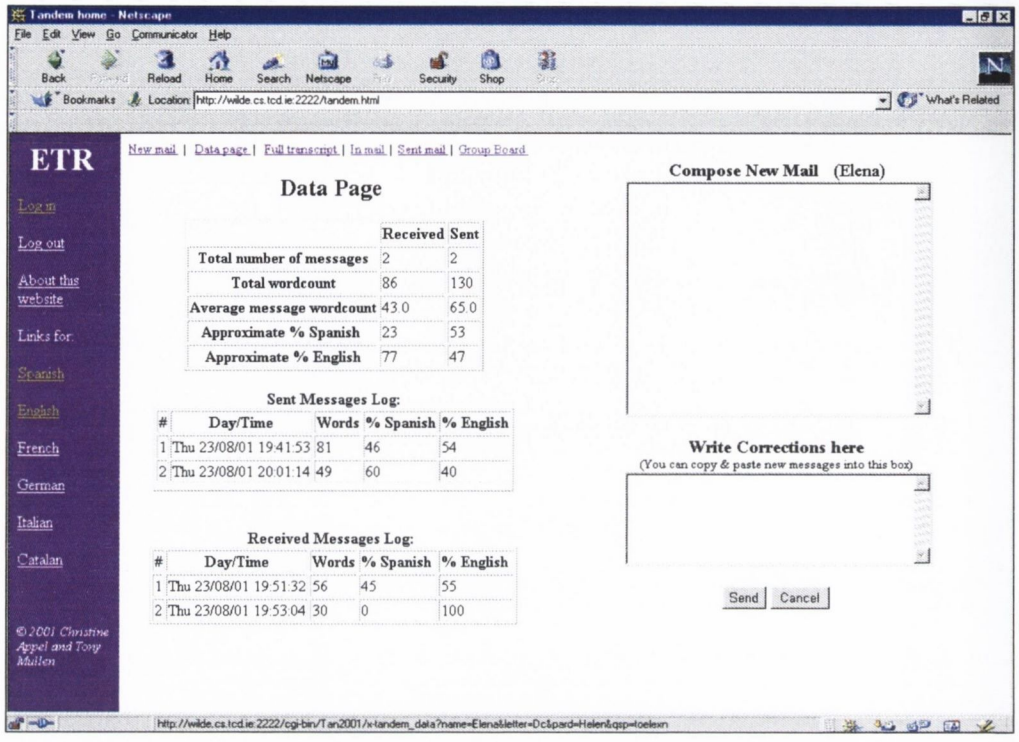


Figure 6-5 Data Page

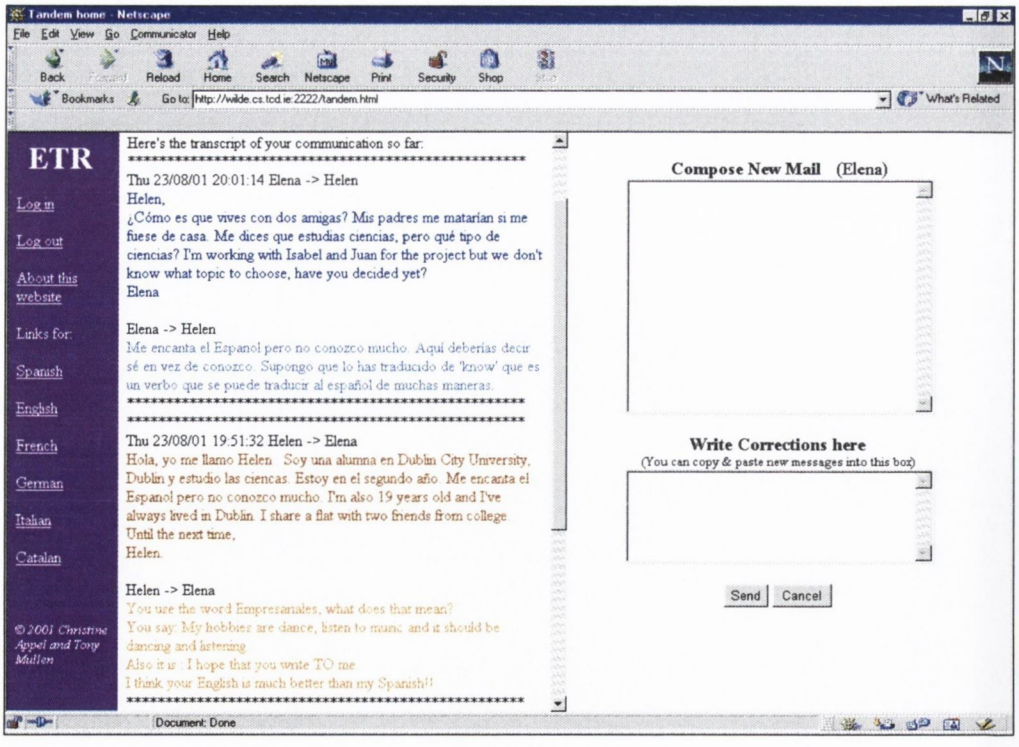


Figure 6-6 Transcript Page

Figures 6-3 and 6-4 show the new interface in English and in Spanish. The student can click on the *Check New Mail* button on the left-hand side of the screen and the right-hand side of the screen where the compose box is will remain the same. The user can also click on any of the links on the top of the screen *(New mail, Data Page, Full transcript, In mail, Sent mail, Group Board*) while writing a message and the links will open on the right-hand side of the screen (see fig. 6-5 to see the *Data page*).

An additional characteristic of the new student interface is that it allows the student to browse the transcript of previous messages without losing sight of the compose box (see fig 6-6). This feature was introduced to encourage students to reuse input previously received from their tandem partners and make it easier to consult earlier messages while writing a new one. A colour scheme was introduced in the transcript to distinguish incoming messages from sent messages as well as content messages from corrections: incoming messages are dark brown and incoming corrections light brown; sent messages are dark blue and sent corrections light blue.

In the new interface the compose box appears above the corrections box, and both boxes are now displayed at all times. This change was made in order to give more importance to the meaning aspect of the exchange: I had previously noticed that in many instances students had spent a long time writing corrections for their tandem partner and had then not had time to send a message as well. In these instances there was most often a breakdown in communication because of the uncertainty of whose turn it was to write next. One student feeling s/he wrote last and the other feeling there was nothing to respond to. In the new interface it is necessary to write something in the compose box, otherwise the site warns you that the compose box is empty and asks you to write some text before sending the message.

The corrections box is now displayed at all times, it is smaller in size and does not contain the original text to be corrected. The change was made for several reasons. One is the chunks of text that needed no corrections and cluttered the transcript, especially the L1 text, but it would be difficult to solve that, bearing in mind that the language guesser is approximate and may remove text from its context. Now students

read the text in its full context but pick what fragments to focus on. Another reason for making the change is that sometimes students deleted from the original text in the corrections box and inserted the correction, but this did not make things clear for the recipient. A further point is that the vast majority of corrections were at word level, and few explanations were given. It was hoped that with the new corrections box students would be prompted to give fewer corrections but of higher quality, adding explanations and going beyond word level. They can still copy and paste if they wish to do so, the text being on the screen, but it is hoped that they will engage in more metalinguistic talk. The text of the message to be corrected was removed from the corrections box in order to encourage more thoughtful and less superficial corrections, as well as reducing the amount of superfluous text in the transcripts. The new separate links to In Mail and Sent Mail allow the user to select only the messages received if s/he wants to focus on input, or the sent messages if s/he wants to revise her/his own L2 production.

Past work in the field of tandem language learning has repeatedly emphasized the importance of learner autonomy and much has been written about the balance that must be struck between independence and structure which must be struck to get the best results in the development of learner autonomy. In order to allow students to maintain an overview of their own participation in the exchange program, "automatic monitoring" techniques are employed. These are reminders or suggestions which are triggered automatically by some behaviour of the student's. For example, if a student has written more than 75 percent in either target or native language (this is done using the statistical language guesser (Noord,1997)), the message will be sent, but a notification will come on the screen briefly drawing attention to the imbalance and requesting that the student put more effort into keeping the principle of bilingualism. In this way, the reminder is passed on in a less obtrusive way than if the teacher had given it personally. At the same time, however, the reminder is absolutely unforgiving, and will come up on the screen with regularity if the user writes only (or mostly) in one of the languages. Other examples of automatic monitoring include an automatically generated e-mail sent out weekly to all students who have not sent tandem messages in over 15 days. Once again, the impersonal aspect of these reminders has a minimal impact on the relationship between the student and the teacher, yet the reminders themselves serve their purpose. A related feature is the

added "new e-mail notification" sent to the student's personal e-mail account when the student receives a new message in the ETR environment. This function was already introduced in version 2 but has now been limited to sending out reminders no more often than once every two hours, given that the new interface allows for near-synchronous communication.

In this version of the interface it is also possible for students to change their password or recover a lost password without the mediation of the teacher. In general, effort has been invested in relieving teachers of 'policing' or organizational duties. These functions are also important in a context in which teachers are creating accounts for the students and therefore have access to the initial passwords given to the students: by changing their passwords students can protect the privacy of their e-mail exchange from the teacher.

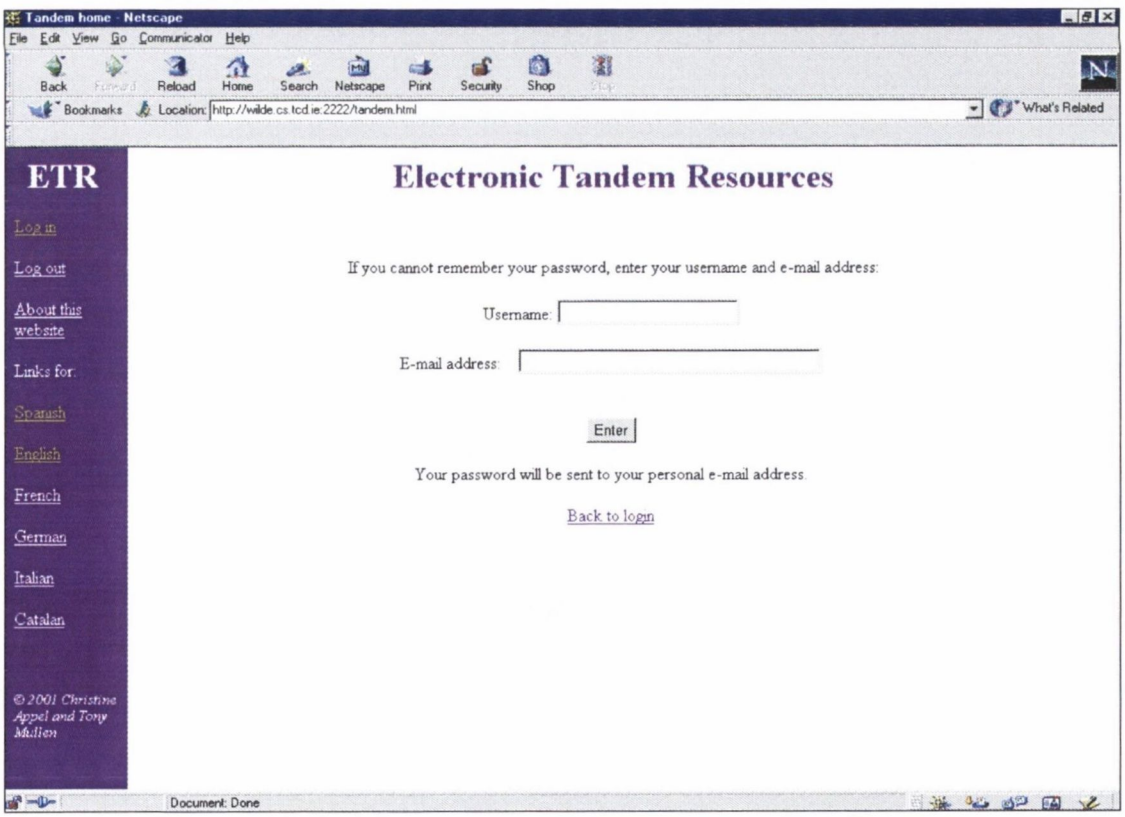


Figure 6-7 Forgot password

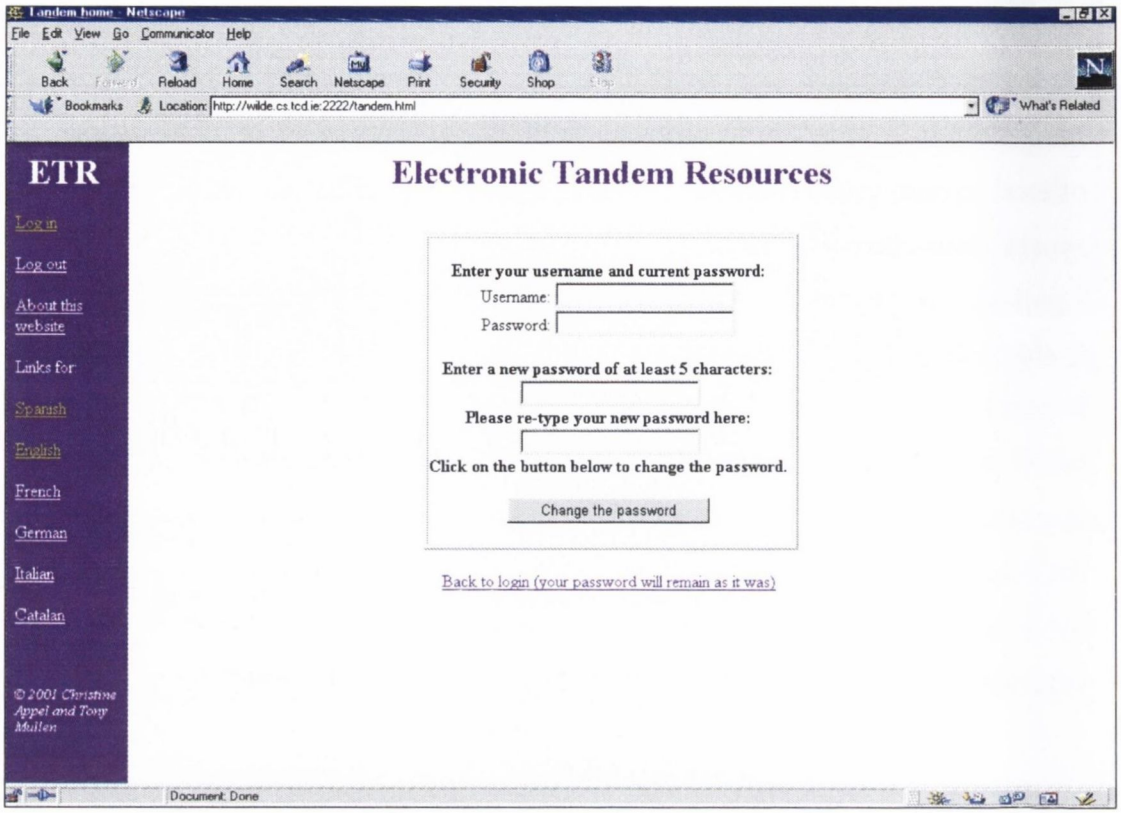


Figure 6-8 Change your password

6.5.2 The virtual tandem community

In keeping with the goal of making the ETR environment easier to integrate with a classroom setting, efforts have been made to "open up" the environment and induce a sense of community within the class-pair groups. One crucial element is the control that the teacher interface gives to teachers allowing them to keep abreast of the student's work in the tandem environment, as well as coordinating exercises in class to be carried out in the environment. Another addition intended to foster the atmosphere of a virtual tandem community is the class-pair Group board (figure 6-9), which is an area where all members of each language class and its tandem partner class may post messages, allowing students to exchange information and ideas, be they personal messages, notices of upcoming events, or links to related online resources or student websites. When the user clicks on the link a new window opens on an environment which is similar to a bulletin board. Students are encouraged to check it regularly, and it may also be used by teachers to give tandem assignments. This possibility is an important development, as both traditional e-mail tandem and e-tandem in the ETR

environment have been demonstrated to be more effective and engaging if communicative tasks are introduced, as discussed previously. The presence of the "virtual tandem community" area presented by the Group board allows these exercises to be presented to the whole group at once, in an immediate and accessible fashion. Students of one class can also see what kinds of exercises their tandem partner class is working on, and teachers may exchange ideas.

Since the Group board area is open to all members of both classes, the postings are bilingual, giving students of both language backgrounds an additional challenge. Teacher may also design group exercises which make use of the group board directly. In addition to this, the group board is updated immediately upon posting, so it may also be used in a similar way to an online chatroom, if people are present simultaneously and writing in real time.

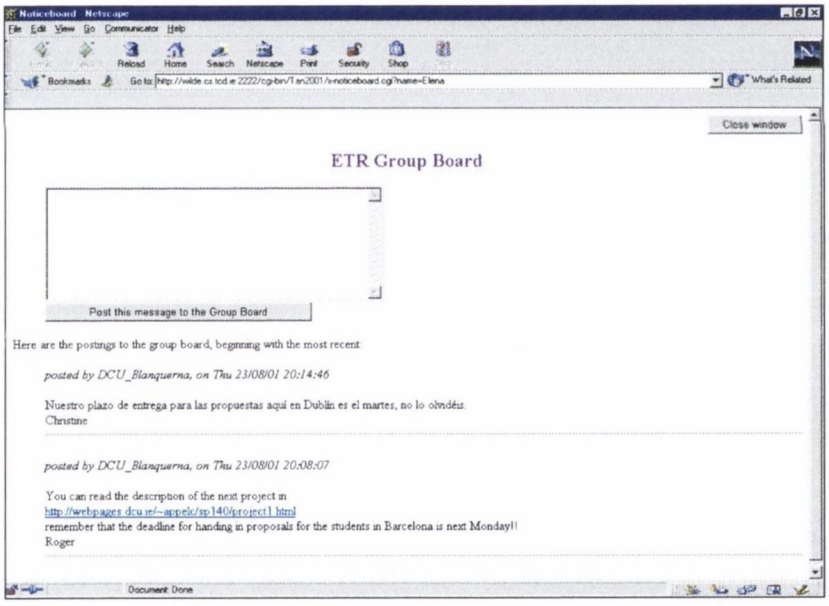


Figure 6-9 Group Board in student interface

6.5.3 Coordinator interface

One of the most significant changes to the ETR website was the addition of a teacher interface, which allowed teachers of language courses to work together to coordinate tandem exchange programs between their groups of students. Two classes of

students, learning each other's native languages, engage in the exchange in pairs, which are overseen by the two teachers. Teachers are given a special user name and password, and may log into a special coordinator area of the website by selecting the option "coordinator" on the login page. Notice that in this later version the radio button for this area is called 'coordinator' instead of 'teacher' which was thought to be more suitable to the pedagogical approach adopted for the tandem site, which seeks to foster an environment of group work where students are responsible for their own work, monitoring is done automatically, and the teacher's role is that of coordinating. One can even envisage a situation with a group of autonomous students where one or some of them take on the duty of coordinating the exchange. In the coordinator area, the user may add students' accounts, and gain access to data regarding the progress of their students' language exchange as was described above in section 5.4.2, Chapter 5. For the same reasons of student privacy outlined above, coordinators do not have access to the text of the exchange unless permission has been obtained from students for research purposes, and, even in these cases, access will not take place until the exchanges are finished.

Figure 6-10 shows the menu of functions available to the coordinator. These include the same three functions which were previously available and two new links. Figures 6-11 and 6-13 show that the *Create New Tandem Pair* site and the *Retrieve Student Information* site are unchanged, except that all other functions are now available as links at the top of the page and it is no longer necessary to return to the main menu to access them. The page *Last mail sent by student* displays two new columns on the right-hand side of the table with the total number of messages and total number of words written so far by each student, which helps to give a more informed overview of the exchange. With this information the teacher can check at a glance not only when each student wrote last but also if there are any obvious differences between members of a tandem pair as regards the principle of reciprocity.

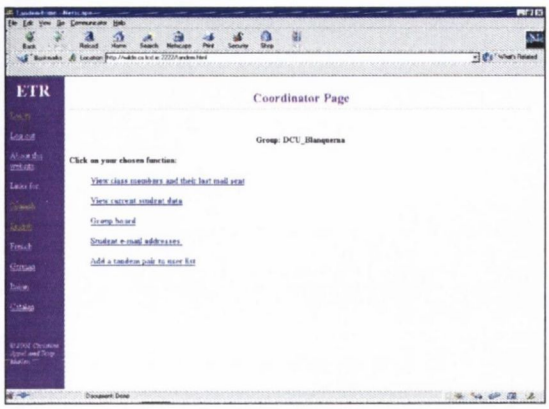


Figure 6-10 Coordinator interface

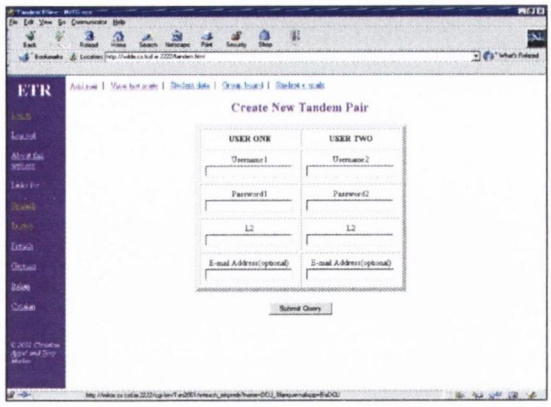


Figure 6-11 Create new tandem pair

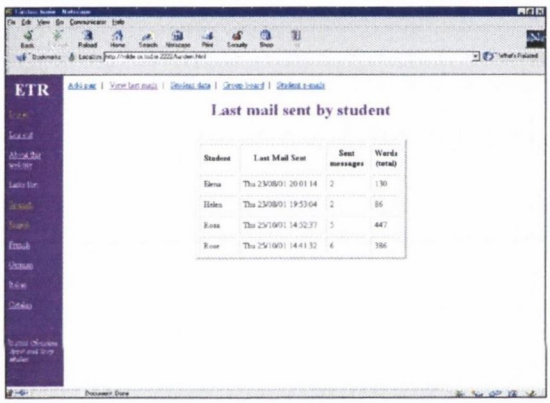


Figure 6-12 Last mail sent by student

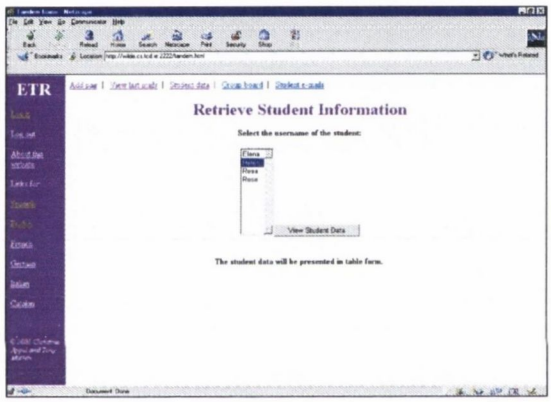


Figure 6-13 Retrieve student information

The coordinator interface area also contains e-mail contact information for all students, which can be clicked on to send private messages to students via standard e-mail (fig. 6-14). This was done to make the teacher's work easier since the list of participants does not always coincide with classlists (there are often cases of students who do not attend classes for a variety of reasons). This feature also makes it easier to contact all students on both sides of the exchange at their personal account if necessary (for example, to notify them that news has been posted on the *Group Board*).

Finally, the teacher has access to the *Group Board* area (see fig 6-15) of the tandem class-pair, which was described above in section 6.5.2. Access to the Group board means that the teacher can read as well as post messages to the group discussion.

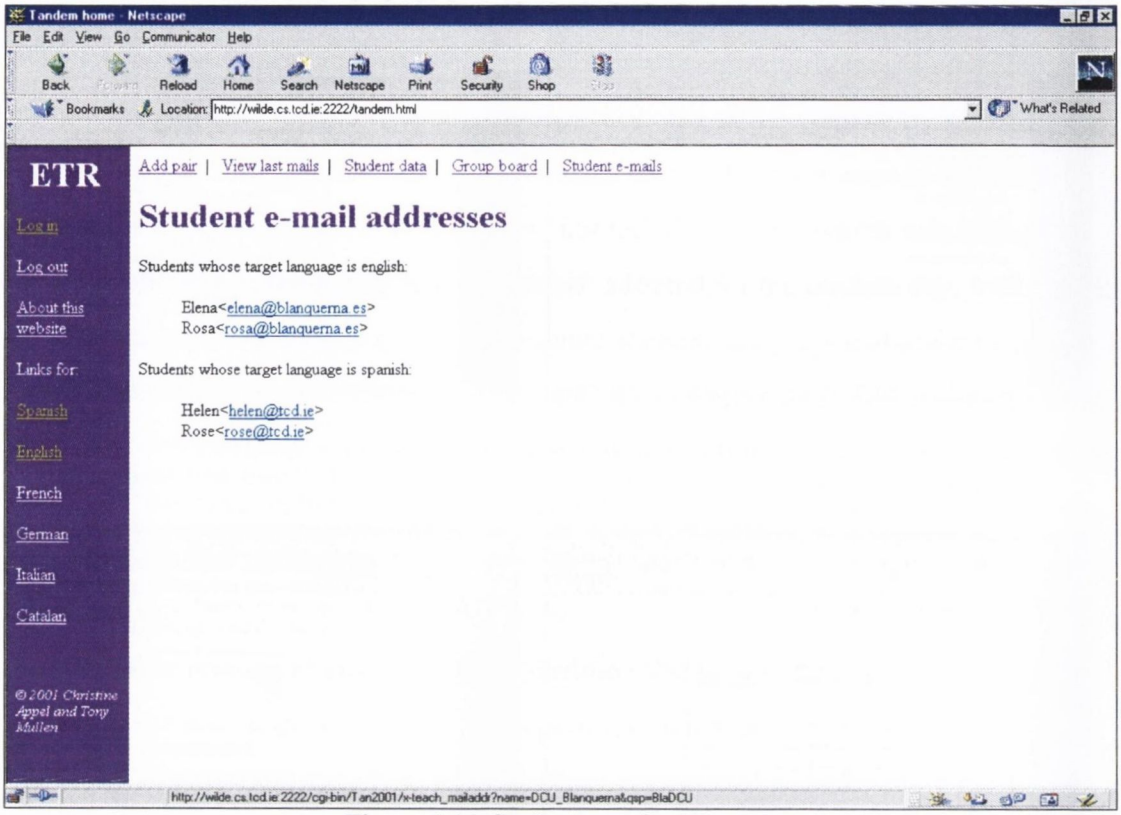


Figure 6-14 Student e-mail addresses

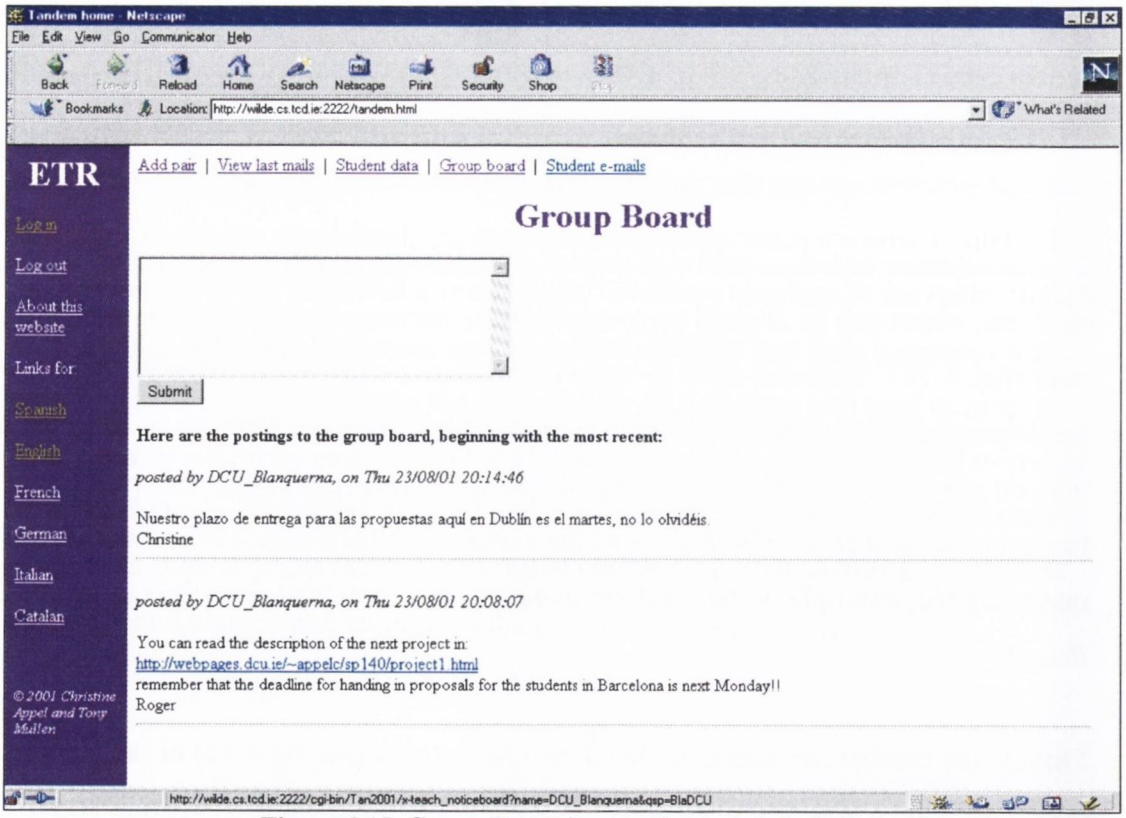


Figure 6-15 Group Board in coordinator's interface

6.5.4 Discussion

A tool has been developed that addresses some of the difficulties that arise in the use and integration of CMC activities in class, and more specifically tandem activities. The tool frees the teacher from technological problems and provides enough information to facilitate the integration of the tandem exchange within a classroom context where deadlines have to be met and grades awarded.

The new ETR environment embodies the principles of a task-based approach that seeks to develop learner autonomy, contact with the target language community and use of the target language with a focus on meaning as well as form. Learner autonomy, in the sense of self-motivation and control over the learning process, remains central to the site's philosophy in spite of what might appear to be a more restrictive environment. In fact, the guides and reminders put in place are intended to *encourage* the student to take charge of his/her own learning process. Meaningful autonomy does not occur in a vacuum, and the framework of the ETR environment is built with the intention of stimulating it; to this end there is a tandem partner to communicate with, a teacher to coordinate the process, and an environment which provides automatic reminders and support. Little (1991a) discusses the misconceptions of learner autonomy and the difficulties that some teachers experience in coming to terms with such an approach, often feeling frustration or confusion at losing control of what takes place. The ETR environment also supports teachers who are new to this approach in that the teacher always knows what's going on in the exchange (e.g. how often students are writing and how much). Finally, without wanting to underestimate the value of key-pal writing, the approach taken here maximises the possible benefits, and not only engages students in use of the target language but also pushes them to learn and improve. The teacher interface and the *Group Board* makes it easier to engage students in tasks designed to prompt interaction which allows for language learning by creating a context in which there is space for modified input and output, meeting some of the criteria that are outlined for CALL tasks in Chapelle (2001) (see section 3.2.2, Chapter 3).

6. 6 A tool for research

A number of the changes made to the site were also geared towards research. In this respect, the site has become "self-improving" in that it allows us to gain knowledge and understanding of the e-tandem exchange process, which can then be used to improve the environment. As discussed previously in section 6.3, a variety of different forms of feedback, both direct and indirect, were collected.

The most conspicuous change made in the interest of collecting data is the introduction of a student questionnaire, to be filled out by each student at the time of his or her first login. This questionnaire asks the student to answer questions related to their second language proficiency, computer literacy and access to the Internet, and also asks them to grant permission for the use of their messages for research purposes.

The expansion of the environment into class settings allows for experimental groups to be assembled more easily. In the current environment, it is possible to coordinate psycholinguistic experiments, compare test and control groups, and more clearly follow what factors are at work in the progress of the program. It is also possible to use the feature that prompts the questionnaire upon first login to introduce questionnaires for specific groups of subjects at specific points during the exchanges, whether we want to introduce this questionnaire after a certain number of messages, written words or time since the beginning of the exchange or last questionnaire.

6.6.1 Corpus collection

The ETR website allows for the collection of a new kind of linguistic corpus, asynchronous tandem writing. All transcripts are recorded in their entirety, with timestamps (both for sent and read times) and brief annotations. Both native speaker language and learner language is collected. Granger (1998) discusses the importance of a learner language corpus when describing the International Corpus of Learner English (ICLE). The ICLE comprises essays on topics which are non-technical and argumentative. These essays are all in English and have been produced by native speakers of a number of different languages. The corpora I wish to collect using the ETR website would be in a less formal register and would document learner language

as well as native speaker language. These two types of corpora could then be compared with each other. Furthermore, the corpus is not simply a collection of written texts, but a collection of timestamped, interactive progressions, thus offering the potential to yield a great deal of information about the progression of second language acquisition through interaction with a native writer. Finally, the corpus would be multilingual since the ETR site can now cater for six languages and expansion to other languages can be easily be achieved. This would also allow for comparisons of learner language produced by native speakers of different languages.

At the moment the information that is automatically encoded and tagged using tags that are XML compliant is:

- Sender
- Recipient
- Time stamp for moment at which the message was sent
- Time stamp for moment at which message was read
- Chronology of message in relation to the whole exchange
- Chronology of message in relation to sender
- Start and end of message
- Start and end of corrections

And the following information can be extracted from the names of the sender and the recipient:

- Group to which pair belonged. This information gives access to tasks carried out.
- Answers to introductory questionnaires and any other questionnaires students may have been given online.
- Pair of languages used in the exchange, and which student is a native speaker of which language.
- Summaries of data: number of messages, words and approximate percentages of L1 and L2 use.

Having stored this information in an XML format, the next step to be taken is the writing of a document type definition for e-mail exchanges which will make the data

easily searchable for corpora studies. A lot of work can be done with the facilities available but for the purpose of this thesis the work on the ETR site ends here. Subsequent chapters describe further manual tagging that has been carried out on different collections of text gathered through the ETR site for the purposes of this thesis.

Large-scale corpus collection, of course, will depend on relatively widespread use of the ETR facility. For this reason, the resolution of interface issues and the optimization of class integration discussed in this chapter are important, as they will make it easier for teachers to incorporate the ETR environment into their regular teaching.

6. 7 Summary

This chapter reviewed the development of the ETR site and its different versions, and described in detail the last version. The most significant improvements are the change into a virtual tandem ***community*** environment, a new student interface in the L2 of the user, the possibility of viewing old messages in the screen where the "compose" box is, automatic monitoring mechanisms, and a number of new tools for the teacher interface. Work begun in 1998 has now resulted in a fully-fledged system with clear objectives. The environment has been optimized to emphasize a task-based approach to language learning, group collaboration, and learner autonomy. All of these things play a role in the integration of the ETR environment into the classroom. From a research standpoint there is now a structure in place to start building a unique and useful multi-lingual corpus of interactive native and second language writing.

Use of the ETR environment is currently available free for teachers whose students are native speakers of English, French, Spanish, German, Italian or Catalan, and are learning another one of those languages. It is not difficult to expand the system to include other languages, and very shortly more will be added to this list. All data is collected centrally as part of an automatically collectable corpus. The ETR website can be accessed from any web browser connected to the internet. There are no special network requirements and no special software is necessary to use the service. Furthermore, there is very little technical knowledge involved in coordinating

exchanges. The ETR can be navigated with ease by anyone familiar with the use of a web browser such as Netscape or Internet Explorer[2]. The rest of this thesis focuses on a number of studies carried out with this tool: the studies reported in Chapters 7 and 9 still used ETR3 and the study in Chapter 8 used the final version.

[2] The latest version of the ETR site is hosted at http://www.tandem.dcu.ie for regular use and at http://wilde.cs.tcd.ie:2222/tandem.html for testing and training purposes.

Chapter 7 E-Tandem Tasks I: Sustainability & Motivation[1]

7. 1 Introduction

This chapter addresses an issue that has been discussed in all the preceding chapters: the problem of sustainability. It is argued that the use of tasks and a task-based pedagogical approach will help to solve this problem. The chapter has two parts. The first part looks at the features of tasks that stimulate motivation in learners and in this way increase sustainability. A case study involving four tasks was conducted and from the discussion a number of criteria are put forward to be taken into account in the design of tasks appropriate for e-mail tandem. From a quantitative point of view I wanted to explore whether the set-up of an e-mail tandem project fully integrated into a task-based approach had increased participation and sustainability in comparison to the studies in Chapters 4 and 5. However, there was an additional difference from the set-up for the studies in Chapters 4 and 5; the students used in the study reported here were attending a compulsory course and this may have affected their increased levels of participation. For this reason a second study was undertaken in order to control for this factor.

The second case study described in this chapter took a group of students similar to this involved in the first case study, and attending the same type of compulsory language course that involved an e-mail tandem project. This time this group attended a class where the teacher used a communicative teaching approach. The two groups are compared in terms of the number of words produced, regularity of correspondence, and performance homogeneity within groups of students.

[1] A reduced version of section 7.3 was published as Appel, C., & Gilabert, R. 2002: "Motivation and task performance in a task-based, web-based tandem project". In *ReCALL*, Vol 14 (1), pp. 16-31. The sections in this chapter include a more elaborate description of the study, and a modified discussion.

7. 2 Research Questions

7.2.1 Background literature: task-based learning, sustainability and motivational constructs

Crookes & Schmidt (1991) point out the discrepancy between the use of the term motivation by second language learning researchers and practitioners of second language teaching. In research the approach that has tended to dominate the field has been socio-psychological whereas language teachers have used the concept in a sense closer to the work carried out in education and psychology and which is a concept closely related to learner autonomy. It is in this sense that I set upon exploring motivation in e-mail tandem exchanges in the present chapter. For those purposes, and keeping close to the educational/psychological use of the term I will make reference to the categories of Keller's theory of motivational design of instruction (1983) which was described in more detail in Chapter 3, section 3.3.2.

I also refer to variables in Robinson's model (Robinson, 2001) for task sequencing. Motivational processes are strongly related to and difficult to separate from cognitive processes. Making reference to the variables in Robinson's model helps to bring in the cognitive factors. Robinson's model for task sequencing stating the main factors involved in task design and which affect language production and performance was described in detail in Chapter 3, section 3.4.2. Relevant to the concern of this chapter is the fact that tandem learning imposes a series of conditions that directly relate to interactive and difficulty factors in Robinson's model (see table 3.4, Chapter 3).

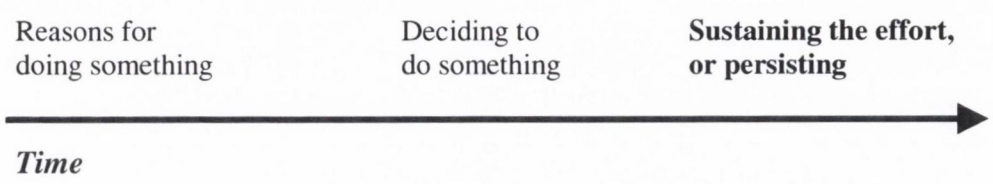
There are three constructs which are central to the study described in this chapter: willingness to communicate, persistence and authenticity. The first one, the concept of ***willingness to communicate*** (WTC) was put forward by MacIntyre, Clément, Dörnyei and Noels (1998) and described in detail in Chapter 3, section 3.3.3. WTC in a second language is according to MacIntyre *et al.* a fundamental goal of language instruction. I would like to suggest that this model can also be applied to a computer-mediated communication framework. Chapelle (2001) points out that MacIntyre *et al.* define WTC

as a situation-specific variable and thereby "open the possibility for classroom learning activities to interact with and influence the development of WTC" (p.50). In an e-mail tandem framework the learning activity is also an authentic communication opportunity with a native speaker of the TL. MacIntyre *et al.* present a pyramid model of WTC (see fig 3-1, Chapter 3) in which L2 use appears at the top of the pyramid in layer I. Layer II, WTC, is related to the individual's behavioural intention. Considering an e-mail tandem context, these first two layers are the goals pursued by the designer of the exchange: having students use their L2 is the main goal, and students being willing to do so is an obvious precondition as well as a goal in itself. It is in layer III, Situated Antecedents (desire to communicate with a specific person & state communicative self-confidence), where one can argue that the features of an e-mail tandem situation impact on the tip of the pyramid most favourably. MacIntyre *et al.* explain self-confidence as a function of a) anxiety (or lack of it) and b) perceived competence. Ushioda (2000) argues that one of the intrinsic features of tandem learning is that it encourages solidarity (shared responsibility and linguistic support), and I would like to add that this solidarity in its turn reduces anxiety and, over time, increases confidence, which is the second situated antecedent in layer III. The asynchronous nature of e-mail means that the learner has time to prepare, and knows that the person on the other side of the exchange is also going through the same learning experience. Both members are learners as well as native speakers in this unique communicative situation.

Another way in which it is possible to act on the desire to communicate is by designing tasks which create the need for communication. If the learner were autonomous enough the need for communication would already be obvious, since communication is going to develop communicative competence. But if the link is not clear enough to both members of a tandem pair, we can create a second level of need for communication in terms of contents and decision making around a specific task.

The second construct central to this chapter's concern is that of ***persistence***. Dörnyei (2001:82) emphasizes the importance of the temporal dimension of L2 motivation, that is, examining how motivational processes change through time. Language learning takes

place over years and sustaining the learning process is vital. Williams & Burden (1997:121) address the temporal dimension of motivation by separating the generation of motivation from its sustainability. They discuss three stages of motivation in time:



In the case studies described in Chapters 4 and 5, as well as in Appel (1997, described above in Chapter 2, section 2.3.2), e-mail tandem language learning had a very positive effect on the first two stages. Students decided to start the exchange because they could clearly see the benefits and they were very interested. However sustaining the exchange throughout time was the main hurdle to overcome. I would like to argue there are two main factors underpinning persistence in e-mail tandem language learning: learner autonomy and personality. I described in Chapter 3 and in this chapter above how the features of e-mail tandem language learning provide support for the learner. However, as Little (2001) argues, the paradox of learner autonomy is that to develop learner autonomy you need to already be an autonomous learner. In a tandem context, if learners are not autonomous enough in their learning and have difficulties setting their goals for the activity, personality factors take over and the exchange becomes dependant on a good personality match. Unfortunately, a good personal rapport is difficult to build in a vacuum and its likelihood in a tandem environment is low.

In this section I would like to provide arguments for a task-based approach from a motivational point of view. Tasks can be the means by which the teacher/researcher can have an influence on the learner's WTC by increasing the desire to communicate with the tandem partner (layer II in the WTC pyramid) and by appealing to the learners interests as well as helping in goal-setting, planning and creating an extrinsic motive (the need to communicate in order to complete a task). The tasks described below in section 7.3.2 take place over several weeks and comprise different phases which should reinforce sustainability.

The third construct especially relevant to task design for e-mail tandem language learning is that of ***authenticity***, which in Chapelle's (2001) words means: "The degree of correspondence between the CALL activity and target language activities of interest to learners out of the classroom", which she then reinterprets as willingness to participate and in which the key term I would argue is 'interest'. Authenticity is closely related to Keller's category of *relevance* and is an issue that can be particularly complex at a university level. Chapelle (2001) within a CALL context talks about the correspondence with a target language activity. But there may also be the question of correspondence to the students' learning experience outside their language class. Ushioda (1998) makes the point that this has often been overlooked in the past and shows evidence from subjects who did not perceive any difference between their motivation for learning their foreign language and their motivation for other areas of learning. Hence, in designing tasks as well as taking into account the future needs in the TL (and perhaps because these needs are not immediate but are for the students' longer term future), it is advisable to relate to their other learning experiences, expectations and working procedures. The tasks in language learning should be as stimulating and demanding as in other subjects. For example, if students are expected to do research on topics and write reports on their findings in subjects other than language learning, a communicative approach based on role-play may be entertaining for a start but considered less demanding, of a lesser importance, or less related to the degree of effort invested on the task.

To sum up, in this context and within this approach, I have considered motivation (in relation to *question a* below) in the following sense: what is it that makes students be interested and willing to participate and sustain their efforts in a task? This is investigated without losing sight of the second question: which factors can be realistically applied to the task so that it meets its final purpose: language learning? I have looked at a series of tasks organized by topics, examined the data obtained from each task and retrieved the most relevant factors affecting motivation in such context and with such approach.

7.2.2 Questions

a) What features of a task make it more motivating for students?

-what are the learner perceptions of the tasks carried out?

-what is their performance for each task from a quantitative point of view?

b) How does the instructional-context affect participation quantitatively in tandem exchanges? What is meant by context here is that given a framework where e-mail tandem is part of a compulsory and graded course, how does each of the following conditions affect performance quantitatively: 1) A communicative approach where topics for conversation are suggested; 2) A task-based approach. Participation is measured according to:

(i) *Amount of text produced (number of words)*

(ii) *Regularity of correspondence (number of days between messages)*

(iii) *Performance homogeneity within groups of students*

Section 7 .3 describes the study made in order to answer *question a* above , and section 7.4 describes the study addressing *question b.*

7. 3 Description of study A

7.3.1 Subjects

There were two groups of students, one attending an EFL class at the Communication Studies Department in Blanquerna, Universitat Ramon Llull, Barcelona and the other attending a class in Spanish as a foreign language in the School of Applied Languages and Intercultural studies in Dublin City University. There were 20 students in the Barcelona class, whereas the students in Dublin were in two different class groups due to

timetabling constraints. However, both class groups had to follow the same syllabus, take the same final year exams and had the same lecturer.

The tandem exchange lasted for a full academic year for the students in Dublin. In Barcelona only 9 students continued with the EFL class after the Christmas break but 11 new students joined the class and the tandem exchange. As a result there are 9 tandem pairs whose members were the same throughout the academic year and 11 students in Dublin who had different tandem partners for the first two tasks and the last two tasks.

The level of proficiency for both groups was intermediate with a few exceptions who were at a more advanced level. The Dublin students were 1st year students in college whereas the EFL class in Barcelona had a combination of 1st and 2nd year students. Ages of students ranged between 17 and 22. The Dublin students were taking Spanish as a compulsory subject of degrees in either Applied Languages or Business. The students in Barcelona were studying for degrees in advertising and public relations, journalism, or audiovisual communication. Students in Dublin were not familiar with the use of Internet browsers but with one exception they all had previous experience in using word processors. Students in Barcelona were all familiar with the use of Internet browsers and word processors.

7.3.2 Description of tasks

As indicated before, the project took place in the context of e-mail tandem learning within a task-based pedagogical approach. The approach was task-based both in terms of task design and methodological choices. From the point of view of design, each of the four pedagogic tasks consisted of a differentiated process, divided into steps, with a specific goal and an outcome, and around four different topics. As far as methodology is concerned, the four tasks were organized complying with Willis' (1996) phases in the following way: in the pre-task phase the goal and steps to follow were presented and discussed. In some cases (e.g. stereotypes task) reading materials were provided to help learners to prepare for the task. During the task cycle, students worked in groups and engaged in e-mail communication with their partners in order to carry out their task. They

were then given some time to plan their report and made an oral presentation of their work to the rest of the class. Finally, focus on language was also carried out at the end of each task. It should be pointed out that focus-on-form took place not only at the end of each task as scheduled for but also during the other phases as students as well as the teachers raised language questions as they encountered them. Apart from students correcting each others' L2 by means of the interface, each instructor monitored their progress and provided language feedback throughout the whole process. In short, as has already been pointed out, tandem language learning was integrated into classroom practice and was not the main goal but an integral part of the task.

There were four tasks: *Film review*, *A night out in Barcelona/Dublin*, *News that matters*, and *Stereotypes in TV advertising*. Students were given four weeks to work on each task. For each task, negotiation with students on how to proceed took place, suggested reading was provided and language structures were discussed. At the end of the four-week cycle students gave oral group presentations. In addition, the Dublin students also handed in a written report. Only the target language was used during contact class hours.

A more detailed description of each individual task is provided below:

- *Film review*

The objective of this task was to write a film review in the target language. Students were asked to select in groups a number of films from their own country which they found interesting and which they thought would also be of interest to their tandem partners. After a group discussion on the films, one was chosen to be viewed by the students in the tandem class. The Barcelona students chose *Airbag* and the Dublin students decided on *Michael Collins*. Students then discussed with their tandem partners the criteria to be used in the film review and proceeded to watch the film. Students were encouraged to ask their tandem partners if there were any aspects of the film they did not understand.

- *A night out in Barcelona/Dublin*

The goal of this task was to devise a route and fix a budget for a night out in Barcelona (for the Irish students) and in Dublin (for the Spanish students). First of all students discussed possible places where young people go out in their own towns and e-mailed their tandem partners with a range of options and a description of their usual routine on a weekend night. The next step was to decide on what places they would like to go to if they had the opportunity to spend a weekend away in Barcelona/Dublin, and draw up a budget for the night. The oral presentation consisted of a description of the different restaurants, pubs and clubs they had chosen to include in their route, how to get from place to place, and opening/closing times for each type of venue. Students exchanged entrance tickets, and leaflets from different venues by scanning them and putting them up on a web page.

- *News that matters*

Students were asked again to work in groups and choose a current topic of their interest. They prepared a presentation in PowerPoint treating this topic from the perspective of current affairs in Spain and Ireland, and then on a more individual basis, giving the opinion of and the way in which this topic affected their tandem e-mail partners. For example, one of the groups chose the topic of modern music, compared the top 40 charts in Spain and Ireland, but also commented on the personal preferences of their tandem partners. Very different topics were chosen which were of different levels of complexity, e.g. terrorism and tourism.

- *Stereotypes in TV advertising*

Students were given some reading on the analysis of TV advertising and use of stereotypes. They were then asked to tape from their local TV channels a number of advertisements that exemplified the use of stereotypes in their countries. These tapes were then sent to their tandem partners. Once the tape with adverts in the TL was received students chose certain stereotypes (e.g. toys for girls/boys, the image of women as housewives, etc) and made an analysis of their use in TV advertising in Spain and Ireland.

7.3.3 Data Collection

The following types of data were collected:

> -A complete record of each exchange, with timestamped messages. These messages were automatically recorded with the ETR tool (version 3) used for writing the messages and students granted consent for using these messages for research purposes. Students were told that these messages would not be read until the academic year had ended and they had been awarded their grades. The ETR tool computed the number of words, messages and approximate percentages of words written in each language.
>
> -Before the beginning of the exchange general information was collected such as computer literacy and previous experience with the TL.
>
> -The Dublin students included feedback on each task in their post-task written reports.
>
> -All students gave us written feedback after they had completed all four tasks.
>
> -The outcome of the tasks they carried out: video-taped oral presentations, written reports and for some tasks a Power Point presentation)

The collection of data in a variety of ways helped ensure reliability. Sole reliance on student questionnaires can yield unreliable data for reasons such as the desire of the student to please the researcher or to hide lack of participation from the teacher. However, knowing that the messages are going to be read by somebody other than the intended recipient (even if it is for research purposes and messages will be made anonymous) may affect the way students write. It was finally decided to collect all messages but students were promised that messages would not be read until the academic year was over in the hope of counterbalancing to a certain extent the impact that the intrusion may have in the writing of their messages.

It was possible to contrast student feedback with student participation and discard the feedback given by students who did not fully participate in the exchange. For example

feedback such as the following was ignored after finding that this student had only sent a total of 84 words to her tandem partner[2]:

> From my point of view the TANDEM PROJECT had being very interesting and funny. I have learned very much because the Irish student corrected me the mistakes. Sometimes Mark didn't write me but the last week he wrote a lot. ... I think that in general the TANDEM PROJECT had being a good and a fantastic experience, for this reason I haven't suggestions for change.

All the data used relating to learner perceptions has been checked against the subject's levels of performance. Obviously, a positive comment like the one above loses its value when we find out from the *Data Page* in the ETR site that the student only wrote 84 words over a period of 68 days. A closer look at the transcript also reveals that Mark never sent any corrections. The data from this particular pair may be interesting for the purpose of finding common patterns amongst exchanges that did not work, but the questionnaires with student feedback would have to be viewed in the light of the additional data collected. A number of problems such as student dropout rates or illness rendered some of the exchanges unsuitable for our study. The data examined in the following section refers to the 18 subjects who wrote to the same person for the four tasks described above, over the course of two semesters (Oct-Dec 2000/ Feb-Apr 2001).

7.3.4 Results: Student feedback

When students were asked to rank tasks from most to least popular the second task, *A night out in Barcelona/Dublin* proved to be the most popular. The least popular was the *Film review* task. *Stereotypes in TV advertising* was very popular in Dublin and the third task, *News that matters*, yielded very mixed responses, it was either seen as very good or very bad, but all answers were consistent within members of the same groups. A brief summary of students' responses follows here. Feedback from the Dublin students was collected through questionnaires and written reports. There is less feedback from the Barcelona students, who only filled out a post-questionnaire, and provided informal

[2] No corrections have been made to feedback provided by students. Student names have been changed.

feedback to their teacher in class. These responses are described in more detail in section 7.3.6.

- *Film Review*

This was the first task and students reported that they were unsure about what was expected from them. We should take into account these were first year students so this was the first task they did in a new educational context and the approach was very different to what they had experienced in secondary school. The choice of film definitely had an impact. *Airbag* contains scenes that would have been censored in Ireland and treated controversial topics (drugs & prostitution). It took some time for the Irish students to overcome their shock and understand the film. None of them liked it, so even if they were interested in cinema, this particular film was not popular. The feedback from students at the end of this task focused on the tandem exchange and the experience of writing to a student in Barcelona, and there were very few comments on the task itself other than the fact that they found the film weird and hard to understand. The students in Barcelona, on the other hand, found that *Michael Collins* was not challenging enough in terms of content and failed to understand what the story-line meant for the Irish students.

- *A night out in Barcelona/Dublin*

This task was very popular, not only because of the night life side, but also because in Dublin we worked with maps of Barcelona and it appealed to students getting to know the city, its different areas, how to get from one to the other, etc. They were also very interested in finding out details of everyday life, e.g. dinner time in Spain. The popularity of the task is reflected in the following statements by Irish students:

> "Without this project, I wouldn't have been writing anything near the amount of Spanish I have been writing over the past few weeks"

- *News that matters*

This task was experienced very differently from group to group. Students who succeeded in choosing a topic they were really interested in enjoyed it: however, not all did. For example, students who chose the topic of Tourism realised that they were actually not that interested once they had started, and reported they had found they had too much

freedom to choose what they wanted: they would have preferred to have been given a topic and more guidelines. They found the job of structuring and narrowing down a topic overwhelmingly difficult. This again may be due to the fact that these students were first year students and still not very used to giving formal presentations or working on large assignments. However, they all reported being happy to have developed their presentation skills, very positive about having learnt to use PowerPoint (they could see the immediate benefits for their work in other subjects), and responded very positively to the part of the task where they had to present and analyse their tandem partner's presentation. This exercise triggered reflective processes, students were critical with the presentations and were able to apply their criticism to their own work afterwards. In analysing the PowerPoint presentations of the Barcelona students, the Irish students developed a sense of group identity, they viewed themselves as a group competing with the Barcelona students (the competition being who produced the best presentations). There was however also a display of solidarity with tandem partners in that students seemed to respond to criticism/praise of their tandem partners presentations in a defensive/pleased manner.

- *Stereotypes in advertising*

This task was very positively received, and this was perhaps reflected more in the high class attendance and class participation, than in the number of messages exchanged through e-mail. One of the reasons may be that the task was much more popular in Dublin than in Barcelona. The possible reasons related to features of the task are discussed in section 7.3.6, but it should also be taken into account that there were a number of external factors which may have had an impact: during this period of time the work load for other subjects increased for the Barcelona students and they also enjoyed a very warm and pleasant early spring which resulted in low attendance across the board. This last was the most academic of the tasks and was also the most intellectually challenging. The pre-task materials showed a higher level of complexity than the materials used for the previous tasks and students were pushed to argumentation and analysis.

In relation to the writing of messages to a tandem partner all students reported that they enjoyed the opportunity of writing to a person of their own age who was a member of their TL community. They were also all very aware of the commitment involved. In the words of one of the students: "it requires responsibility, commitment and dedication". This commitment was, however, not always seen in a positive light since unequal levels of commitment sometimes lead to frustration. These comments made me and the teacher in Barcelona even more aware of how important coordination between us was. It is, for example, crucial that deadlines for both groups are the same and that the requirements on both sides are equivalent. Teachers on both sides need to convey the importance of reciprocal commitment to their students.

7.3.5 Results: Levels of participation

As can be seen in figure 7-1 the task that produced most words in the e-mail exchange was also the task that was most popular, *A night out in Barcelona/Dublin*. The difference between the number of words produced by the other tasks is not very noticeable. We can observe a slight decrease in the number of words for task 4, where participation decreased on the Barcelona side. The reasons for this are not clear; one of the possibilities is discussed below in section 7.3.6 under point 4) *expertise in the topic* since the degree of expertise on this topic for the Barcelona students and the Dublin students was quite different. Other possible reasons were discussed above such as the increase of workload in other subjects for the Barcelona students and the low attendance due to early spring temperatures.

Figure 7-2 shows the number of messages that were sent by all nine pairs for each task. Here the difference between the second task and the other three is smaller. This may suggest that an increase of participation for a more popular task occurs by means of longer messages and perhaps higher engagement with what students write, rather than in more frequent communication between tandem partners. This is of course a very tentative interpretation. For a more conclusive interpretation we would need to collect more data within an experimental framework that allowed for manipulation with the different variables (cf. the study described in Chapter 8).

Finally, it is important to point out that the levels of participation in figures 7-1 and 7-2 are related to interaction with e-mail tandem partners. Students also participated in class, producing written reports, oral presentations, gathering materials to be exchanged (tapes, flyers, etc) and interacting with other members of their class. Differences in the other components of the task (measured in terms of quality of presentations and written reports and participation in class) correspond to the differences in productivity in the e-mail exchange for tasks 1, 2 and 3. Task 4 in Dublin triggered a great amount of work and high levels of quality compared to the outcome of the previous tasks.

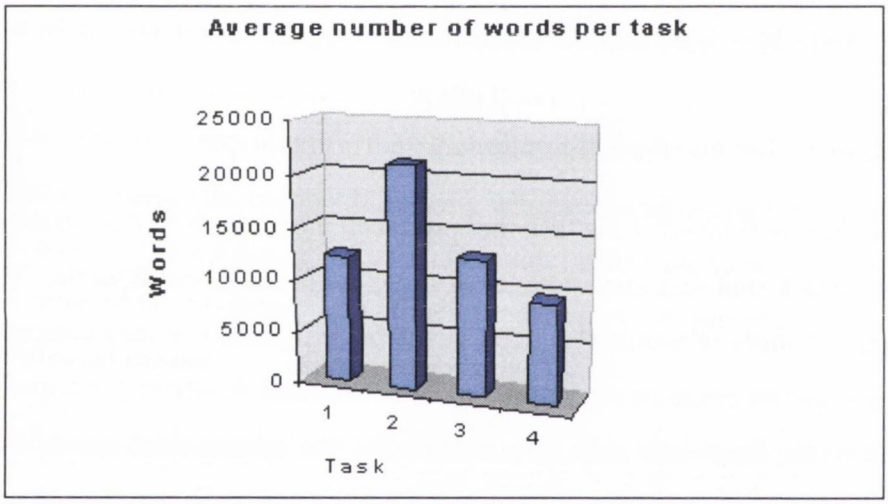


Figure 7 -1

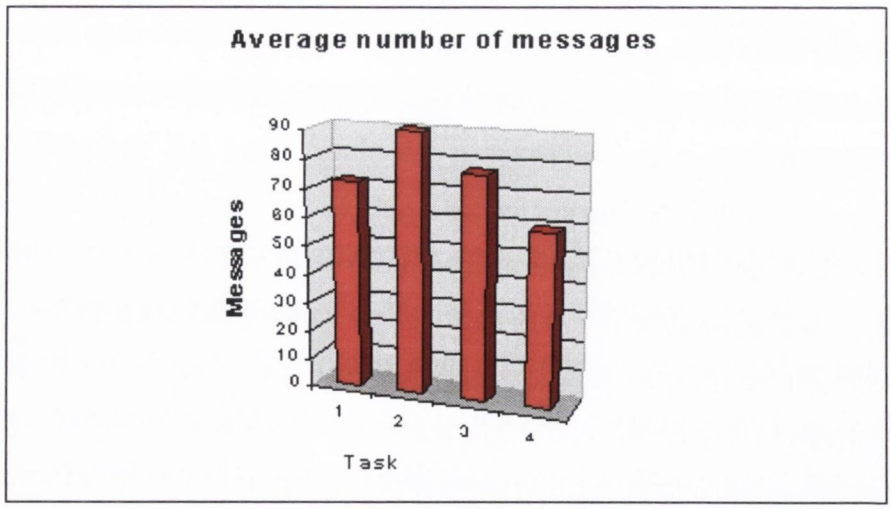


Figure 7 -2

7.3.6 Discussion

In this section I discuss a non-exhaustive list of factors affecting learner motivation in tandem language learning which emerged from the tandem exchange over one academic year. A preliminary list of factors was drawn up by myself and Roger Gilabert, the teacher of English as a foreign language in Barcelona, as a result of our first collaborative tandem experience. This list of factors was published in Appel & Gilabert (2002) and discussed in relation to Robinson's model for task sequencing (2001)[3]. Here I present a more extensive discussion of the factors and refer to the motivational constructs advanced in section 7.2.1 in addition to Robinson's model. I have also introduced in the discussion here an emphasis on the sustainability of motivation as a separate concept to the generation of motivation. The list of factors is concerned with students' motivation to engage and persist in their tandem language learning and linked to the performance data obtained by means of the ETR site as well as to the subjective feedback obtained from students. The intention is to advance a series of criteria to be taken into account when designing tasks for tandem language learning.

1) *Interest in the meaning to be exchanged*

Interest per se is at the heart of motivation and is closely connected to several constructs in its literature. It is related to *intrinsic motivation,* and it is also one of the four components (the other three being relevance, expectancy and satisfaction) of Keller's (1983) education-oriented motivation system. In Keller's system *interest* revolves around the individual's desire to know more about his/her surroundings. In this context I refer to interest in the task content or topic.

In our project, the four tasks were originally suggested by the instructors and discussed with students. Three of the four topics were, we believe, of general interest for all students and only the fourth one (*Stereotypes in TV advertising*) had more of an academic

[3] In undertaking a qualitative evaluation of the project and students' reactions it was extremely important to have an informed insight into how the project had worked on both sides of the exchange, which is why this part of the project was done in collaboration with Roger Gilabert.

charge. In the discussion at the beginning of each task we ensured that students had things to say about each topic, and the specifics were negotiated. We did not set about negotiating the actual task. It would be possible to do so if we were to carry on for a second year with students who are already familiar with a task-based approach. In this case however, students' previous experience of language learning came from very traditional methods where they themselves had not been given the chance to make many decisions. Their unfamiliarity with the task-based approach as well as the introduction of new technologies led us to allow them little freedom in choosing the task, but to choose topics within some tasks.

The third task, *News that matters*, was the task in which students had most power to choose topics that interested them and to shape the task to their own liking. However, and even though the task did not take place until the second semester, some students found it difficult to know what to do with this freedom, and to evaluate the degree and nature of their own interest. The difficulties experienced in particular by a group who chose a topic, 'national festivities', which they thought was interesting in general but which they later realised was only superficially so. Students reported that national festivities had been a topic often put forward by their secondary school teachers of Spanish, and that they had therefore thought the topic to be appropriate for a task in Spanish. This is not to say that students never know what their interests are, but that we cannot expect all students new to this approach to be able to take initiative from day one. Because of their previous experience, students had difficulties in dissociating what they were genuinely interested in and what they had learnt they should be interested in.

Another point relevant to this criterion within a tandem context is that the interests in the meaning to be exchanged may be different for either member of a tandem pair. Tasks that allow for negotiation of these meanings will prompt more correspondence. Taking a closer look at the transcripts of messages sent during task 3 it becomes clear that a few students were falling back to a more traditional mode of delivery which they had been used to. These students were sending long messages developing the topic they had chosen but not taking into account whether their tandem partners would be interested in

the topic. And in these cases the tandem partner rarely responded to the content of the message received and instead sent back a 'monologue' of his/her own. Such messages will do little to sustain motivation over time or increase the quality of interaction to make it conducive to language learning. The long texts sent explain the relatively high number of words for task 3 in figure 7-1, but they may also partly explain the decrease of interest in sustaining e-mail contact during the task that followed.

Although this factor cannot be specifically related to any of the variables advanced by Robinson, one can argue that it falls into the category of affective variables which constitutes the difficulty dimension.

2) *Personal dimension*

Personal dimension is understood here in terms of Chapelle's construct of 'authenticity' and as a factor that would fit in the affective variables in the difficulty dimension in Robinson's model (see Chapter 3, section 3.4.2 for a detailed description of Robinson's model for task sequencing and complexity). It is the extent to which the student can make the link between the task and a real situation of interest to them that appeals to the personal dimension. Chambers (1999) discusses the importance of the student realising the relevance of a subject, that is of the students being able to understand the relationship of the task undertaken to a real task in the world. Keller (1983) also lists *relevance* as a component in his model for motivation that is related to the connection the learner makes between instruction and personal needs, values or goals.

In the context we are concerned with here, there are two levels to be considered: e-mail correspondence and the task. The e-mail writing students engage in is in itself a real situation. Students 'meet' and write to a real person with whom they have to work together, their e-mail tandem writing remains a reality. All tasks were authentic in the sense that they had to communicate with a real partner. However, each of the four tasks was perceived differently as regards what it could provide them with at a personal level. The personal dimension of the task constitutes an affective variable which has an effect on motivation and hence on students' willingness to participate.

The figures show that the second task about *A night out in Barcelona/Dublin* triggered the highest number of exchanges as well as the highest number of words per message. Several comments in students' feedback clearly show that they could use the information they retrieved from the task outside the learning context. In the following comments, the Irish student is clearly making (and taking delight in!) the link between the task and a possible future situation in which she will be able to use what she learnt in the task.

> *Cuando tuve un problema, por ejemplo cuando necesité más información sobre un lugar, escribí a María y me mandó la información muy rápido. Ahora estoy segura que si voy a Barcelona, tendré muchas cosas a hacer por la noche y yo sabré donde están situada*[4].

In this same task, many of the Irish students were gripped by routines of Spanish everyday life such as the late dinner times and very late closing times for pubs and clubs. All these students were to spend their third year in college in a Spanish university, and clearly all this information was pertinent to their future stay abroad. But it was not only in terms of satisfying the instrumental value that this task was relevant to students, the task also appealed to them at a personal level. It prompted affiliation and brought to the surface common values: apart from a few cultural differences, such as times for going out or differences in eating habits, students found that going out in town was an interest common to their age-group in both cultures.

3) *Involvement in the decision-making process.*

This criterion also relates to the personal motive subcondition for relevance in Keller's model. One of the recommendations that Keller gives in order to make instruction responsive to the power motive is to "provide opportunities for choice, responsibility and interpersonal influence" (1983: 410).

As was said before, the topics of the tasks were originally suggested by instructors but then discussed with students. More specifically, at the beginning of each task during the

[4] English translation: When I had a problem, for example when I needed more information about a venue I wrote to María and she sent me the information right away. I am now sure that if I go to Barcelona, I'll have plenty of things to do in the evenings and I will know where to go.

pre-task phase the goal, the content and the steps to follow were negotiated with students so that they would have a clear idea of what to do. We worked from the view that the more involved in the decision-making process they were, the more responsible they would feel for it and the more successful the task would be. However, this may have been the flaw in task 1 where decisions were made in the wrong direction. Students in Ireland decided what film Spanish students should see but the Spanish students were not thrilled about it. Students in Barcelona decided on a film which students in Dublin definitely did not like. If we were to repeat this task, we would reverse the decision-making so that Spanish students delivered the information on several Spanish films and Irish students made the decision based on this information. Then whether they liked the film or not after watching it, it would still be the film they chose.

Another aspect to take into account when carrying out tasks in tandem is that students in the groups can have different levels of experience/maturity which call for different degrees of power of decision. Students in Dublin only started showing signs of willingness to make decisions in the last task. However, several of the students in Barcelona who were one year ahead in their studies asked for more participation in the decision-making process.

> *también sería interesante que si queréis que tengamos un trabajo que realizar con ellos, que nos lo dejarais elegir*[5]

This factor, which is closely related to the first factor of "interest in the meanings to be exchanged" would also constitute an affective variable within Robinson's model. Negotiation had a positive effect on motivation and consequently on task performance, and is a factor that can be considered when testing tasks in an experimental fashion.

4) *Expertise in the topic.*

This factor can be directly linked to the variable of prior knowledge in Robinson's model, the more learners know about the topic the more confident they are in expressing

[5]English translation: It would also be interesting if you want us to do a project with them, that you allowed us to choose which one to do.

themselves about it. Among the reasons for this are a reduced level of anxiety and a decrease in perceived task difficulty. These phenomena are related to self-efficacy: if the student feels confident that s/he can carry out the task it has a positive impact on performance. Keller (1983) describes this within the third component of his model: *expectancy*.

However, what remains to be tested is whether a considerable difference of 'expertise' within a tandem pair may have demotivating effects on the non-expert. In our case students in Barcelona theoretically knew more about stereotypes since it was a media-related topic. However, questionnaires show that Irish students were highly motivated by this issue on which they were not experts. On the other side, however, participation by the Barcelona students decreased during this exchange. The question remains whether these students felt demotivated because they were asked to work together with 'non-experts' or simply because it was the last task of the year and the demands of other academic subjects seemed to be higher for the Barcelona students. Another reason may be that the intellectual challenge posed by the task was lower for the Barcelona students. Intellectual challenge is the next criterion discussed here.

One could argue that the second task, *A night out in Barcelona/Dublin*, made all students experts of the topic, which would have contributed to the high motivation and participation in this task both in Barcelona and Dublin. However, the first task, *Film review*, was also a topic on which the Barcelona students held (in principle) some expertise, but interest in this task was equal in both sides. The novelty factor may also have had an effect on this task.

5) *Intellectual challenge.*

This relates to the complexity or cognitive factors advanced by Robinson. The hypothesis here would be: the more intellectually challenging, the more motivating. Intellectual challenge is a factor rarely discussed in relation to motivation in SLA. The emphasis is more on reducing levels of anxiety and making sure that learners have prior knowledge of the topics treated in the TL. However the feedback obtained from students and the

evaluation of the outcomes of the task suggest that presenting students with an intellectual challenge stimulated students and increased their enjoyment of the task. Keller warns us of the risks of making a task too easy:

> When a task becomes extremely easy, it is not unqualifiedly true that personal motivation will increase. If tasks are very easy, hence an extremely high expectancy for success, a person may become bored or simply uninterested because the task represents no challenge. (p. 418)

In the context of language learning intellectual challenge is too often absent following the argument that by making the content or subject matter easy the individual can free up his or her processing capacity and devote more of it to the linguist form. Such practice can have a strong demotivating effect on students, and can lead to activities which can be viewed as patronizing by students and can even have a reverse Pygmalion effect. The Pygmalion effect which takes its name after Bernard Shaw's play refers to the fact that students often perform according to their teacher's expectations. Dörnyei (2001:175-177) discusses this phenomenon and cites several studies which have provided evidence for positive Pygmalion effect (Rosenthal & Jacobson 1968), for a negative version of the Pygmalion effect, that is, low expectation on teacher's side having a negative effect on student motivation (Brophy 1985) and for the expression of the Pygmalion effect at the group level (Schrank 1968). These are all studies which took place and are discussed within a context of school children (Pintrich & Schunk 1996). It is an open question whether these effects are as strong in adults, but the feedback from the students involved in the study here suggests that intellectual challenge is a factor that contributes to motivation[6]. Another argument against the trend in second language teaching of simplifying content in order to free attentional resources for linguistic has also been put forward from a cognitive point of view by Robinson (2001). Robinson argues that form and meaning do not necessarily compete for the same attentional resources drawing on studies based on multiple resource theory (see Chapter 3, section 3.4.2 for a more detailed account of this argument). This is an exciting view on attentional models which

[6] I also received informal feedback from language teachers in Dublin who had taught the same course level in previous years and who expressed concern about the level of complexity of the tasks and surprise at the high quality performance during student oral presentations.

matches the motivation arguments for increasing intellectual challenge in the foreign/second language classroom. In Keller's model we could attribute the consequences of intellectual challenge to the fourth component, *satisfaction*, in this case in the fashion of an intrinsic reward.

In our project the students who chose the most complex issue in the third task *(News that matters*) did the best job in terms of quality of presentation, and enjoyed the task more than others who had chosen shallower or easy topics. The advertising task was also very popular in Dublin, and it was definitely the most intellectually challenging. If the factor of 'expertise' is considered here we may say that the fact that students are not experts in a topic does not necessarily mean that they will be demotivated. This factor has to be seen in terms of whether the fact that one's partner is less of an expert in a topic may have negative effects on the interaction in terms of being less willing to participate or seeing a smaller potential benefit from the task. Students in Ireland worked with a passage from a Spanish book which was quite formal and academic, and we pushed them to make an analysis which was quite complex in relation to what they had done before. For the Irish case, then, intellectual challenge had a motivational effect. This is clear from some of the student feedback:

> Tenia discusiones interesantes entre mis amigos y la professora
>
> Para este proyecto es importante pensar para si mismo [7]
>
> … this project has taught me that I need to be able to talk in Spanish about particular subjects at a higher level than everyday language

6) *Collaborative work*

This criterion has to do with participation variables in Robinson's model. All of our tasks were one way (i.e. one student had the information which he/she provided to his/her partner), divergent (students in Dublin and Barcelona were preparing different

[7] English translation: I had interesting discussions with my friends and the teacher. For this project it is important to think for yourself.

presentations) and all of our tasks were open (i.e. there was more than one possible solution). In addition to that, they were all collaborative. In our four tasks each student prepared a presentation with a couple of other students in the class. In order to carry out the task, they needed the information provided by their partner in Ireland, who was in charge of a different project. This meant that e-mail partners only provided information, but there was no need to negotiate. Another possibility would be to ask each pair to do the same presentation, and therefore negotiate the content, the steps, the structure, and the appearance of their work. Such a situation may contribute positively to the sustainability of the exchange.

The need for affiliation is described by Keller (1983) under the *relevance* condition and the following recommendation is made: "establish trust and provide opportunities for no-risk, cooperative interaction"(p.412). This is of particular importance when designing the task: it is necessary to strike a balance between requirements for collaboration that will prompt friendly interaction which is sustained and not liable to result in high levels of frustration because a tandem partner is not making his/her contribution to the task work. This will depend on whether goals are shared or a shared-sum scoring strategy is used. Chapter 8 describes a study in which one of the groups was given a common goal and therefore negotiation had to take place. This worked well as a way of ensuring a minimum quantity of words exchanged, but occasionally had a negative effect on students whose tandem partners were not responding promptly enough.

The experience with the third task showed that a common goal would have been desirable. Some of the students' feedback suggested that they should have had the same topic as their tandem partner. Another interesting aspect of this task is that interest kicked in and the number of e-mails went up at the point when they had to present their tandem partners' work.

This factor is at the centre of the study described in Chapter 8, and has to do with how information flows between tandem partners, whether tandem partners share the same goals and whether the task has only one possible solution or several. The manipulation of

participation variables, in their correlation with motivation, can provide useful information about what goes on in task-based e-mail tandem learning.

7) *The media and materials used.*

The medium (e-mail) was motivating in itself. For all the students in both countries, who had very little experience with using e-mail in general, carrying out a language task via e-mail was definitely a motivating experience. Contact with a native speaker was in general something that students desired, in the sense that Gardner (1985) described in his later definition of integrative motivation, being interested in having contact with members of the TL community without necessarily becoming part of it. However this desire for contact with native speakers of Spanish was hindered by Irish students' desire to protect their daily routine and habits. Some of the Irish students reported in informal class conversations that they were reluctant to make contact with Spanish students spending their Erasmus/Socrates year in their university, fearing they would intrude into their private lives and interfere with their routines with their friends. Other were unsure that their level of Spanish would allow them to enjoy face-to-face communication with a native speaker. Writing e-mail, however, was perceived as a safe environment for making an acquaintance with a native speaker of Spanish and practising their L2 skills. Two students commented positively on the fact that by using the ETR site they did not even have to exchange personal e-mail addresses and were free to decide whether they wanted to do so by the end of the exchange. Most students exchanged e-mail addresses at the end of the academic year, although only one tandem pair remained in contact one year later.

By 'media', however, I also want to refer to the different computer and video resources used during the different tasks. For example, in the *A night out in Barcelona/Dublin* task students exchanged not only messages but also image files with city maps or bar flyers. When the teacher suggested that overhead transparencies should be used for the first presentations students showed surprise since they seemed to think that such material should only be used in more academic contexts or for subjects they perceived as more 'serious'. Unfortunately this is a problem you often have to deal with in the language

classroom and which is in our opinion detrimental to the students' motivation to participate. The fact that the outcome of their tasks was taken seriously and that they were expected to deliver in a formal setting raised motivation. We believe that the use of different media, which in some cases were new to most students, may have added to the reasoning demands imposed on the task. The issue to be tested would then be whether increasing complexity by encouraging the use of a variety of media may have an effect on motivation and performance.

In the second presentation Power Point was used. In our view, these visual aids contributed to making presentations more visually appealing. Finally, we also realized that using media that are used in the real world contributes to making tasks authentic for students. Students were enthusiastic to learn a skill in the language class which they could transfer to other academic subjects.

8) *Visibility/diffusion of outcomes.*

Apart from the media used in their presentations, we also saw that making the outcome of their tasks visible had a positive effect on motivation, which in Robinson's model corresponds to difficulty factors. This is the case with presentations of *News that matters*, in which students' willingness to be accurate was increased by the fact that it was videotaped and sent to their partners in the other country. Also, in their third task, students were told that their work would be shown on a web site designed for the project, which we believe had a positive motivational effect. The visibility or diffusion of outcomes, even though it should especially contribute to students' willingness to be accurate, should also push them to do more research, since material on a web page does not look like a college assignment, but is a real reflection of the author's opinions on a certain topic.

We (the teachers in Spain and Ireland) perceived a high level of satisfaction (in the sense of an intrinsic reward) when the outcome produced by students was successfully displayed. However, our questionnaire did not elicit any response on this factor. The only objective evidence we have of its impact is the amount of work invested in the

presentation which was put up on the web, and students' higher levels of accuracy than the presentation slides, which were only used in class. We need a more careful experimental design to incorporate the evaluation of this factor.

9) *Evaluation.*

Evaluation would fall under instrumental motivation in Gardner's model. All tasks were evaluated and given a mark which was a proportional part of students' final mark for that course. There is no doubt that the levels of participation for the groups discussed in this chapter are much higher than for the groups discussed in Chapters 4 and 5 whose participation in the e-mail project did not have such a big influence in their final year mark. It is very difficult to carry out a task if students' effort is directed towards passing an exam that is not task-based. This is an ongoing issue in task-based language teaching approaches, and is also an issue addressed by Keller (1983) when discussing *expectancy* and stressing the need to make objectives consistent with evaluation. The degree of integration of e-mail tandem language learning into the syllabus and evaluation methods is further described in the following section, which addresses the second research question posed in this chapter.

7. 4 Description study B

7.4.1 Subjects

In the studies described up to this point, the subjects involved worked on a self-access basis (Chapter 4, and the group discussed in Chapter 6, section 6.4 under Student Motivation), or attended a class where the task was integrated into the curriculum to a greater or lesser extent (Chapter 5), but the relevant feature is that the courses were voluntary and did not make a major contribution to students' grade. In the study described so far in the present chapter, section 7.3, there were 2 factors different to the previous studies described here: the tasks were entirely integrated into the syllabus, and the syllabus belonged to a subject which was a compulsory component of learners' degree studies. The huge increase in participation could be explained by either of these

two reasons. It may have been the case that the tasks were not the catalyst in the subjects' behaviour, but that it was the compulsory nature of the subject and the need to get a good grade for the subject what had made students write. Research question b, How does the instructional-context affect participation quantitatively in tandem exchanges?, addresses this question.

In order to answer question b, a tandem exchange was set up for a compulsory language course in which the instructor was not using a task-based approach. The students involved in this exchange are under Group 1 in table 7.1 showing a summary of the description of two groups being compared in this section. Group 2 is the group of students that was described above in section 7.3.1. This group consisted of 9 tandem pairs which wrote to each other for a whole academic year. However, only the data collected from the first two tasks (1 semester) is used for the comparison with group 1 since this group was only told to engage in the exchange for one semester, which was the time spent by group 2 for two tasks. The students in group 1 had the same profile as students in group 2 in that they were attending the same type of courses at the same universities in Barcelona (Blanquerna, Universitat Ramon Llull) and Dublin (Dublin City University). The main differences are two: the pedagogical approach adopted in the teaching of the foreign languages and the previous experience in e-mail tandem learning for the students in Ireland.

The pedagogical approach adopted for Group 1 was a communicative approach for which students were required to research a number of topics, write about them and present them in class. Students were asked to consult their tandem partners for further information on the topics discussed in class, and the teacher regularly encouraged them to continue doing so throughout the semester. However, their work in class and their presentations were not based on collaborative work with their tandem partners. Because of constraints in the groups of students I had access to in DCU, I had a limited choice and finally decided to use the group of students who had previously done the tandem exchange described in 7.3 and who were just about to start their second year in college. Of the 20 students in the group during their first year, only 14 took Spanish in their second year: 3 of them had

dropped out of college, and three chose other optional modules. Taking into account that these second year students had already learnt how the routine for the tandem exchanges worked and would have developed a certain level of autonomy to carry out the exchange on their own, I assumed that the fact that they had previous experience with e-mail tandem language learning would only bias the results against the prediction that students following a task-based approach will be engaged in more productive exchanges in terms of quantity and sustainability.

	Group 1	Group 2
Label in chart and boxplots	No-Task (NT)	Task (T)
Pedagogical approach	Communicative approach	Task-based approach
Integration of e-mail tandem into the curriculum	No, used as additional information resource	Yes. E-mail communication was built in
Assessment	Exam at the end of semester	Exam + Continuous assessment (task presentations and reports)
Detailed subject description	Chapter 7, 7.5.1	This section

Table 7.1 Overview of subject groups

7.4.2 Data Collection

All the data collected for this particular study was automatically stored by the Electronic Tandem Resources. I wrote an additional Perl programme in order to extract and calculate the figures for the intervals between messages. The data was then analysed using the statistical packages Data Desk and SPSS.

7.4.3 Results

Table 7.2 shows a summary of the quantitative results obtained, including both the mean and the median of the number of words written by each pair and the number of days between messages for each pair. Because of the low number of tandem pairs involved in the projects I am only using descriptive statistics and using boxplots in order to look for possible explanations for the results obtained. The following are each of the three measures outlined in question b:

(i) Amount of text produced (number of words). For this measure the average number of words written over the period of two semesters was 2,097 for the No-Task group and 3,745 for the Task group. The Task group wrote almost twice as much as the No-Task group. However, the median shows that there are differences which are not immediately captured by the mean (917 for the No-Task group and 2,689 for the Task group). The boxplot for these data in figure 7-3 shows that there are outliers which have pulled up the mean figures. It can also be interpreted as showing that there is a tendency for a smaller spread in the Task group.

(ii) Regularity of correspondence. This measure looks at the length of the intervals between messages measured in days. When a student wrote more than one message in a row before getting a reply, the figure taken is the number of days between the two most distant messages written by two different individuals. On average the students in the No-Task group wrote every 9 days and students in the Task group wrote every 6 days. Here the mean and the median don't show big differences. However, when we look at the boxplot in figure 7-4 it is clear that the spread is much smaller for the Task group.

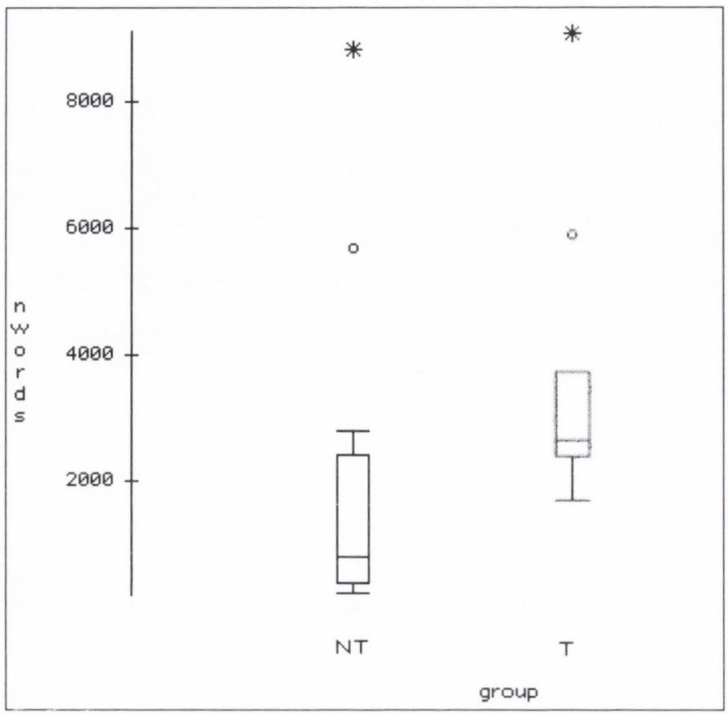


Figure 7-3 Boxplot on the number of words produced by each group

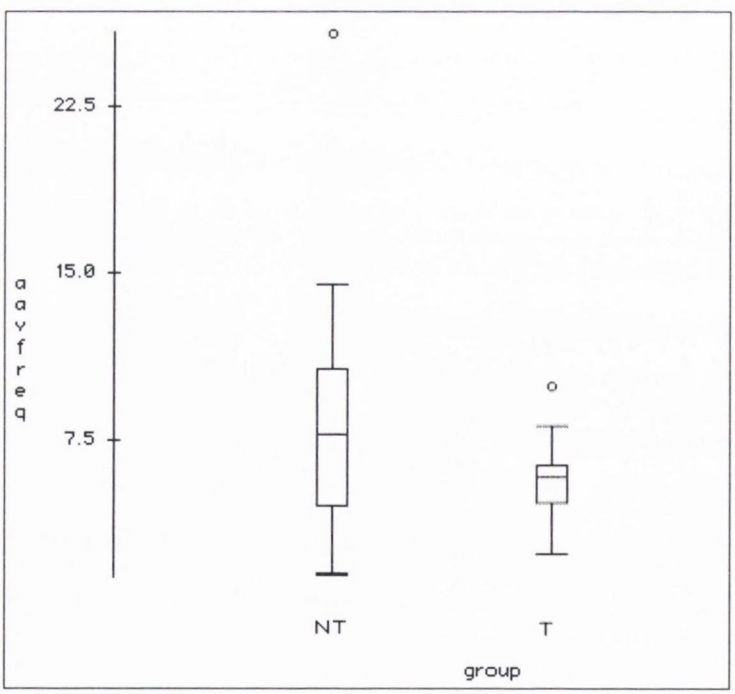


Figure 7-4 Boxplot on the average frequency (in days) of writing for each group

	Words		Message interval	
	Mean	*Median*	*Mean*	*Median*
No-Task (n=14)	2096.84	917	8.64	8.60
Task (n=9)	3744.56	2.689	5.84	5.74

Table 7.2 Words and Frequency measures

(iii) Performance homogeneity within groups of students. The results in relation to number of words and regularity of correspondence show that the spread in the Task group is smaller than in the No-Task group. Figure 7-5 shows the data plotted with the number of words on the y axis and the regularity of correspondence in terms of days between messages on the x axis. Each dot represents a tandem pair, the square pink dots being the Task group pairs and the blue rhomboid dots being the No-Task group pairs. The higher up in the chart (higher number of words written) and the further to the left (fewer days between messages, that is, higher frequency) the more successful the pair is in relation to the criteria examined here. At the same time, the more clustered the dots the more homogeneous the performance is within the group. In figure 7-5 the pink square dots corresponding to the Task group are more clustered together than the dots corresponding to the No-Task group. This can be interpreted as the task-based environment having a positive influence in making the exchanges less relying on personal factors. When there is no task, exchanges depend more on the individual students' personality matches and we observe that the patterns of correspondence are much more different, whereas when we introduce a task, the differences in participation among students decrease.

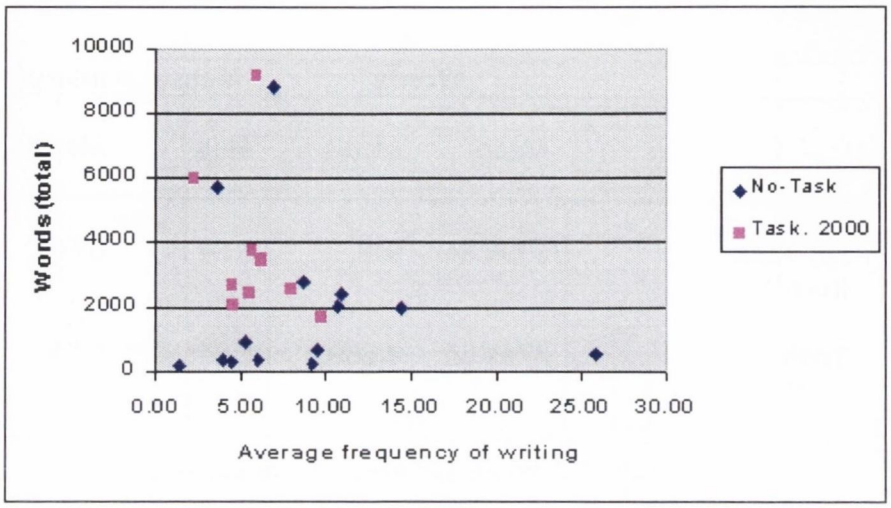


Figure 7-5 Plotted chart No-Task group vs. Task group.

7.4.4 Discussion

The results put forward above are based on descriptive statistics because of the small numbers of participants. This is a problem inherent in action research. The number of participants is restricted to the number of students in class. In this case it is restricted to the smallest class of the two groups involved (Barcelona and Dublin), and then because of different numbers in the two classes, students in the largest class are assigned to triplets instead of pairs in order to deal with this problem. These pairs are not used for the study, and neither are those pairs where one of the students drops out of college (an average of 2 per year for each geographical location during the three years we have conducted tandem exchanges). It would be possible to replicate this study to gather more data. However, if you do this you are introducing other differences such as teachers, tasks, etc.

Despite the limitation of the small size of subject sample, we can draw a few conclusions. First of all there is a trend for the group involved in a task-based approach to write more text and more frequently, both of which are conditions desirable for language learning. The second conclusion we may draw is that the correspondence between students in the task-based approach seems to depend less on the development of a good personal

relationship and therefore is more likely to guarantee sustainability of the exchange. If students are writing to each other more frequently, their messages are longer, and they sustain correspondence over the periods of time required, we can say that they are exposed to greater quantities of input and are more likely to retain new words or structures they encounter, and therefore opportunity for language learning increases.

To sum up, answering the second question made in this chapter, whether the instructional context affected participation quantitatively, the answer is affirmative. The group within the communicative approach showed an increase in their levels of participation in comparison to previous studies. This may have been because students were attending a compulsory course and were subject to end of year exams. When comparing the levels of participation of this group and the group attending the same language class but with a teacher that adopted a task-based approach the quantitative results in relation to levels of participation were higher for this last group, and this was despite the fact that students in the communicative approach has already experience with tandem language learning and had developed a certain level of learner autonomy. The only factor that cannot be controlled for is that these two groups had different teachers. However, given that in e-mail tandem projects the central role of the teacher diminishes making room for the tandem partner, I would speculate this is a factor not likely to have a major impact.

7. 5 Summary

This chapter looked at factors that increase motivation and therefore sustainability of e-mail tandem exchanges. Two research questions were asked. The first one, 'What features of a task make it more motivating for students?', was addressed by evaluating qualitatively the performance and feedback from students who carried out four tasks during a full academic year. Eight criteria for task design within an e-mail tandem language learning context were identified and discussed. These criteria are the following: interest in the meaning to be exchanged, personal dimension, involvement in the decision-making process, expertise in the topic, intellectual challenge, collaborative work, the media and materials used, visibility/diffusion of outcomes, and evaluation. All

these criteria were found to have an impact on student motivation, and were considered in relation to the dynamic between tandem partners.

The four tasks under study were also evaluated quantitatively. It was found that the levels of participation in this project were much higher than in the studies described in Chapters 4 and 5. Two possible reasons for this were identified: one was that this project was embedded within a task-based pedagogical approach and that e-mail tandem was fully integrated into the course design; the other possible reason was that the course students attended in this study was compulsory. This motivated the second research question in this chapter.

The second question was: 'How does the instructional-context affect sustainability in tandem?'. To answer this question the performances of two groups engaged in e-mail tandem projects were compared. The first group worked within a communicative approach while the second group, described in the first part of this chapter, had been working within a task-based approach. Both groups attended compulsory language courses. The results, which should be interpreted with the usual caveats that accompany studies with small groups rooted in action research, showed that the group working within a task-based approach wrote more, and more frequently, and that the correspondence with their tandem partners depended less on a good personal relationship. These findings were interpreted as showing that a task-based approach provides more opportunity for language learning by enhancing the sustainability of the e-mail correspondence.

Chapter 8 E-Tandem Tasks II: Flux of information

8. 1 Introduction

This chapter looks at the effect of task interactive variables on learners' performance in their e-mail correspondence with tandem partners. The theoretical framework used is Robinson's triadic model for tasks (see Chapter 3, section 3.4.2, for a detailed description of Robinson's model). In Chapter 7 I put forward arguments for a task-based approach on grounds of sustainability and student motivation. In addition there are also a number of reasons offered in the SLA literature. A number of different approaches agree that it is through authentic, meaningful communicative language use that language acquisition takes place, whether because such language use affords opportunities for negotiation of meaning (interactionist theories: Long 1983; 1985, Varonis & Gass 1985), triggers attention or psychological mechanisms that facilitate the integration of a structure into the learner's interlanguage (cognitive theories: Robinson 2001, Skehan 1998), or promotes development in the Zone of Proximal Development (approaches based on Vygotsky 1962). For any of these theories the learner needs to be actively engaged in a communicative context if language learning is to take place. A task which sets a specific goal and requires an outcome from the learner will enhance the likelihood of the learner being actively engaged rather than being a passive observer.

Robinson (2001) puts forward a model for sequencing tasks and proposes that the basis for sequencing should be task complexity factors, that is, those factors that affect the cognitive demands of a task. As well as cognitive factors, Robinson's triadic task framework also lists interactive factors (task conditions) and learner factors (task difficulty). Robinson argues that of these three factor types, only the task complexity factors can be manipulated with the purpose of sequencing tasks in the best order for the stimulation of successful performance. Learner factors do not lend themselves to prior manipulation; learners bring with them their own individual characteristics which will also vary according to a high number of external factors. The reason for not manipulating interactive factors proactively is, according to Robinson, that these factors should be

determined by a needs analysis and the features of the tasks students will be expected to perform in real situations. However in this particular case, it is precisely the interactive factors that I am interested in, not with a view to employing them for sequencing tasks, but rather to examine their influence on second language acquisition in order to improve the design of tasks and the extent to which they afford opportunity for language acquisition. Robinson himself states that research is needed into the three types of factors in his model and the impact they have on language learning (2001: 317).

In looking at the effects of interactive factors of a task on student performance in their e-mail correspondence, I have selected the divergent/convergent condition under participation variables in Robinson's classification of factors affecting tasks. This condition is related to whether participants work towards the same goal (convergent) or different goals (divergent). There are two main reasons why I chose to study further this particular feature of tasks. First of all, I wanted to address the problem that has come up repeatedly in the case studies described in this thesis, namely, that of students embarking on extended monologues which were of little interest to their tandem partners and failing to engage in exchange of meaning. I hypothesized that a mere exchange of information and opinions would result in little actual interaction, whereas if participants were to share goals students would be forced to attend more to what they write and read. Pica, Kanagy & Falodun (1993) also discuss the difference that convergent or divergent goals make to the demands a task imposes on the learner. They identify two recurrent features in tasks, interactional activity and communication goals, and develop based in these two features a taxonomy which looks at learner performance. The convergent/divergent dichotomy is listed under communication goals and Pica *et al.* argue that whereas divergent goals are only probable to result in comprehension of input, feedback on production and interlanguage modification, convergent goals are almost certain to trigger these.

My second motivation for examining the divergent/convergent condition is the considerable difference for each condition in terms of planning when designing a task which will be used for e-mail tandem. It implies a great deal more planning and coordination from the teacher's side to implement a task with shared goals, and more

detailed instructions for students (e.g. , in the present context, the tandem partners of two given students in Dublin will have to work together in Barcelona). It is therefore necessary to assess whether the pedagogical and learning advantages outweigh the complexity in set-up.

Having said that Robinson's model is used as a theoretical framework, there are a few points to take into account. Firstly, there is a difference in purpose with Robinson's model: he designed it for sequencing and I am using it for investigating the effects of a given interactive factor on language learning. There are also some differences between the tasks being described here and the tasks Robinson designed his framework for. Each task employed here takes place over a four week period and encompasses a number of activities. Also, the tasks here are not face-to-face but communication is written and asynchronous, and communication takes place between NSs and NNSs.

8. 2 Research questions

The overall goal is to find out which tasks work best for language learning in an e-mail tandem exchange. By this I mean, which tasks provide the best conditions for learning. That is, I am looking at the language learning potential criterion in Chapelle's model for CALL task appropriateness, discussed above in Chapter 3, section 3.2.2. Chapelle refers to language learning potential as "the extent to which the activity can be considered to be a language learning rather than simply an opportunity for language use" (p.55). She then argues that focus on form is what makes the difference and suggests that research methods into language learning potential should assess outcomes in the form of acquired grammatical forms or vocabulary. However this is not without complication, and in the present circumstances there are added difficulties inherent in action research and longitudinal studies. Action research takes place in the classroom and a proper experimental setting is extremely difficult to design; there are many factors to take into account and many other activities taking place. In this case, the task involves cycles of planning, negotiation, group work, focus on form etc, all of which take place face-to-face. Ideally, we would isolate the e-mail writing from all these factors but this is not a possibility in a real class context. Concerning longitudinal studies, it is practically

impossible to control for all the input students maybe be exposed to outside class time and their e-mail writing. Finally, the use of pre-tests would be necessary in order to research the acquisition of grammatical forms and vocabulary, but in e-mail writing between students it is difficult to predict which forms will be used by students and to control for avoidance. Therefore a study that considers linguistic structures in particular is not feasible here. Instead I explore first of all in question A to what extent language use takes place, because while it is not sufficient for language learning, it is necessary. Secondly, in question B I look at what purposes language is used for in the e-mail interactions and the variety of different language functions that appear in the texts. I consider the presence of these functions as a sign of potential for language learning but do not make any claims that actual language learning took place due to the characteristics of this study. It would be necessary to take a more experimental approach for collecting evidence of actual language acquisition, but one of the purposes of this study is to inform future design of such experimental studies.

Question A[1] How does the fact that learners share the same goal (convergent condition) or have different ones (divergent condition) affect quantity of language production?

On the basis of previous experience, it was hypothesized that the convergent group would produce 'more' (a higher number of words) since they would have to *negotiate* different aspects of the task. The prediction for the group with divergent goals was that they would merely exchange information without having to actually negotiate.

[1] Preliminary partial results responding to question A were presented in : Appel, C. & R. Gilabert, 2002: "Interactive factors and task performance: a case study in a task-based e-mail tandem environment". Eurocall 2002, University of Jyväskylä, 14th-17th August. The results presented in this chapter have been extensively elaborated since then on my own. I am indebted to Roger Gilabert for his help setting up the exchange and managing the students in Barcelona, as well as his contribution to the design of the tasks and set up. He pointed me in the direction of Robinson's model and discussed at length with me the design of the study. Results analysis and interpretation are entirely my own work.

Question B[2] How do the divergent/convergent conditions affect the quality of production? , *quality* meaning that the production offers input in the L2 of a wide range, consists of language complex and interactive enough to give more opportunity for attention to form and that the context set up allows for/encourages students to take initiatives and manage their own language learning. Quality is measured in the following terms:

- *Is the principle of bilingualism adhered to?*

For this question the measure is the word count for L1 and L2 for each student. This is an important aspect to control for; the whole point of tandem language learning is defeated if students choose to write only in one of the languages shared with the tandem partner.

- *What are students using language for in their e-mail communication?*

For this purpose I examine four macro-functions that emerged in the text: Information exchange, Interpersonal dimension, Task and communication management, and Focus on form. Information exchange was a goal for all students in the case studies I have described above in this thesis. The other three macro-functions are areas in which students should develop in order to increase the quality and potential benefits of the exchange. The interpersonal dimension is related to establishing and maintaining a good relationship with the other person which will help collaborative work and support sustainability. Task and communication management are related to learner autonomy, that is, the degree to which students are taking the initiative and are able to manage their learning processes. And finally focus on form refers to instances of explicit meta-language or negotiation of meaning. This last macro-function is discussed at length in

[2] Preliminary partial results responding to question B, point 3 were presented in : Appel, C. & R. Gilabert, 2003: "Interactive factors and task performance: a case study in a task-based e-mail tandem environment". Worldcall 2003, Banff, Calgary, 7th-10th May. Gilabert was the second coder and discussed with me at length the taxonomy of functions. The points related to bilingualism, behaviour categories and the analysis and interpretation of all results are entirely my own work. The programming of the scripts used for extracting the figures from the tagged text is also my own work.

the SLA literature in relation to face-to-face communication and I set about here to explore how (or if) it takes place in the current context.

- *How much variety of communicative functions is produced?*

The aim of this point is to see whether one condition prompts a higher variety of language functions used. The prediction here is that the convergent group will show a higher degree of variety.

8. 3 Experimental design

8.3.1 Subjects

The profile of the subjects participating in this study is very similar to the group of students participating in the study described in Chapter 7. The students in Dublin were first year students attending classes in Spanish as a foreign language as part of their main degree at the School of Applied Languages and Intercultural Studies in Dublin City University. Their main degree was Applied Languages, Business Studies or Computer Science. Their level of proficiency was intermediate and they had all taken Spanish as a subject in the *Leaving Certificate* (Irish school leaving exam). All students were familiar with the use of word processors, Internet browsers and e-mail.

The students in Barcelona were a mixture of first and second year students because they were grouped for their language courses according to their level of English. Overall their level was intermediate and they had all taken English for the *Selectividad* (Spanish university entry exam). These students were all taking English as part of their main degree in Advertising, Public Relations, Journalism or Audiovisual Communication at the Communication Studies Department in Blanquerna, Universitat Ramon Llull. They were all also familiar with word processors, Internet Browsers and e-mail.

All students in Dublin were enrolled for the same module, had the same syllabus, assessment and teacher (myself) but were in two different groups. The same was true for the Barcelona students. Each group in Barcelona was assigned to one group in Dublin.

8.3.2 Tasks

There were two tasks given to participants. A task here takes place over a four-week period and encompasses the phases of a task-based framework outlined by Willis (1996): planning, implementation and focus on form. Students are first given input relevant to the task and are required to negotiate the content of the task with the teacher and other members of the group (that is, one more person in their class and two people in the other country's class). In implementing the task there is a continuous process of negotiation and decision-making in order to prepare the outcome of the presentation: oral presentations with visual aids (most often in the form of a PowerPoint presentation) and a written report. Finally there's a stage in which reflection on the work done takes place as well as explicit focus on form. This is not to say that no focus on form takes place during the planning and implementation phases, but that the last phase is mainly centred around focus on form. In the big picture, e-mail interaction is only one element in the broader task. The purpose of the study described here is to examine which features are best to make the e-mail interaction within the task best for second language learning.

The first task given to students was *A weekend away in Barcelona/Dublin*. The objectives of the task for the divergent condition were to draw a route with the places they wanted to visit in their target town (Barcelona for the Irish students and Dublin for the Spanish students), together with a description of the places to be visited, and to draw up a detailed budget for the entire visit. For that they were given printed material about Barcelona (leaflets from the Barcelona tourist office), and links on the web (mainly to tourist places) but their main source of information was their tandem partners who could add evaluative information to the information students already had, and would also be the main source of information for venues to visit at night (restaurants, pubs, clubs). The outcomes of the task were two oral presentations, one being their own route and the other being the trip planned by their tandem partners, and a written report with a brief summary of both trips (see appendix D for the instructions given to students in the divergent condition).

For the students in the convergent condition the instructions for the task *A weekend away in Barcelona/Dublin* were slightly different. The students had to spend the planned trips to Barcelona and Dublin together, so that they needed to negotiate what they wanted to do during the weekend with the person they were working with in their own class as well as with their tandem partners. The outcomes requested from students were the same as for the divergent condition: two oral presentations, one on the weekend in Barcelona and one on the weekend in Dublin, and a written report on both weekends (see appendix E for the instructions given to students in the convergent condition).

The second task given to students was *Urban Legends*. For this task students had to choose a specific topic within urban legends such as stories about ghosts or horror food experiences, and compare the stories and their circulation in Spain and Ireland. Some of these stories were obviously the same, others had changed in detail in response to local conditions, while some stories were only found in one of the countries. Students then analysed the stories from content, discourse analysis and intercultural perspectives. For the divergent condition students in each country decided which topic they would work on and then informed their tandem partners and asked them for help, whereas for the convergent condition, students were told to negotiate with their tandem partners to work on the same topic. (see appendices F and G for the instructions given for this task in the divergent and convergent conditions).

Instructions to students were given in class and were also put in writing on the web for them to consult. The URLs for the description of the tasks were posted by the instructors on the group board of the ETR site. The students in the divergent condition and those in the convergent condition were in different groups within the ETR site, which means that they were writing to separate group boards and therefore had access only to the instructions relevant for them. There was no other link to these instructions while the tasks were being carried out. In this way we ensured that students assigned to one condition would not be exposed to the instructions given to the other condition. We also checked and confirmed after the period of time in which tasks were carried out that

students in the two groups had not been aware of the fact that they were doing the tasks in different ways.

8.3.3 Data Collection

Data collection took place over a period of two months during the spring semester of 2002. Students used the latest version of the ETR site, ETR 4 (see Chapter 6 for a description). Students filled out a questionnaire on entering the ETR site for the first time. The questionnaire gathered information such as age, gender, and level of computer literacy and requested permission to use the data collected for research purposes. Motivation questionnaires were also administered on the first day of class. The purpose of the motivation questionnaire was to control for learner factors and any possible influence that differences between the two groups might have on the results of the study.

There were 16 students in Barcelona and 13 in Dublin for the divergent group. Because there were more students in the Barcelona group, we had to create three triplets where an Irish student was paired with 2 Barcelona students. Students working in triplets were discarded for this study's purpose: they were considered not to be comparable to pairs since they were likely to show an imbalance in the amount of production on one side of the exchange and were likely to create different group-work dynamics. There was one student in the Irish group who had recently moved to Ireland and was not a native speaker of English; the data produced by her and her tandem partner was also discarded. The remaining 9 pairs were used for this study (see table 8.1). Unfortunately, three students did not grant permission for using the data collected for research purposes, which rendered data from three pairs unusable. However, use of the ETR site did imply that quantitative figures of the exchange could be made public so data from nine pairs was used for question A which looks at the quantity of words produced. For question B it was necessary to read the messages and therefore only the data collected from the six pairs shaded grey in table 8.1 was used.

There were 13 students in Dublin and 13 students in Barcelona for the convergent group. Two of the students in Ireland were not native speakers of English and had been in the

country for less than two years so they were also discarded from the study. A further two pairs were discarded because one student dropped out of college and a triplet was formed to solve the problem, leaving 9 pairs in this group (see table 8.2). In this group again three students did not give their permission for the data to be used for qualitative research purposes. The tandem pairs who did grant their permission are shaded grey in table 8.2.

Spanish student	Number of words	Number messagges	Irish student	Number of words	Number messages	Total Number of words	Total Number messagges
ESP_Abq	4,944	32	ENG_Abq	2,360	24	**7,304**	**56**
ESP_Abo	3,335	15	ENG_Abo	3,078	14	**6,413**	**29**
ESP_Abw	2,467	14	ENG_Abw	2,405	13	**4,872**	**27**
ESP_Abp	1,560	10	ENG_Abp	2,991	12	**4,551**	**22**
ESP_Abr	2,087	15	ENG_Abr	2,252	13	**4,339**	**28**
ESP_Abn	1,769	16	ENG_Abn	2,168	21	**3,937**	**37**
ESP_Abs	1,736	11	ENG_Abs	1,035	10	**2,771**	**21**
ESP_Abz	1,309	15	ENG_Abz	601	8	**1,910**	**23**
ESP_Aby	1,117	14	ENG_Aby	597	7	**1,714**	**21**
						37,811	**264**

Table 8.1 Divergent Condition

Spanish student	Number of words	Number messages	Irish student	Number of words	Number messages	Total Number of words	Total Number messages
ESP_Aaz	2,302	20	ENG_Aaz	2,052	19	**4,354**	**39**
ESP_Aax	2,299	20	ENG_Aax	1,742	16	**4,041**	**36**
ESP_Abd	1743	15	ENG_Abd	1,963	14	**3706**	**29**
ESP_Abi	2,089	11	ENG_Abi	1,268	10	**3,357**	**21**
ESP_Abk	933	9	ENG_Abk	1,674	13	**2,607**	**22**
ESP_Abb	1,177	18	ENG_Abb	1,379	16	**2,556**	**34**
ESP_Aaw	1,221	12	ENG_Aaw	1,323	10	**2,544**	**22**
ESP_Abe	1,089	8	ENG_Abe	1,288	15	**2,377**	**23**
ESP_Aay	733	11	ENG_Aay	1,463	20	**2,196**	**31**
						27,738	**257**

Table 8.2 Convergent Condition

The low number of students is problematic and illustrates one of the difficulties of action research. In using data from a class where participation is compulsory the permission of all students to use the data is not guaranteed. This problem can be alleviated by asking students for permission again towards the end of the semester. Previous experience in studies I have conducted before had shown that students are more willing to grant

permission at the end of the semester because they have a better understanding of what their permission involves. Some students will also be more willing to give permission after getting to know their teacher throughout the year. In this case it was not possible to ask for permission again at the end of the semester as one the teachers was on sick leave. As data from so many students could not be used I questioned whether the study could be legitimate. I decided to go ahead for two reasons: even with the loss of data there were still the same number of subjects for both conditions, and for both questions; secondly, tables 8.1 and 8.2 show that the pairs who did not give their permission for the content of the transcripts to be read are distributed similarly in both groups. If these pairs had been clustered towards the top or bottom of one of the conditions it might have skewed results. On the basis of these considerations I decided to go ahead with the study. It should be stressed that any results must be interpreted with caution and the study should replicated with more participants to validate these results. Nevertheless, I present here tentative results and a methodological model for this type of research.

Table 8.3 shows the total number of words available for analysis for question B and collected from the 12 pairs, 6 in the divergent condition and 6 in the convergent condition. The figures here are slightly different to the figures in tables 8.1 and 8.2 (-1.5% for divergent and +4% for the convergent group) for various reasons. For one thing a few messages were repeated because students sent them twice, and they were not detected and removed until messages were read for content. For another, messages sent more than three weeks after the end of the last task were not counted for the analysis in question A since this analysis looked at differences between tasks within the same condition. For the analysis for question B the script for each pair's complete e-mail exchange was used. Human error in the manual tagging of functions in the text also introduced a small margin of error in the word count.

	Words	*Messages*
Divergent	25,225	189
Convergent	19,734	175
Total	44959	364

Table 8.3 Data used for the analysis of question B

8.3.4 Methodology

Motivation questionnaires

The questionnaire administered before the study took place had the purpose of controlling for differences related to learner factors (the third column in Robinson's framework, see table 3.4 in Chapter 3 above). These factors were beyond our control but could nevertheless have had an influence on differences found in the present study (see appendix H for a copy of the questionnaire). The questionnaire used is adapted from the questionnaire developed by Schmidt & Watanabe (2001: 353-356). Schmidt & Watanabe developed the questionnaire in order to explore within a college context correlation between different factors and they grouped questions under different subcategories which fall under one of the following three categories: motivation, preferences for instructional activities and learning strategies. Affective variables are covered in questions within the first two categories. It was hoped that the third category, learner strategies, would identify any possible differences related to students' level of autonomy and strategies which might affect their participation in the e-mail exchanges. Some of the items in Schmidt & Watanabe (2001) that were not directly relevant to the current study were removed, such as the questions related to heritage language (their study was conducted in a context in which a high proportion of students were learning a language belonging to their cultural heritage).

A t-test (two-tailed, independent two sample equal variance) shows no significant difference between the divergent and the convergent group for any of the three sections of the questionnaire (motivation $p=0.47$; preferences for instructional activities $p=0.16$; learning strategies $p=0.15$). The questionnaire developed by Schmidt & Watanabe was designed for detecting correlations between different factors. All questions can be grouped according to different factors which fall under one of the three sections of the questionnaire. Looking at the means of all questions in one section could have hidden differences in particular factors, therefore additional tests (t-test, two-tailed, independent two sample equal variance) were run on the categories indicated in table 8.4. These

categories were deemed to be of particular interest for the context in which the present study took place.

Section	Category	Question numbers	T-test p<0.05
Motivation	Intrinsic motivation	1-6	p=0.73
	Integrative orientation	10-11	p=0.04*
	Interest in foreign languages and culture	12-15	p=0.34
Preferences for instructional activities	Cooperative learning	58-60	p=0.003*
	Innovative approaches	61-63	p=0.77
Learning strategies	Social strategies	71-73	p=0.007*
	Study skills: time, place & effort management	74-81	p=0.58
	Coping strategies	82-87	p=0.64

Table 8.4 Results of motivation pre-questionnaire

In table 8.4 the third column indicates what questions belonged to each category (see appendix H), and the fourth column shows that there is a significant difference for three of the categories: Integrative orientation (p=0.04), Cooperative learning (p=0.003) and Social strategies (p=0.007). A closer look at the responses to the questionnaire shows that students in the divergent group scored higher for these three categories and also confirmed the teachers' intuition that these groups seemed to be more motivated from the start of the course. The questionnaire was filled out before the start of the study reported here, so the results do not show any cause-effect relationship, but should be taken into account when analysing the results for questions A and B since they could have had an effect on them. The three categories in question are relevant to e-mail tandem exchanges; one could hypothesize that students who have a higher desire for contact with the target language community, like better to work in groups and have a greater tendency to work with classmates on their class assignments will be more likely to succeed in their tandem language learning.

Question A

The methodology used to research the question of quantity of language production is fairly straightforward. Word counts for each message written were readily available through the ETR site and therefore more subjects could be included for researching this

question. Some subjects objected to researchers reading their messages, but the figures in the ETR site were open for use. These numbers were examined in two ways. Firstly the total numbers for each group were gathered and compared. Secondly, the number of words produced for each task was looked at to see how quantity of language production changed in time and thus address the question of sustainability.

Question B

Question B is related to the quality of the interaction in the e-mail exchanges for each condition. The first part of question B related to bilingualism is, as for question A, based on word counts. The language guesser integrated in the ETR site gives approximate figures for the percentage of each message written in each language. However, since the corpus[3] collected is small I tagged the text manually in order to achieve a higher accuracy rate.

The second and third points in question B regarding variety of language use is more complex to investigate. What should the units of analysis be? One way to go about it would be to look at variation in levels of complexity using measurements that have been employed for evaluating language complexity in corpus linguistics. For example, one method is to look at lexical density and syntactical complexity, for the latter sentence length, and levels of embedding and modification could be measured. However, for this we would need to split the text for each condition into four groups: Spanish L1, Spanish L2, English L1 and English L2. If we did not separate the text produced by native speakers from that produced by non-native speakers, a low score on lexical diversity from non-native speakers might cancel out a high score on the part of native speaker tandem partners and likewise for other measurements. These measures would be interesting if the corpus were bigger and we wanted to compare learners' performance against native speakers' performance. The question here is of a different nature, however; it is to find out what language is used for in the context of tandem language learning and how the

[3] I am using the term corpus here for ease of expression, acknowledging that the use of this term can be questioned due to the small size of the text collected.

design of tasks can be manipulated in order to achieve more varied language use, or to foster communicative behaviour which is seen as contributing to language learning. The question of how the different language functions are tackled by NSs and NNSs in this context is an interesting but separate question. In this study I am seeking to create a coding system that will answer the points formulated for question B. In developing this coding system I aim at making it applicable not only for the purposes of the study in this chapter but also for future related research. My intention to do so is related to the possibility of building a learner language corpus by means for the ETR site (see section 6.6.1, Chapter 6 above).

The first issue is, then, to decide how to define different types of language use in this specific context, and what unit of analysis to use. Is there a theoretical framework that can be used within this context? Two issues arise here. One is that the purpose of the analysis should determine the units of analysis, and therefore coding schemes developed for related fields such as pragmatics or theoretical linguistics do not entirely fulfil the present needs. Another problem is that many of these coding schemes are developed for either spoken or written language. Let's take conversational analysis for example, an area relevant to CMC if we regard it as a type of written conversation. Conversation analysis units can be adapted for the analysis of synchronous CMC. However, concepts such as turns or adjacency pairs do not apply in the context of asynchronous writing, especially in this case in which the reply function which preserves the original text within the window for composing the new text was not available to users. In asynchronous communication students tend to write longer paragraphs and cover a number of topics, and answer a number of questions within the same message.

Condon & Čech (1996) in an analysis conducted in order to compare decision making in synchronous CMC and face-to-face communication use a classification of three categories: moves, responses and other. Each of these three categories comprises a list of discourse functions such as 'suggests actions' for moves, or 'complies with request' for responses. Èech and Condon (2000) extend the three categories used in Condon & Čech (1996) to five, adding explicit management and closings for a study investigating the

effects of altering the size of the composing text windows in synchronous communication. The moves and discourse functions here clearly relate to decision making, which was the phenomenon under study in both papers.

Sotillo (2000) in a study comparing synchronous to asynchronous CMC defines discourse functions as "categories of behavior in electronic discourse, such as requests, responses, apologies, greetings, complaints, and reprimands" (p.84). She identifies a total of 14 different functions for asynchronous communication in which there are a mixture of moves (responses, closing moves), discourse acts (greetings, complaints), speech acts (assertions) and content related concepts (topic shift, off topic comments). Surprisingly, for asynchronous text Sotillo identifies only four discourse functions: topic initiation moves, student responses, teacher responses/comments and student comments or responses to other students. Her categorization for asynchronous communication focuses on the sender/addressee relationship and only distinguishes between initiation and response moves. This does not seem informative enough when it comes to comparing both modes of communication and is probably more a reflection of the context in which asynchronous communication was used in her study: for class discussion on a certain topic, with no specific goal or outcome set to students, and between students who had regular face-to-face contact. Sotillo's study is original in its attempt to compare both modes of CMC but one problem is that she uses both modes of CMC for the same purposes: a task described as "summarizing and analyzing information from readings" (p.87). This type of task does not lend itself to interaction, and was conducted in a somewhat artificial context since students were in the same room for an hour in order to post their e-mails. Naturally, the results were postings with little variety of functions; the students did what the task was designed for, summarizing and analysing texts. While her examination of syntax complexity shows interesting results (higher degree of syntactical complexity in the asynchronous mode of communication), and her analysis of synchronous communication functions sheds light onto synchronous electronic behaviour, her comparison of synchronous and asynchronous use of electronic discourse functions is, I would say, methodologically weak and has no applicability outside the realm of her own study.

The smallest meaningful descriptive unit of analysis I eventually decided to use was that of communicative function, defining it as an utterance or group of utterances that perform a single, differentiated action, such as requesting or supplying information, expressing some kind of psychological state, or determining how a task is to be carried out. Communicative functions here are defined in terms of how they are related to each other in a message/interaction rather than in terms of the kind of function they are independently used to perform. In terms of segmentation of text, identical consecutive functions were grouped together. The concept of communicative function is close to that used in notional-functional approaches to syllabus design which were developed by the Council of Europe (*Threshold Level*, Eck & Trim 1991). This was done deliberately in order to make the tagged text available for subsequent analysis focusing on differences between NSs and NNSs.

At a second level of unit of analysis are the four macro-functions that emerged from the analysis of the text: Information exchange, Inter-personal dimension, Task and communication management, and Focus on form. These macro-functions are related to electronic behaviour, but I have decided not to label them as moves since one of these macro-functions is not necessarily followed by another specific move, which is a feature linked to the use of moves, e.g. initiation is usually followed by response (see Tsui (1994:6-14) for an overview of conversational units of analysis).

To sum up the process of coding scheme development, the approach taken is descriptive and bottom-up. Rather than applying an existing coding scheme, I developed a taxonomy which would allow for an unconstrained emergence of functions (applying a model designed specifically for writing or speaking would have failed to do so) and would also reflect the orientation of the present study (language learning).

The procedure for establishing the coding categories based on the definition above for the actual text encoding was as follows: two researchers each read one same transcript belonging to the convergent condition and wrote a taxonomy of the functions that they were able to identify. These two taxonomies were put together and then the two researchers went through another transcript in the divergent condition, tagged the text

with the existing taxonomy, and made notes where a new tag was felt to be necessary. Differences were discussed and new labels were added to the taxonomy until both coders reached complete agreement on the two transcripts they both tagged. The remaining transcripts were tagged by the same two people, making sure that an equal number of transcripts belonging to each condition was tagged by each person. Doubts while transcribing these transcripts were discussed and short excerpts from each transcript were also double-coded to ensure agreement.

The involvement of two researchers was undertaken to ensure reliability. However, this approach has serious flaws that need to be acknowledged here. Krippendorff (1980) working on content-analysis methodology states that there are three different tests that should be applied to any type of subjective discourse coding: stability, reproducibility and accuracy. Stability is related to intra-coder variance: the same coder may code differently over time. Reproducibility is related to inter-coder variance: different coders may interpret the text differently and come up with different results. Finally, accuracy has to do with variance between how coders interpret the coding system and a standard interpretation of it. Often accuracy is measured by comparing expert coders to naïve coders who have been trained to use the coding system. In this case no standard existed; the coding process was closely related to the creation of the coding system itself. Stability was not tested because of limitations of time, and reproducibility was only partially accounted for. There was no budget allocation for the coding process so the sampling inter-coder reliability was done on the basis of the second coder's help[4]. Finally, there is the added issue of reliability of the formulae used to calculate the above measures of reliability. Carletta (1996) discusses how these have been conducted in the areas of discourse and dialogue and points at serious flaws in accounting for random chance of agreement. She argues for the use of the Kappa statistic to solve this problem. The Kappa statistic uses an equation that calculates random agreement probability. A further problem in the reliability of subjective coding, pointed out by Carletta, Isard, Isard, Kowtko, Doherty-Sneddon & Anderson (1996), is that of segmentation of text. In

[4] My gratitude goes to Roger Gilabert for the time and efforts invested in the long process of coding.

the case of the present study agreement on segmentation according to units of analysis was reached and controlled for only in the samples that were coded separately by both researchers and agreed upon. I see the study here as laying the foundation for what could be a further study testing the validity of the coding system proposed here.

Table 8.5 shows the taxonomy of functions, appendix I contains a list of these functions with the coding syntax and examples for each of the functions. The coding syntax is XML compliant which means that with the development of a transcript XML Document Type Definition, XML software could be used for facilitating further searches in the text.

Information exchange	**Inter-personal dimension**	
supply information	apology	praise
supply opinion	apology response	other
supply suggestion	complaint	thanking
request information	empathy	urging
request opinion	encourage	wish
cut & paste	humour	emoticon
	mood	
	offer	
Task & Communication management	**Focus on form**	
task evaluation	request agreement	
task management, planning	request clarification	
task management, progress	request confirmation	
task management, request	supply agreement/confirmation	
communication management	supply clarification	
	meta_language	

Table 8.5 Categories and functions

The functions have been quantified in terms of number of words. In terms of frequency it is difficult to quantify how many times a particular function is used. For example, in the following extract from a message sent by a Spanish student in the divergent condition to her Irish tandem partner, it is not obvious how many requests for information should be quantified: should we put together questions related to the same place, such as the first three questions about the museum? or should we tag each question on its own?

```
Is there a museum to go in Dublin? could you tell me where
the museum is? and how much it costs?
cuanto vale la entrada en la disco Mono? cuanto vale la
entrada en Tanta Zoe's? hasta que hora hay gente?[5]
How can i go from the airport to downtown? I've heard there
is a bus, but how much it costs?

Is there a festival this weekend in dublin?
```

It was finally decided to regard the whole function as one, interrupted by two instances of language switch. How this particular excerpt was coded is shown below. The corpus was also coded for task related and non-task related communication. The questions here were related to the first task given to students, *A weekend away in Barcelona/Dublin*. The three asterisks between angle brackets indicate the continuation of a same function over language switch.

```
<eng2><task><INE:req_info> Is there a museum to go in
Dublin? could you tell me where the museum is? and how much
it costs? </s> </t></eng2> <esp1><task><***><INE:req_info>
cuanto vale la entrada en la disco Mono?

cuanto vale la entrada en Tanta Zoe's? hasta que hora hay
gente? </s>  </t></esp1>
<eng2> <task><***><INE:req_info>
How can i go from the airport to downtown? I've heard there
is a bus, but how much it costs?

Is there a festival this weekend in dublin? </s></t></eng2>
```

Given the asynchronous nature of the messages analysed it was decided to forgo a count of frequency of appearance and quantify it in terms of number of words. This decision also meant the segmentation of text into units of analysis was less problematic and inter-coder reliability more likely to be higher. As a matter of fact, once this decision was taken, no disagreement on units of segmentation was found.

[5] how much is the entry cover for the club Mono? and how much is it for Tanta Zoe's? till what time do people stay?

8. 4 Results

8.4.1 Question A

The prediction that the group in the convergent condition would write more than the students in the divergent condition is not confirmed; on the contrary, the divergent group produced more words overall. The divergent group produced a total of 37,811 words and the convergent group wrote a total of 27,738 words.

Looking at the quantity of language production over time the picture changes slightly. Figure 8-1 shows the number of words written by all the students in each condition (18 students in each group) and for each task. The divergent group is still writing more words per task than the convergent group but the difference between the groups is considerably smaller for the second task. The production for both groups decreased for the second task, for the divergent condition students' production for the task decreased by 33%, whereas for the convergent condition the decrease was smaller, 15%.

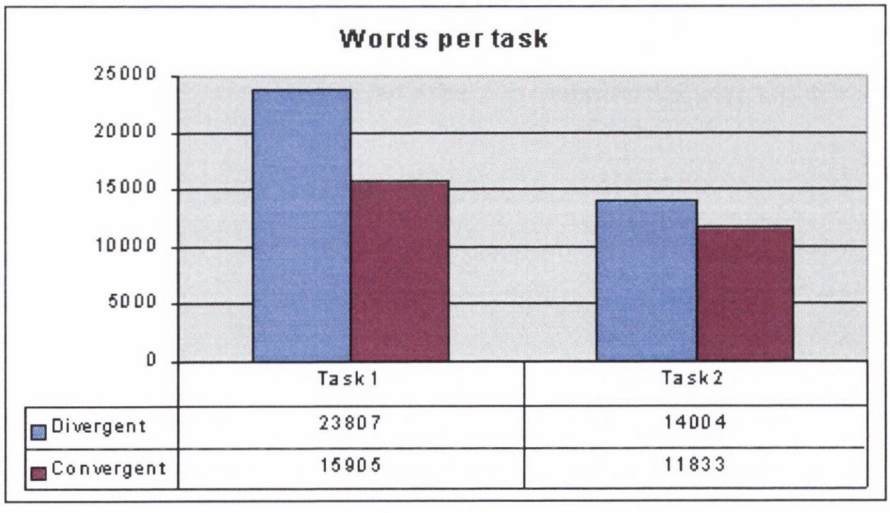


Figure 8- 1 Overview of written production per task for the divergent and convergent conditions

The drop in words written for the second task is bigger for the divergent group than for the convergent group. To find out whether this difference was significant, the difference in production for each subject was calculated. The boxplot in figure 8-2 illustrates the

differences for each group. Differences were calculated by subtracting the number of words for task 2 from the number of words for task 1, therefore any negative numbers show an increase of production for task 2, and for the positive numbers the lower the values the smaller the drop in production which is what is desirable from a pedagogical point of view. The median for the convergent group is 237 whereas the median for the divergent groups is 532.5. The standard deviation of the convergent group (490.908) is also smaller than that of the divergent group (589.333), which means that the differences for the convergent group are less spread, that is, that performance within the group is more homogeneous.

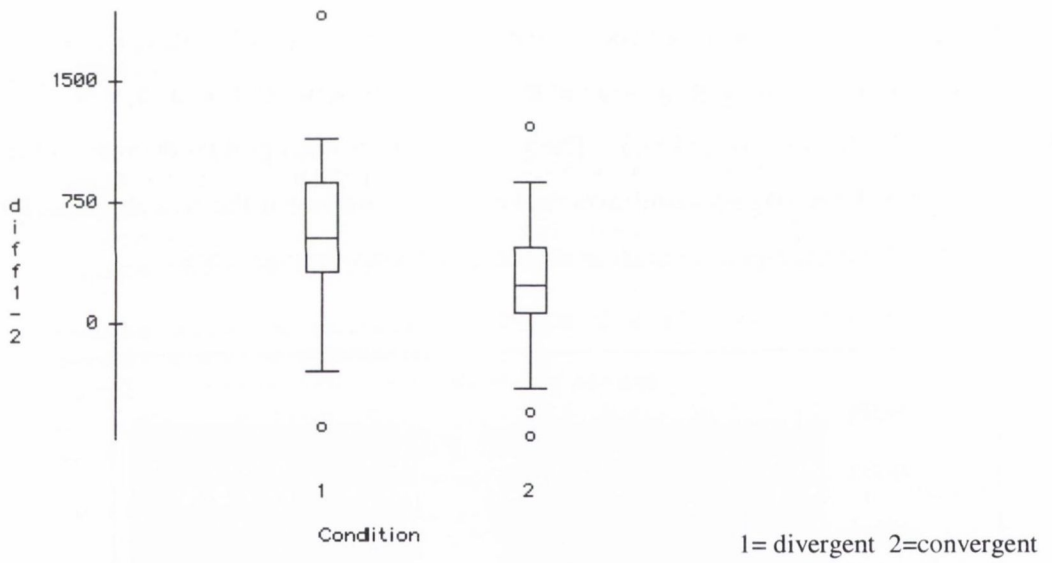


Figure 8-2 Distribution of word difference(=Task 1-Task2) across tasks

Group	Count	Mean	Median	StdDev
divergent (1)	18	544.611	532.5	589.333
convergent (2)	18	226.222	237	490.908

Table 8.6 Descriptive statistics of word difference(=Task 1-Task2) across tasks

A t-test (two-tailed and independent) between the differences between Task 1 production and Task 2 production for each group fails to show a significant difference (t=1.76,

df=34, p=0.08). However, the value p=0.08 is not far from the value that would show significance (p=0.05). I already pointed out in the previous section that the number of subjects is in real terms too low and that differences would have to be considerable to show any statistical significance.

If we take a closer look at the differences, examining the breakdown of the number of words written, it becomes apparent that the greater number of words in the divergent condition is due to the high production of a few students. Another difference that emerges concerns the pattern of production of less participative students. In figures 8-3 and 8-4 students are grouped in three categories. The top-band comprises the three pairs who wrote the most, the middle-band comprises the next three pairs and the bottom-band comprises the three pairs that wrote the least. In figure 8-3 for task 1 production we can see that students in the divergent condition wrote more than the students in the convergent condition. However, for the lower-band students the difference between the two groups is smaller than for the upper-band. Figure 8-4 shows students' performance on the second task. For the second task the differences between the students doing well and the less productive students are still considerable for the divergent group, but for the convergent group the performance is more even for all members in the group and students who did less well for the first task improve their performance in quantitative terms.

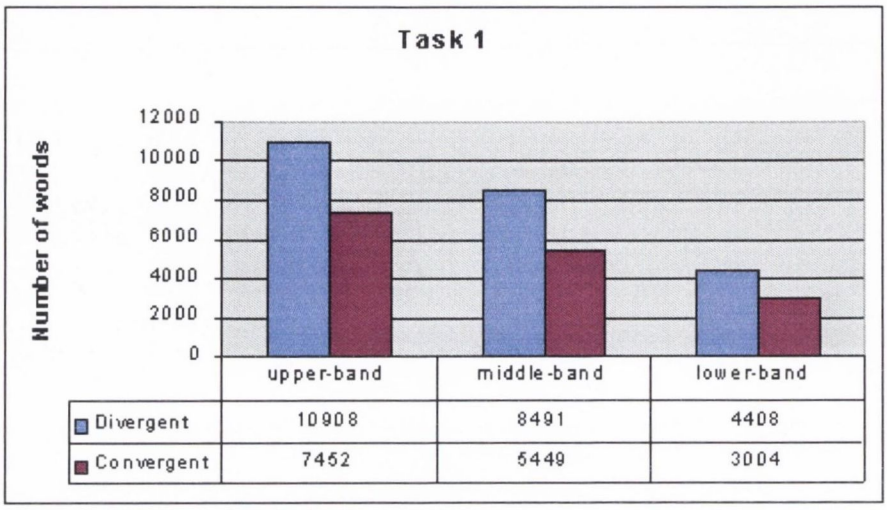


Figure 8- 3 Breakdown of written production from most to least productive students for task 1

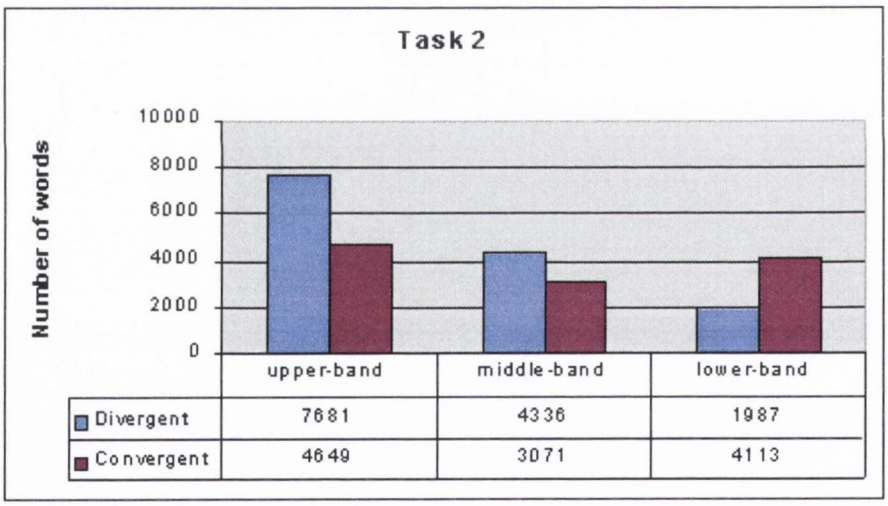


Figure 8- 4 Breakdown of written production from most to least productive students for task 2

To sum up the results, overall the divergent condition group produced more words than the convergent group. However, the breakdown of the data suggests that in the convergent condition the differences between students were smaller than in the divergent group. The data could also suggest that the convergent condition may capture more effectively the less productive students and make their exchanges more sustainable. That is, in the convergent condition less productive students might be forced to write more,

whereas in the divergent condition more productive pairs have more freedom to write longer passages. No statistically significant differences were obtained in the results, however, and a study with a larger number of subjects would be necessary to confirm whether the trends shown here can be generalized.

8.4.2 Question B

In answering this question I am considering four points.

1. Is the principle of bilingualism adhered to?

The answer to this question is a clearly affirmative for both groups. Figure 8-5 shows that the proportion of L1 to L2 for the divergent group was 43 to 57 and for the convergent group 46 to 54. For both groups the percentage of L2 production is slightly higher but in neither case does it surpass 60%. The convergent group is closer to a 50/50 ratio, but the difference between the groups is minimal. This is a positive departure from earlier studies, and I would argue that the function of automatic warnings when students did exceed 70% in one of the languages had a positive impact on all students. However, it does not help us to find any differences between the divergent and convergent groups.

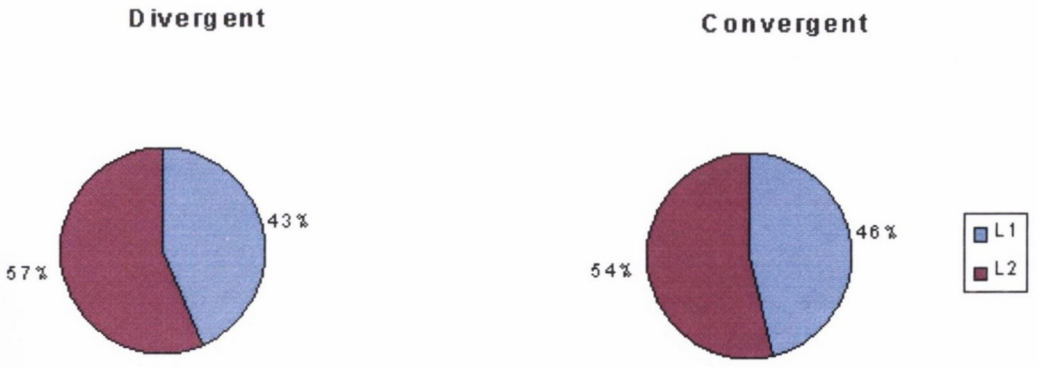


Figure 8-5 Principle of bilingualism.

2. What are students using language for in their e-mail communication?

The following four macro-functions emerged from the taxonomy of communicative functions: *Information exchange, Focus on form, Task and communication management,* and *Interpersonal dimension.* Table 8.7 shows the total figures for each category in percentages relative to the size of the corpus it belongs to. Figures are higher for the divergent group for the category of *Information exchange* and for the convergent group for the categories of *Focus on form* and *Task and communication Management.* Finally, the category of *Interpersonal dimension* constitutes 14% of the corpus for both conditions. A two-tailed independent sample t-test was performed on *Focus on Form* and *Inter-personal dimension* and as expected from figures in table 8.7 no significant differences were found (Focus on form, p= 0.735 , Interpersonal dimension, p=0.693). A t-test was run on the category of personal dimension despite both being 14% to control for any differences due to different distribution amongst pairs. For the remaining two categories a Mann-Whitney test was used because there were outliers in the data, which rendered a t-test inappropriate. No significant differences were found for these two categories either: *Information exchange* (p=0.448) and *Task and Communication Management* (p=0.356). Boxplots with the distribution of data for all four categories and details of the t-tests and Mann-Whitney test can be found in appendix J.

	Information exchange	**Focus on Form**	**Task & Communication Management**	**Interpersonal dimension**
Divergent	62%	3%	21%	14%
Convergent	51%	4%	31%	14%

Table 8.7 Percentages per group for each macro-function category

Statistically significant differences were not found, but given the size of the corpus qualitative evaluation of the figures in table 8.7 is justified here. First of all the category of information exchange is higher (11%) for the divergent group as predicted. I hypothesized that the convergent group would need to negotiate more than the divergent group, but table 8.7 suggests that this negotiation takes place at a management level, and not so much the content level. The convergent group dedicated 10% more of their text to

Task and communication management than the divergent group, and 1% more to *Focus on form*. *Task and communication management* is related to students taking the initiative and taking charge of their learning process and is an important function in relation to learner autonomy. The category *Focus on form* comprises functions related to negotiation of meaning as well as explicit reference to language points, or metalanguage. Some types of negotiation of meaning such as recast or repetition were not found in the corpus simply because asynchronous writing does not lend itself to such types of interaction. The low numbers for both groups (3% and 4%) can be attributed to the fact that such functions are typically short: agreement or clarification are most often resolved with very short sentences (e.g. examples of agreement: '¿Te parece bien?', '¿Vale?'[6]). The question is whether the 1% difference expresses a real difference. The next question looks at the breakdown of smaller functions and gives a further insight into the differences between the two conditions under study here.

3. How much variety of communicative functions is produced?

The first measure taken is that of evenness of spread across existing functions, that is, is one group using a greater variety of functions? For this it is not sufficient to look at whether a function appears in the e-mails written by subjects in each condition; we also need to consider the degree to which it appears (measuring number of words, see section 8.3.4 above for a discussion on the methodology employed here). For this I look at 1) how many different types of functions are produced by each pair, and 2) to what extent the text produced is evenly distributed amongst the different function labels.

The scatterplot in figure 8-6 illustrates an attempt to quantify the evenness of spread across functions. The x axis is the standard deviation of words in each function category for each student. The bigger the value of the standard deviation, the more different the values for each function. In other words, a small value would indicate a more even spread, which means that subjects are producing more similar number of words for different functions. However, this measure does not capture to its full extent the fact that

[6] 'Is that alright with you?', 'Ok?'

it is possible for subjects to use only a small set of functions and still show an even distribution of words across this small set. This possibility is captured by the y axis which represents the number of distinct functions used by each pair. Each dot stands for a student, the blue rhomboids represent subjects in the divergent condition and the pink squares are subjects in the convergent condition. The closer the dots are to the top left corner, the more variety in functions used by students. A value of 0 for SD would be unrealistic because of the nature of the functions. Some of them will naturally take up more words, for example, supplying information will most often take more words than requesting information.

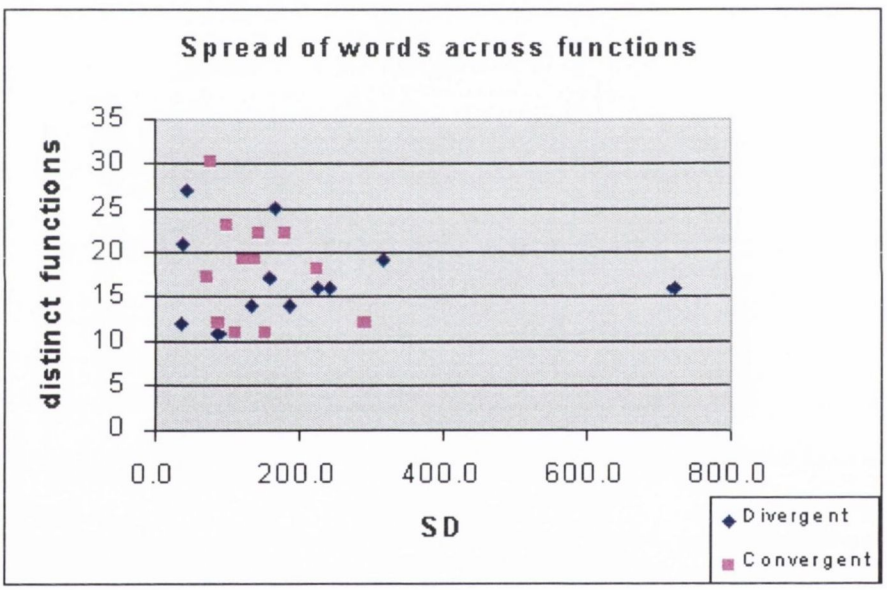


Figure 8-6 Spread of words across functions

In figure 8-6 we can see that there is an outlier in the divergent group which has a much more higher value for SD. This is because this subject's text falls mostly into the supplying information category and devotes very little text to the other 15 functions. Looking at the y axis we can see that the convergent students are slightly further up, but the means reveal hardly any difference (17 for the divergent group and 18 for the convergent group). In terms of standard deviation the mean for the convergent group is lower (SD=134.3) than that for the divergent group (SD=205.5), which means that words are more evenly spread across functions in the convergent group. However, this difference is not statistically significant (t-test, two-tailed, independent samples, p=0.2).

Since no significant differences have been found quantitatively, a closer qualitative look may prove more informative in this case. Even though there are a high number of functions, most of the text seemed to belong to a small number of them. I rank all the functions for each group in order by number of words and cut off at the point at which 70% of the text had been accounted for (see table 8.8). *Supply information* is clearly the function with most words for both conditions, although the proportion for the divergent group is considerably higher: 7%.

Another difference found is that 4% of the text in the divergent condition was text that had been copied from the web and pasted to the tandem site. This does not happen at all for the convergent condition, which would make sense since they needed to agree on what they were going to do, not just swap information which means it is important for them that the other person will understand the message and can therefore not just copy and paste without thinking of the receiving end. However, a closer look reveals that the text for cut and paste belongs to one pair and therefore this result seems not to be relevant here. I would still say that it is an interesting question to investigate further what conditions in tasks result in more or less instances of cut and paste. Overuse of cut and paste together with plagiarism is a problem that many teachers are facing nowadays and which I would argue is a product of the combination of more traditional teaching approaches and the recent availability of enormous quantities of text in electronic format on the web. With an appropriate task design it should be possible to minimise this problem.

If we put aside cut and paste from table 8.8 (which is not a proper linguistic function anyway) and add the functions for supplying and requesting information, for the divergent group 49% of its text is accounted for, and there are only two more functions within the 70% of text we are looking at: task management planning and supplying opinions. For the convergent group on the other hand only 40% of the text is used for supplying and requesting information, and 5 more functions are used: task management planning (as for the divergent group), making requests within task management, making suggestions, monitoring progress within task management and expressing opinions.

Convergent		Divergent	
Functions	*%Sum*	*Functions*	*%Sum*
INE:supply_info	35.41	INE:supply_info	42.39
TCM:plan	12.10	TCM:plan	9.83
INE: supply_opinion	5.91	INE: supply_opinion	6.53
INE:req_info	5.15	INE:req_info	6.40
TCM:request	4.63	INE: cut_paste	4.47
TCM:progress	3.79		
INE:suggest	3.37		
	70.36		69.62

Table 8.8 Top 70% of most used functions

In order to explore the functions that appear in smaller quantities within the remaining 30% of the text collected from students I followed these steps: first of all I calculated for each function the percentage relative to the rest of the corpus in each condition to allow for comparisons between the two groups, since the overall total for each group is different. Then I calculated the difference between the scores for each function in each group. This difference is shown in the third column in table 8.9 for those functions for which the convergent group produced a higher number of words for and in table 8.10. for those functions for which the divergent group produced a higher number of words. The figures for differences are also influenced by the amount of words used for different functions. The fourth column in tables 8.9 and 8.10 shows the proportional differences between functions relative to the size of text for each function. This measure allows for a better understanding of differences between functions with small quantities of words such as those related to focus on form. Tables 8.9 and 8.10 contain only those functions for which the proportional difference was greater than 1.5.

The largest and most striking difference by far is found for requesting agreement, the convergent group request agreement 24 % more than the divergent group, an occurrence which is in line with the hypothesis that students in the convergent group have a stronger need to negotiate with their partners and make sure they are communicating effectively. Another focus-on-form function, requesting confirmations, also scores high in the

proportional differences column in table 8.9 Three task management functions score high as well in terms of proportionate differences (note that many of the functions classified under focus in form could also be interpreted as fulfilling a task management purpose). Three functions show similar scores: task evaluation, task management related requests, and to a smaller extent progress of task work discussions.

	div	conv	diff	prop
FOF:req_agreement	0.06	1.36	1.30	24.17
IPD:mood	0.65	1.80	1.15	2.76
FOF:req_confirm	0.30	0.82	0.52	2.72
TCM:evaluate	1.08	2.30	1.22	2.13
TCM:request	2.23	4.63	2.41	2.08
TCM:progress	2.02	3.79	1.77	1.88
IPD:encouragement	0.18	0.27	0.09	1.50
IPD:apology	1.82	2.73	0.91	1.50

Table 8.9 Functions with a higher number of words for the convergent condition

All functions in table 8.10 except for one are related to the Interpersonal dimension: praising, thanking, humour, offering and empathy. Thanking and offering would be likely to score higher in the divergent group since students have different goals and collaboration relies more on good rapport between students. There is one Focus-on-form function which is higher for the divergent group: metalanguage. Metalanguage is explicit reference to language questions, and a question here would be whether the fact that the divergent condition makes students less focused on the task itself allows for more digressions towards explicit form discussion, or whether this result is related to the fact that students in the divergent condition scored higher in motivation aspects, although no significant difference was found for study skills. A significant difference was found for social skills in favour of the divergent group which could partly explain the interpersonal functions in table 8.10. In relation to metalanguage, and focus on form in general, it is important to say that the analysis here is only on messages sent and that to get the whole picture in this respect an analysis of the text students wrote in the corrections box should also be made.

	div	conv	diff	prop
IPD:praise	0.45	0.08	-0.37	5.62
INE:cut_paste	4.47	0.00	-4.47	4.47
IPD:thank	1.39	0.42	-0.97	3.28
IPD:humor	1.13	0.40	-0.73	2.82
FOF:meta_lang	1.51	0.60	-0.91	2.50
IPD:offer	1.84	1.05	-0.79	1.75
IPD:empathy	0.12	0.08	-0.04	1.54

Table 8.10 Functions with a higher number of words for the divergent condition

8. 5 Discussion

In relation to question A regarding quantity, it is important to be clear about what we are most concerned with when setting up an e-mail tandem exchange. Should we prioritise making sure that less motivated students write more and guaranteeing the sustainability of their exchanges? Or should we create a more flexible framework within which highly motivated students have freedom to determine the direction their work should take? The answer in my view should depend on the students involved: for lower levels of learner autonomy the first, for more autonomous students the latter. This means that the convergent/divergent dichotomy may be considered as a sequencing factor when it comes to fostering production and sustainability, the convergent condition being more appropriate for those students who have still not developed as autonomous learners.

As far as functions are concerned, the results suggest that less information exchange takes place in the convergent group. Students in the convergent group dedicate more words to task management and collaborative work. It is not so clear, though, that negotiation of meaning, as defined in the SLA literature, plays an important role for neither condition. It seems that focus on form is more explicit when working in the current context, and takes place most of the time in the form of direct questions. Negotiation of meaning functions used in face-to-face such as recasts or repetition will not occur in e-mail because of the nature of the medium. What occurs in e-mail because of the absence of time pressure is that individuals use electronic dictionaries, and go over previous messages when constructing new messages, and this type of focus-on form which takes place in the same manner as when reading and writing, is not obvious from reading the

messages alone. We can say that since students have to respond with relative immediacy and make themselves understood in order to complete the task, the pressure that focus on form takes place is higher than when reading to themselves or writing an essay for a teacher as intended reader, or in Skehan's (1998) terms, the stakes are higher (see Chapter 3, section 3.4.1 for a description of Skehan's model) . If this is true, learners in the convergent condition should be under more pressure since the completion of their tasks relies to a higher extent on successful communication with the tandem partner. The higher frequency of functions such as requesting agreement would support this suggestion. However, the analysis here only analysed the product and not the process (although the content of the messages and feedback from students can give an insight to the process) and a combination of methodologies including protocol analysis would be necessary to investigate the ways in which attention is channeled when engaged in e-mail tandem interaction.

Finally, one caveat to the discussion above on focus on form is that I have not examined the text that students sent through the corrections box. I have only looked at the functions that emerged naturally in the main body of messages, and it is possible that the presence of a corrections box may have caused a decrease of discussion on language matters in the main messages.

8. 6 Summary

This chapter reported on a comparative study which looked at the convergent/divergent feature under interactive conditions in Robinson's (2001) triadic model for sequencing tasks. The motivation for exploring this particular feature was the observation in earlier case studies (Chapters 4, 5 and 6) that learners tend to use primarily descriptive language in their e-mails. This does not necessarily require them to respond to the content of their tandem partners' messages and can result in the exchange of extended monologues.

Two groups of students were compared. One group was assigned to the divergent condition and the other to the convergent condition. These two groups, each of them constituted by students in Dublin learning Spanish and students in Barcelona learning

English, were attending the same courses in a context where all variables were identical except for the interactive variable. Motivation tests were administered before the e-mail tandem exchange started to account for learner differences. Two questions were explored: the first one concerned differences in quantity of language produced by students in each group; the second one concerned the quality of the language produced by each group, interpreting quality as affording opportunity for language learning.

The findings in relation to the first question indicated that in the divergent group the highly motivated students wrote larger amounts of words than the students in the convergent group, but that the convergent group captured more effectively the less motivated students. Over time, performance and productivity in the convergent group were more even, whereas in the divergent group after an initially more productive start productivity decreased rapidly.

The second question was answered in terms of adherence to the principle of bilingualism, the type of communicative functions used, and whether these functions were all employed to the same extent by learners in each group. The principle of bilingualism was successfully adhered to by both groups. In relation to communicative functions, due to the fact that there were no existing taxonomies of e-mail tandem language, I had first of all to develop one. This was done using a bottom-up approach in order to allow for a description of language produced without imposing constraints from a taxonomy developed for different corpora. It was found that the same type of functions occurred in the messages produced by both groups, but in different proportions. Four macro-functions were identified: *Information exchange*, *Inter-personal dimension*, *Focus-on-form*, and *Task and communication management*. The differences between the two groups were found in the Information exchange and Task and Communication management categories. The convergent group engaged in less information exchange and far more task and communication management functions than the divergent group. Finally, it was noted that under the category of Focus-on-form there were very few occurrences of negotiation of meaning for both groups.

Chapter 9 Bilateral and multilateral partnerships compared: a study on syntax priming[1]

9. 1 Introduction

This chapter departs from the approach taken previously in this thesis and presents an example of a study using techniques from corpus linguistics and undertaking a quantitative analysis. Chapters 4, 5 , 7 and 8 focused on pedagogy and adopted a qualitative evaluation of activities in tandem, trying to take a global view and rooted in action research, that is, research that takes place within the constraints of a real classroom situation. Chapter 8 in addition also exploited the fact that through the use of the ETR site a corpus of text is readily available for analysis. The analysis undertaken in Chapter 8 however was also qualitative in that the text was manually tagged. In this chapter I apply an experimental setting borrowed from psycholinguistics and an analysis taken from corpus linguistics in an attempt to illustrate how CALL can benefit from these areas.

In this setting, coordination effects that have in the past been examined in L1 are explored. In particular it has been demonstrated (Garrod & Doherty 1994 -see section 9.2.1 for a more detailed account of this paper-) that communities of speakers rapidly achieve coordinated language use with strikingly minimal negotiation. That research did not explore the degree to which coordinated form-meaning pairs were novel to the speaker. Subjects used their L1 for communication, and mastery of the language was taken for granted. Rapid coordination is intuitively easier to imagine in a context in which both speaker and hearer have competence in the forms at stake, so that coordination is just a negotiation-free process of settling on a system of labeling. To our knowledge, little work has explored whether the same patterns hold when one subject

[1] An abbreviated version of this chapter was published as Appel, C. & Vogel, C. 2001: "Investigating syntax priming in an e-mail tandem language learning environment". In Cameron, K.(ed.)*: CALL, The challenge of change*. Proceedings of CALL 2001, University of Exeter, 1-3 September. The research undertaken for the study reported in this chapter was done in collaboration with Dr. Carl Vogel who has acted as the second supervisor of my doctoral work. The pronoun 'we' is therefore used in this chapter.

lacks syntax competence. Chapter 3, section 3.4.3 above includes a review of the phenomenon of syntax priming, making reference to Brannigan and Pickering (1999) and their discussion of syntax priming in young children and aphasics. The aim here is to see if the coordination results hold at the level of syntax in NS-NNS interaction. The focus is on L1-L2 interaction where it is easier to control for the speakers' initial L2 syntactic competence. That is, in a context in which it is evident whether a speaker's level of L2 does not comprise certain constructions we wish to explore whether the pressures to coordinate enhance L2 competence more in the community communication setting than in a one-on-one setting.

9. 2 Research Questions

9.2.1 Background Literature

Garrod & Doherty (1994) explore coordination of descriptions in the maze task, a cooperative task designed by Garrod & Anderson (1987) for the purpose of eliciting dialogue between pairs of interlocutors. The task involves the pairs cooperatively negotiating each other through a maze presented on computer screens, each speaker with his or her own screen and lack of visual contact with the other speaker or screen. The task did not determine how speakers would refer to maze positions or other attributes of the game. Thus, repairless communication was possible to the extent that speakers understood each other's descriptions. However, even if speakers naturally prefer different ways of describing things, during the course of a cooperative task there is unspoken pressure to refer in the same way. Garrod & Doherty (1994) explored communicators in an isolated pair condition and in a community condition. The isolated pair condition means that subjects carry out the task several times with the same person, in the community condition each task is carried out with a different person in such way that by the end of the task everybody in a given community has interacted with each of the other members of the community. They found strikingly more rapid coordination among pairs in the community.

We wish to study the same question of community versus isolated pair convergence, but in a context in which new expressions and meanings are demonstrably present. The current study focuses on novel expressions. From the point of view of SLA in written asynchronous communication, this experiment is set up with a view to exploring: a) linguistic development of L2 speakers within this medium; b) the desirability of having L2 learners involved in tandem e-mail exchanges interact with several tandem partners rather than one stable tandem partner throughout the exchange.

The methodology and experimental setting of studies in L1 linguistics serve here as a model and inspiration for developing an experiment within SLA research. The present study seeks to answer questions related to SLA but can also provide additional insights relative to the field from which the methodology is being borrowed. L2 acquisition provides an ideal domain for measuring community versus isolated pair convergence in a context in which new expressions and meanings are demonstrably present. It is feasible to attempt to measure L1 influence on L2 independent of interlocutor influence on L2. This study includes an experiment designed to measure exactly this.

9.2.2 Questions

The research questions here are intended to address an issue which has been taken for granted in the literature of e-mail tandem learning, probably because of the complex logistics of such an activity and the nature of e-mail, which is most often one-to-one unless we look at discussion boards or forums where communication is one to many. The question is, given that e-mail tandem can be integrated into classroom practice, can we influence the design of the activity by assigning each student to the same tandem partner throughout the academic year, or should we rotate members of tandem pairs in such a way that we create communities such as those described in the literature of psycholinguistics as showing higher degrees of coordination? in other words, should we have students engage in multilateral rather than bilateral tandem partnerships? This is of course a very complex question and would need to be considered from a number of angles such as student perception, motivation, group dynamics, authenticity, etc. In the present study the question is addressed from a purely language production point of view,

looking at levels of syntax coordination and suggesting links between these results and SLA concepts.

Two comparisons between the isolated and community conditions are undertaken:

a) Is there any difference in syntactical convergence comparing early games in each condition with late games in the same condition? This is done by examining the degree of overlap between players within a game, that is, we measure the degree of convergence within pairs in early games and look at whether there are any differences in the degree of convergence in later games. We then explore whether there is a difference in these terms between pairs in the isolated condition and in the community condition.

b) Is there any difference between the degree of convergence between an individual and the rest of the community in the same condition? Question a) above looks at the increment of convergence over time, whereas here we take a measurement by the end of the experiment, looking at the degree of convergence reached between each individual within one condition and the rest of the subjects in that same condition.

These questions are only answered in relation to the text produced in English.

9. 3 Experimental Design

9.3.1 Preliminary considerations

A difficulty faced in this study is the extent to which experimental methods used for linguistics or the study of L1 development can be applied to the study of SLA. Is it possible to compare the development of interlanguage (the interim stage reached by the L2 of a language learner, characterized by its own set of rules) to the development of idiolect or community language conventions? Subjects in the present study, that is, language learners, are not members of a community characterised by a certain stage of interlanguage: interlanguage varies unsystematically across time and features. In this case learners approach interaction with the purpose of improving their L2, which means

that subjects' approach has a focus on language which subjects in NS-NS interaction studies do not have. The question remains, however, of what point of interlanguage development is the most susceptible to priming and whether priming has any effect on the integration of a structure into the student's L2 grammar, or even whether priming of a structure that has not been acquired previously can take place at all. We can say that priming leads to the production of a structure, and that there is therefore at least the potential of acquisition of L2 structures in such a context. However, we do not claim that such acquisition has taken place. Rather, the purpose of the study reported in this chapter is to explore how to apply such research methodology to SLA and identify a set of questions which can be pursued further with such methodology.

Two practical difficulties are faced at the time of designing this experiment. The first one is that real exchanges often take place, as noted above, over a long period of time. However, if a study is to be made with a stricter control of factors such as exposure to TL other than classroom and e-mail interaction during the experimental period, and completion of tasks by all subjects is to be ensured, it is necessary to reduce the span of time within which the exchange takes place. Setting up electronic tandem exchanges over time is often complicated and time-consuming, a fact which manifests itself in the quantity and quality of research conducted in the area (see Chapter 2, section 2.3.2 for a literature review). In the present study subjects wrote during one five-hour long session. One could argue that such a session is somehow an artificial approach to the use of e-mail tandem exchanges. But this was done in order to collect enough data and increase control over variables. In other words, the purpose of this particular study is not to examine an activity that can later be carried out in class, but rather to investigate the impact on the subject's interlanguage of a certain reduced kind of language use in a controlled setting to inform the design and management of asynchronous electronic tandem exchanges.

The second difficulty is to design a task that is adequate for the mode of communication under study here and can also be used under the constraints of this particular experimental setting. A task is needed that will force subjects to produce enough text for worthwhile analysis, and that can be performed a number of times within a five-hour

period. In addition, there is the complexity of integrating both languages within the same task, which also has to be taken into consideration. Finally, a last difference between e-mail exchanges with a pedagogical framework and this experimental setting is that usually learners participate in e-mail exchanges from their countries of origin. In this case the experiment took place in Dublin, Ireland, and in addition to the local English speakers, Spanish-speaking students who were on a study exchange programme in Dublin were recruited. This means that most activities based on an exchange of cultural differences were also rendered unsuitable, even more so as the Spanish-speaking students participated in the experiment towards the end of a six/nine-month stay in Ireland. It was finally decided to use a construction task using tangram shapes (see section 9.3.3 below for a detailed description of the task). This task entails the use of a set of vocabulary which is not part of everyday language and would not be considered by many teachers as an appropriate task for a real class situation. While acknowledging this, it should be noted that the low frequency of the vocabulary involved was in fact a feature which was advantageous for the experimental setting, since students did not know the terms or the structures associated with these terms in their L2. To sum up, the task employed here is not a pedagogical task in the sense that previous chapters in this thesis have used. It is a task that has been specifically designed for the experimental setting we are concerned with in this chapter.

9.3.2 Subjects

A call was sent through e-mail, language teachers and noticeboards to students learning Spanish in Trinity College Dublin and Dublin City University, and Spanish Socrates exchange students in both institutions. All students applying to participate were asked to fill out a form with 33 questions in order to identify suitable candidates (see appendix K for the questionnaire administered to English-speaking applicants; the questionnaire for Spanish speaking applicants was identical but in Spanish). A number of questions controlled for experience with the Internet and e-mail, students with no experience were excluded. Finally the questionnaire contained 7 questions eliciting explanations of culturally charged terms for Ireland and Spain such as 'hurl' or 'jota', and a question asking for the meaning of 'tao'. These questions were distractors from question number

23, asking students what a tangram is. Students who were familiar with tangrams were excluded from the experiment. The last question required students to write a paragraph in their L2. This was done in order to exclude any beginners or low intermediate level students. All subjects participating also took a general proficiency test prior to the task. The Spanish test was a multiple choice test used for placement at the Instituto de Cervantes in Dublin and the English test was the Nelson English proficiency test.

Eventually thirteen Spanish-speaking students and thirteen English-speaking students were recruited and asked to attend a five-hour session. Of these, 12 students (six Spanish and six Irish) were assigned to the isolated condition and 12 (six Spanish students and six Irish students) were assigned to the community condition. The remaining two students recruited were held in reserve to cover for any last-minute absences. Students were unaware of the fact that they were assigned to two different conditions. Unfortunately only 10 Spanish students showed up on the day of the experiment, so it was necessary to make some late modifications to the original design. The design of the community condition was more complicated since all subjects had to play a game with one another by the end of the five-hour session without being aware that such design had taken place. For this reason the community condition was left untouched and only 4 students for each language were assigned to the isolated condition. The two remaining English-speaking students worked together as an isolated pair but the data collected from them was excluded from the analysis presented here. It may be interesting in the future to look at the behaviour of these students, who were unaware of the fact that they were not writing to a native speaker of Spanish.

The data analysed in this chapter was collected from 20 participating subjects of ages between 18 and 24, their level of proficiency in their L2 ranging from intermediate to advanced, and they were all familiar with the Internet and e-mail. There were 14 females and 6 males. Five males were assigned to the community pairs and one to the isolated pairs. All subjects were paid a fee at the end of the five-hour session for their participation, and were served snacks and refreshments during the 5 hour session.

9.3.3 Task description: tangrams

The task given to students was inspired by the tangram task used by Healy (1995), but using tangram figures in quite a different way. Subjects worked in pairs in order to construct a tangram figure out of cardboard tangram pieces. One of the subjects in the pair was assigned the role of instructor and the other the role of constructor. The instructor gave instructions through e-mail to the constructor who was free to ask for clarifications as needed. Six figures were dealt with by each subject: from this point onwards I will refer to each single construction as a *game* and to the overall six games as the *task*.

Tangrams are ancient puzzles of Chinese origin. They are made of seven geometric shapes: one square, one parallelogram, two small triangles, one medium size triangle and two big triangles. The size proportions of the pieces are such that all seven pieces put together in the distribution shown in figure 9-1 form a square.

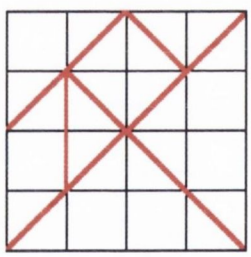


Figure 9-1 Tangram pieces

Traditionally, solving a tangram puzzle means resolving how to put the geometrical pieces together to make the shape that is the goal of the game. Figure 9-2 shows the starting point and solution to an instance of a tangram puzzle.

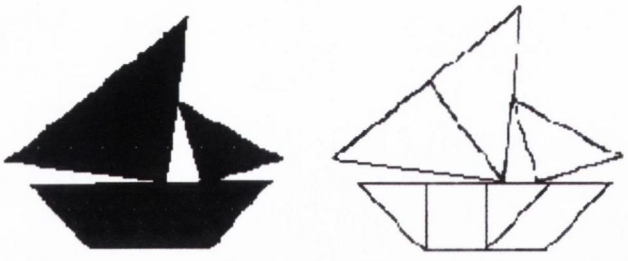


Figure 9-2 Tangram boat shape

Some of these puzzles are not easy to solve and may require considerable time. The use of tangrams in the task used for the present study varies quite distinctly from the task of solving the puzzle. It is only intended to use the pieces and shapes, without demanding from the subjects that they figure out the distribution of the pieces in a finished shape. The starting point is the shape with the solution, and the task is to convey to another person, by writing e-mail, the distribution of the pieces in a way that will allow that person to reconstruct the same shape. This difference is important in terms of cognitive load involved while fulfilling the task and the categorization of shapes in terms of difficulty, which is further discussed in section 9.3.4 below. When reference is made here to the term *tangram task* it will be in reference to the task designed for the present experiment and not the task of tangram puzzle solving.

A slightly modified version of the Electronic Tandem Resources 3 site was used for e-mail communication in the task (see fig 9-3). The interface of the ETR 3 site (see Chapter 6, section 6.5.1 above) allows for near-synchronous communication, which was well suited for this context. The window for corrections was removed for the purpose of this experiment since we were interested in observing priming in a natural context without any explicit priming. The window for writing the message was of a slightly bigger size than in the original ETR site in order to counterbalance the fact that tandem partners for this experiment were at the computer at the same time. This was done to encourage messages closer to asynchronous communication. This is a compromise we had to reach in order to set up an experimental design for asynchronous communication

within the span of five hours. Éech & Condon (2002) discuss several studies which manipulated different features of CMC tools and conclude that "What sometimes appears to be minor changes in the interface can have major influences on the discourse" (p.2). The design of the ETR interface employed for this study ensured that all features were characteristic of asynchronous communication. Another asynchronous feature was the fact that new messages from tandem partners did not pop up automatically on the screen. This meant that the subjects' train of thought was not interrupted while composing a new message, emulating the situation in asynchronous communication. Users could click on the 'Check new mail' button to read new mail. If several new messages were in store, they were only shown one at a time with an indication of how many more new messages had been received. This allowed us to control for what messages had been read prior to the writing of each reply.

Another difference to the interface designed for this particular experiment is that the left hand bar with links useful for language learning was removed to ensure that students did not use any dictionaries or other aids and that their only linguistic input came from their tandem partners. Only the login and logout links appear at the top of the screen. Students did have access to the log of the full interaction of the game being played, but not of games previous to that one. The use of the ETR site also facilitated the logistics of change of pairs. For each new game all subjects were given a new username and password. All usernames started with 'User' followed by an 'E' or an 'S' depending on the subject's L1 , followed by a number. Subjects remained unaware of the fact that they had been assigned to different conditions.

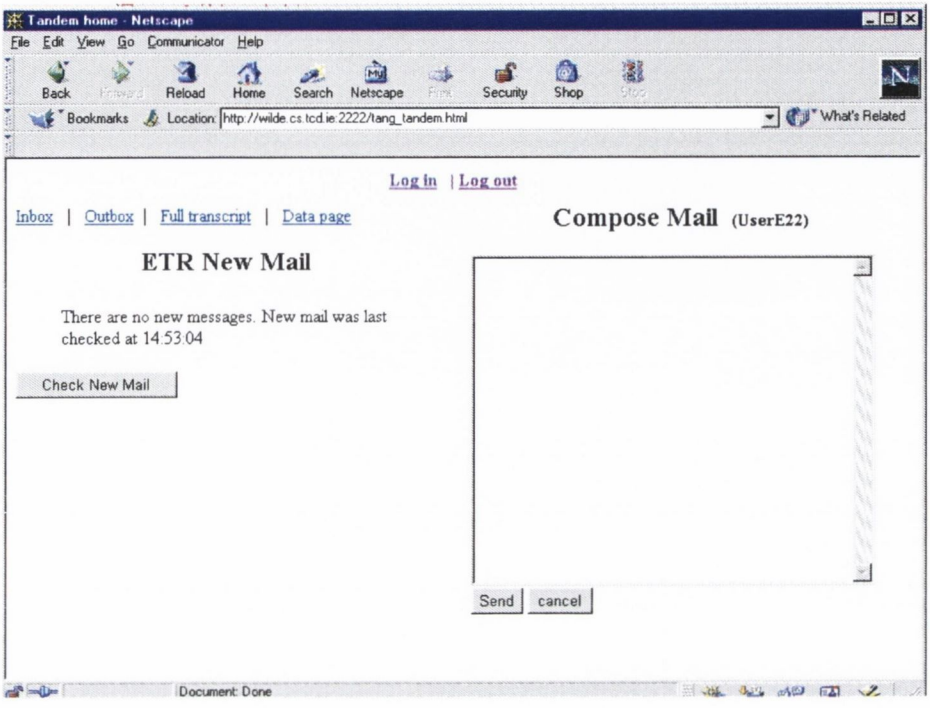


Figure 9-3 ETR interface used for the tangram experiment

Prior to starting the 6 tangram games subjects were asked to write a description of a tangram figure in their L2 and submit it in a form on the Internet. Subjects were instructed to write this description in a way that would allow another person to reconstruct it. The purpose of this was twofold: it provided us with an example of their ability to write such a description before the task and an insight into their knowledge of the vocabulary and syntax needed. It also made students familiar with the task and prepared them for their performance in the first game. Fig 9-4 is the tangram shape used for the pre-task activity.

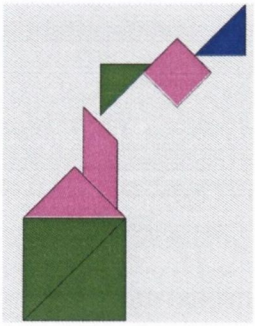


Figure 9-4 Tangram figure used for the pre-task activity

For the completion of the task the subjects who were assigned the role of instructors were given an envelope before the beginning of each game. The envelopes contained the following material:

- the URL for the site with a colour image of the tangram shape to be built, with all its pieces clearly marked.
- a grey-scale print of this same image, to help the instructor if s/he preferred not to switch between the browser with the ETR interface and the browser with the picture.
- a card indicating in what language instructions and communication should take place.
- a new username and password to log into the ETR site.

The constructor had a complete set of tangram shapes in all six colours used for the tangram shapes used in the experiment: yellow, dark green, light green, blue, red and pink. The pieces were all mixed up in an envelope.

Each game lasted twenty minutes, during which time instructors had to send e-mails with instructions to the constructors to enable them to reproduce with the tangram pieces they had the same shape the instructor was looking at. After 20 minutes the instructor was asked to send the URL with the tangram shape in question to the constructor so that s/he could ascertain how successful s/he had been in reconstructing the shape.

The main reason for having a task was to give subjects a reason to communicate and to channel the communication between participants in the same direction in order to allow for comparisons between different subject-pair interactions. It was also necessary to find

a task that would not entirely exhaust subjects' interest and which would not result in repetition of possible solutions when carried out several times. The tangram task allows for tight control over the output produced by subjects. The task could be carried out several times with different shapes, which was necessary for the study of differences between isolated and community pairs. The duration of twenty minutes each game was given by the need to play 6 games so that all six students in the community pairs would have a chance to play each other. Since the same game was played several times it was hoped that the likelihood of appearances of the same structures would increase; for example, we predicted that a high number of occurrences of prepositional phrases would appear in the descriptions of how tangram pieces were arranged.

9.3.4 Materials

We constructed 167 tangram figures using the editor in TANGRAM, a free programme written by Mark Overmars[2]. Using screen shots and Paint Shop Pro 4[3] and XV[4] to convert, we were able to keep the figures in electronic form, both Postscript and GIF format. The constraints of the software ensured that figures were all constructed within an A4 format. Six colours in total were used for the constructions, but any one figure had only three different colours. Colours were randomly assigned to each of the pieces.[5] Some of the designs were copies of known tangram images, and the rest were constructed by us.

For the experiment itself, we required 74 tangrams (one for the pre-task activity, another for a post-test, and the remainder distributed over the pairs to avoid duplication because all subjects with the same L1 were in the same computer laboratory and it was impossible

[2] TANGRAM can be downloaded from http://www.cs.ruu.nl/~markov/kids/tangram/
[3] Paint Shop Pro, version 4.12 Shareware, Copyright JASC,Inc.
[4] XV, Shareware, copyright John Bradley.
[5] A Prolog program using a random number library was used to generate random lists of colours, subject to the constraint that each list contain exactly three distinct colours. Each list contained 7 colour names assigning colours to the pieces in the following order: the square, the parallelogram, the medium triangle, the leftmost (or upper, if equally leftmost) large triangle, the other large triangle, the leftmost (or upper, if equally leftmost) small triangle, the other small triangle. Thus, each figure was coloured arbitrarily based on unique identification of each piece; any resulting highlighting of figural aspects of the designs to be constructed was purely accidental.

to prevent subjects from seeing the progress in tangram shape construction when in the role of constructors). Some tangram designs are more difficult to describe than others. Obviously, some tangrams are easier to label than others, depending on how obvious the configuration of pieces is from the silhouette. Tangram books and websites classify tangram figures into categories of differing difficulty according to the usual parameters for tangram exercises. The task we were experimenting with involves cooperative construction of the tangram figure through dialogue, and the difficulty does not lie in figuring out the collocation of pieces (which we provide to instructors) but in communicating the collocation in writing to the constructor. We could not therefore make use of the difficulty categories available in the tangram literature and had to create our own difficulty categories.

Ease of labeling a tangram is one parameter in balancing the materials, but not the only one. A figure that is quite easy to label may be very difficult to communicate instructions for. For this reason we used a set of preliminary tasks in order to reduce the tangram set to a set of designs balanced in difficulty. In the first exercise, four postgraduate students in a linguistics seminar were asked to participate in a mock version of the experimental task. Three tangram designs were selected on the basis of our judgement that they were easy to describe (Fig.9-5) or hard to describe (Fig.9-6 and 9-7). The students were arbitrarily paired, and sat in a back-to-back configuration in separate parts of the seminar room. Neither pair was able to see the other, nor the work area of the other. One of the students was designated as an instructor and the other as a constructor, those roles fixed for both of the first two games. The roles switched for the final game. All games lasted 20 minutes. All communication during the game was in writing, on pieces of paper shared between the members of a pair. The participants were instructed to write only sentences in English; that is, no iconic representations of the figures under construction. The roles were switched for the final game to ensure that each person had the experience of both instructor and constructor, verifying that no individual could be left with the perception that they were inherently better than their partner at instructing. None of the pairs was 100% successful in any of their games. They had the perception that the task grew easier, however, as they became familiar with it.

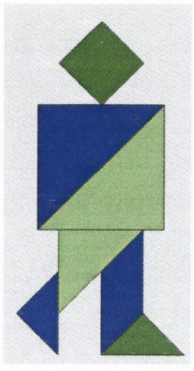


Figure 9-5 Tangram shape classified as easy to describe

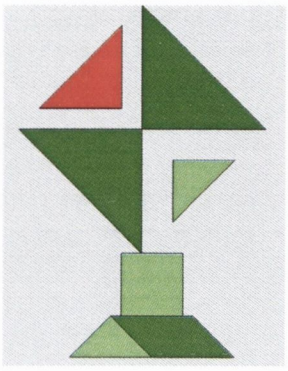


Figure 9-6 Tangram shape classified as hard to describe

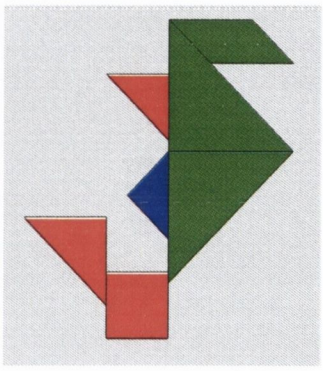


Figure 9-7 Tangram shape classified as hard to describe

The three games were a prelude to the actual task of interest, which was to ask each of the individuals to sort a stack of all the tangram designs into three categories: easy to describe the construction process, difficult to describe the construction process, or medium difficulty. Thus, we obtained information from 4 participants as an independent rating of the difficulty of communicating about the tangrams in the sort of task we intended for them.

As a second rating exercise we repeated the task with a group of undergraduate students. Four pairs of students participated in a task with very similar design parameters. The differences were that (i) only two games were played; (ii) each member of a pair remained in the same role as constructor or instructor for both games; (iii) each pair had a different set of tangram images to work with. Again, all communication was through writing, and the images were selected according to experimenters' perception of inherent difficulty. Slight differences were imposed on the categorization task as well: the participants were asked to form 4 groups and to agree on classification; participants were invited to form as many categories and labels for categories as they saw fit, but all must be based on the relative ease of communicating how to form the constructions. Two of the groups used three levels of difficulty (easy, medium and hard), while another two groups adopted four (easy, medium, hard and very hard). We took note of various

comments participants made during the process of negotiating the categories. For example, they complained that figures which involve shapes touching at points were more difficult than figures with fully abutted edges (and partial overlap of edges was also deemed difficult).

We pooled the classification data before attempting to identify correlations (matching the 'hard' category between the two exercises, and adding a 'very hard' category for the second exercise). As a measure of agreement, we adopted 5 classifications as the threshold for the first three categories. This ensures that not all of the categorizers in agreement came from the same population. This was important because the two groups who tested the materials varied slightly in their methods. In the case of the 'very hard' category, because the number of classifiers who used it was so small, and all in the same condition, only total agreement between the two groups using this category seems reasonable as a measure of agreement. The result is the identification of designs for which there was substantial agreement as to whether they were easy, medium, hard or very hard.

We used this information to constrain the selection of tangram sets for partners to work with at any one time during the actual experiment. Separate, mainly quite objective, categories for the figures were determined, taking note of the anecdotal evidence from participants' comments during categorization. For example, one class of tangrams, which correlated strongly with the participants' classification of designs that were easy to communicate about, involved a large square formed out of the two large triangles (e.g. in Fig. 9-5). During the actual experiment, no two participants acting in the same role would be working with the same tangram. However, we did want all of the tangrams under construction at any one time to be of the same sort, with an arbitrary order on what sort it was, except for the fact that because of task difficulty, all played the easy category first. Additionally, tangrams were removed and replaced by alternatives when there was substantial agreement that the figures were very hard to communicate about. In the end, we were left with 72 tangrams for the 6 games each involving 12 pairs of players. For each game we selected shapes from the same difficulty category and sharing one

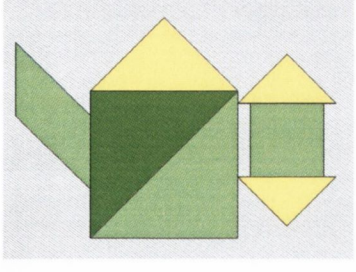
objective criterion related to geometrical distribution of figures (e.g. the two big triangles put together by their longest side forming a big square). The six games were assigned to categories as follows:

- Game 1: easy (big square made out of the two big triangles)
- Game 2: medium difficulty (big triangle made out of the two smaller triangles)
- Game 3: hard (silhouette easy to identify and label e.g. bird, rabbit, boat but which cannot be build around one bigger unit such as the square made out of the two big triangles)
- Game 4: hard (the two big triangles are in laid out in a sequence in either of the two following shapes:

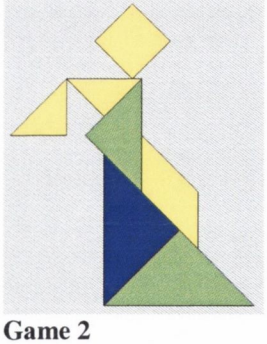


- Game 5: hard (silhouette easy to identify and label e.g. bird, rabbit, boat but cannot be build around one bigger unit such as the square made out of the two big triangles)
- Game 6: hard (big parallelogram made out of the two big triangles)

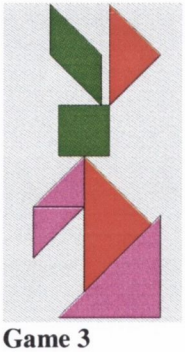
Appendix L includes all sets of tangrams used in the experiment.



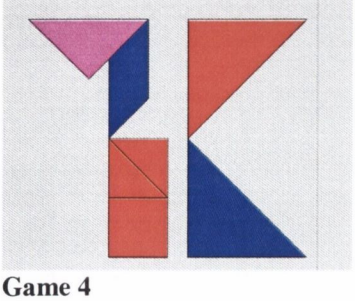
Game 1



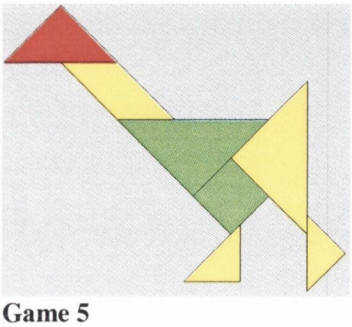
Game 2



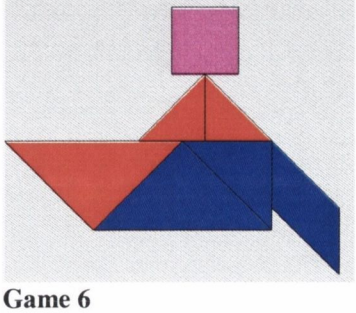
Game 3



Game 4



Game 5



Game 6

Figure 9-8 A set of pictures including tandem shapes for all six games

9.3.5 Analysis

Our analysis is based on the text files recorded for each individual over the course of the games. The data records which participant played which other participant in each game of the experiment. In total, 1,431 messages were sent, creating a 20,354 word corpus (773 messages and 11,519 words of English, 658 messages and 8,835 words of Spanish). We used this textual data to estimate syntactic coordination between native and non-native speakers in the computer-mediated tandem language learning exercise. Using the text files, we generate n-gram frequencies. An n-gram is simply a sequence of items of length n, in the order that they occur in the data. Here we focus on bigrams.

For the first comparison, question a), we estimated the degree of priming with the following statistic when comparing two bodies of data: the number of distinct shared n-grams divided by the number of bigrams that could have been shared. As an indication of the number of distinct bigrams that are shared, the numerator in that ratio provides a measure of influence between the two texts. Monitoring distinct bigrams attends to the type/token distinction--one particular two-word sequence might account for all of the shared text between two messages, or several distinct bigrams might be at work. The other part of the measure, the denominator, relativizes the number of shared bigrams to the size of the texts. Given a text with n words, there are n-1 bigrams that could be shared. We obtained this ratio for the two texts being compared (distinct values, as they may contain different total numbers of words), and as summary of the comparison used the product of those two ratios. We measured each game this way and examined how the first and final game in English for each of the pairs in the study (thus, for the isolated pair condition, the first and final games involve no change of partner).

In order to answer question b) we also considered a related statistic in comparing the English corpus for each individual participating in the study with the entire remainder of the corpus in the same condition. The measure here, for each individual, rather than by game as in the preceding question, was based on the total number of distinct shared bigrams divided by the total number of shared bigrams. When comparing the corpus of

an individual to the entire corpus in that condition, minus the individual, we identify the total number of distinct shared bigrams, but also the number of times those bigrams occurred within the individual's contribution. For an individual, this ratio will tend towards the value 1 when there is considerable variety in the individual's intersection with the remainder. That ratio is an estimate of the probability that the individual will have a varied intersection with the remainder. We also calculated the same ratio for the remainder. The numerator is the same, but the denominator can be different because in the corpus minus the individual's contribution, the n-grams are likely to occur with different frequencies. Taking the product of those figures yields a joint probability, and thus a measure of varied textual intersection for the individual with the rest of the condition.

9. 4 Results and Discussion

We used the standard two-tailed T-Test to measure the significance of difference between the conditions. Comparing the similarity metric between the first game and final game of English between the isolated pair and community conditions, question a), we found significance in the difference for the community condition ($p = 0.03$; there is a less than 3% chance that the difference occurred by chance). The difference did not come close to significance for the isolated pairs ($p = 0.38$). That is, there was a greater dissimilarity between the first and final games for subjects in the community condition than in the isolated pair condition. The actual measure is of degree of priming, using the estimate described in the previous section. This means that in the isolated pair condition, there was no significant change in degree of overlap between the first game played in English and the final game in English, but the change was significant in the community condition. The direction of the change was towards decreased overlap.

For question b), that is, the comparisons of similarity metrics between the language produced by individuals and the remaining corpus of the respective cohort (the entire English community corpus or the entire English isolated pair corpus), we obtained a significant difference ($p = 0.04$) between the individuals in the community condition compared with the individuals in the isolated pair condition. That is, each individual had

greater similarity metrics to the remaining corpus in the community condition in which each member communicated with each other member than individuals in the isolated pair condition had with their overall corpus. Additionally, the members of the community condition had a higher measure of varied intersection—the individuals in that condition exhibited a greater degree of textually varied overlap with the rest of the community.

In sum, in the community condition, the language of individuals was more likely to be like the language of everyone else in that condition than the language of individuals in the isolated pairs to be like that of each of the isolated pairs. Over time, arbitrarily chosen members in the community condition show a tendency to become less affected by their partner. That is, in the community condition, the choice of a partner in any one communication will have less impact on the participant's immediate language, and yet, the participant will share overall more features with the entire community.

If there is a link between priming and second language acquisition these results could suggest that it is worth designing collaborative work in e-mail tandem language learning such that students are assigned to small communities and rotate during the academic year so that by the end of the year all students have worked with other students in the group. However it is necessary to investigate this phenomenon further and from different perspectives. First of all, the study here took place over a five-hour period and it would be necessary to investigate whether the effects of priming hold over a more extended period of time with the interference of linguistic input other than that coming from the community. It would also be interesting to investigate the phenomenon with a greater number of subjects and of different sizes. The text in Spanish should also be analysed and an analysis of the Part of Speech (POS) tags of the whole text may also shed more light on the dynamics of syntax priming in the present context. It would also be interesting to conduct a qualitative study of changes in the use of given structures, e.g. prepositional phrases.

Finally, there are a number of other factors that should also be looked at when considering the design of tandem partner designation. Students may prefer writing to the

same person for a length of time in order to establish a rapport, or the design could affect students' motivation negatively if it limited their choice of students to work with in their own class. On the other hand, bilateral partnerships restrict contact to one single native speaker and students might welcome the opportunity to have contact with more than one native speaker of their TL. This could also increase the likelihood that learners establish a rapport with one their tandem partners. One could also argue that a multilateral partnership design may be a more natural setting for language learning, in a naturalistic environment a language is rarely learnt through contact with one single person. The inclusion of the Group board in the ETR site (see Chapter 6, section 6.5.2) already took the first step towards supporting a community of learners within which tandem pairs worked. This chapter has provided evidence suggesting that a virtual community may also be beneficial from a linguistic point of view. In addition, the findings of this chapter suggest a possible future development for the ETR site teacher/coordinator interface would be the inclusion of a tool that created small communities within a tandem group.

9. 5 Summary

This chapter described a cross-sectional experiment on syntax priming within an e-mail tandem language learning framework. This experiment was inspired by psycholinguistic studies of community vs. isolated pair coordination (Garrod & Doherty 1994) and syntax priming (Branigan *et al.* 1995). These studies looked at coordination and syntax priming in interlocutors conversing in their L1. The introduction of L1-L2 interaction brings a new dimension into this type of study, namely that the mapping between meaning and form may be novel to the L2 speakers.

The set-up of the experiment looked at syntax priming effects in isolated/ bilateral partnerships and community/multilateral partnerships. A tangram shape construction task was designed for the experiment which took place in a five-hour period during which learners of Spanish where all in one computer room and learners of English in a different computer room. Tandem partners never met face-to-face, subjects remained unaware

throughout the experiment that they had been assigned to different conditions, and all interaction took place through e-mail. In order to ensure that the materials used in the task were of an equal complexity and therefore did not cause any differences in subjects' performance, an extended design process took place and a number of pilot studies were carried out. Subjects assigned to the isolated condition played six games of the tangram task with the same tandem partner. In the community condition subjects played each game with a different tandem partner, and by the end of the task all learners of Spanish had played all learners of English and vice versa.

Two research questions were asked: a) Was there any difference in syntactical convergence comparing early games in each condition with late games in the same condition? and b) Was there any difference between the degree of convergence between an individual and the rest of the community in the same condition? Frequency bigram lists were extracted from the transcripts recording all interaction during the task. The findings showed in answer to question a) that over time individuals in the isolated condition showed a higher degree of convergence with their tandem partners than individuals in the community condition, but that in answer to question b) by the end of the task participants will share more features with the overall community in the community condition than in the isolated condition. In other words, in the community condition any one individual will have less of an impact on another but the overall community influence will be stronger. It was argued that from a linguistic point of view these findings point to the desirability of integrating tandem partnerships into a community design, but it was noted that a number of other factors also have an influence on e-mail tandem exchanges and that these should be considered in a less artificial/experimental context.

Conclusion

This thesis has explored the use of e-mail for tandem language learning. At the time the research started very little had been published on the topic. Work had been done on tandem learning and the International e-mail tandem network had taken steps towards facilitating the search for e-mail tandem partners by providing their services through the web. Most of the research in CMC had at that time focused on the use of e-mail for mailing lists or posting messages in discussion lists, and synchronous communication was also beginning to attract some attention. However, the use of e-mail for learner-learner interaction had not been studied in depth. The few studies that had been conducted showed that there were a number of practical organizational problems which made large-scale implementation of e-mail tandem language learning extremely difficult, and research into it virtually impossible. The initial objectives of this thesis as stated in the introduction were threefold: first of all to solve the organizational problems in implementation and research that previous studies had highlighted; secondly to explore the disparity between the potential for language learning and its low level of realization, as well as the disparity between the initial enthusiasm participants show and the low levels of sustainability of these exchanges; and thirdly, to evaluate descriptively interaction and learner behaviour in e-mail tandem language learning and how the features of the medium (e-mail) and the framework (tandem) influence these.

The structure of this thesis is a cyclic sequence of studies, with several issues arising and developing through each cycle. Through an ongoing iterative process of improvement, new questions emerge, and further objectives are identified. The cyclic structure of the thesis is firmly rooted in classroom-based research, each study feeding into subsequent ones, so the third objective described above is repeatedly addressed and reviewed throughout. Chapter 1 reviewed the framework of tandem and Chapter 2 summarized research done on the use of e-mail from a textual and psychological point of view, as well as within an educational context. After that, except for Chapter 3, which looked at theoretical frameworks, all chapters were concerned with descriptive evaluation of interaction and learner behaviour in e-mail tandem language learning.

The first achievement of the thesis was the removal of obstacles to implementation (in terms of both pedagogy and research) by building a VLE and integrating e-mail tandem language learning into a programme of instruction. Having done this, and having evaluated the case studies reported in Chapters 4 and 5, three issues for further research were identified: the importance /crucial role of the features of the VLE, the concept of task, and the question of which theoretical models to use.

Current VLEs (e.g. WebCT, Blackboard) are recreating the boundaries of traditional settings, and they are limiting the opportunities for communication with individuals around the world that the Internet offers. The majority of VLEs used in universities focus only on communication within the institution, between students who mostly see one another in class anyway, and are not looking beyond their own institutional domain, which is extremely important in particular to foreign language learners. As many of the commercial VLEs impose a licence on the educational institution that does not allow entry to users not registered in that one institution, how is collaboration between different institutions going to take place? They also often prioritize administrative issues over educational ones. The ETR, although it may not be as visually appealing, robust or multi-purpose as these VLEs, provides an example of the philosophy I think it is important we don't loose sight of, that we can have common spaces for virtual learning communities which are not exclusive and not dependent of what your geographical setting is. A number of freeware VLEs are now being developed in response to the abusive policies of commercial VLEs which hijack educational institutions by raising their license fees drastically once an institution has invested in training and the development of materials which are specific to a VLE. The ETR does not depend on any restrictions and needs no training. Materials attached to it are openly available on the web. The ETR could also easily become connected to the database of a freeware VLE, by developing an interface module.

The ETR is not context-bound, and I have designed it in such a way that it would be useful for other teachers and researchers. For example, the design is such that the interface is not language-bound and the addition of any language is a matter of translating one document. It is neither teacher-centred nor student-centred, but learning-centred. In its developmental process, each version of the ETR has validated itself. Each version has been tested with students and teachers, and their feedback has

been integrated into subsequent versions. One of the strengths of this application is that since I developed it myself, I was able to integrate all sorts of suggestions or needs that emerged from its use and modify it in detail.

The second point that emerged was that of the concept of task. The exploratory studies in Chapters 4 and 5, which provided feedback for the development of ETR, also yielded data on the activity itself and identified an area of conflict. I carried out an empirical analysis of these studies within the framework of Chapelle's model for the evaluation of CALL tasks. However, there is a question which needs to be answered: How do we define task? From my interpretation of Chapelle's model, in this context e-mail tandem correspondence is the task, and so it is in most of the literature that was reviewed in Chapter 2. However, this view seemed to be the root of one of the main problems of e-mail tandem correspondence: poor levels of sustainability. It was not until I had removed some of the chief obstacles to setting up these projects (by means of the ETR site), and observed that sustainability was still a problem that it became obvious that the root of the problem had been the definition of terms. At this point the change in approach was consolidated. This change of approach consists in defining e-mail tandem language learning as a pedagogical application of collaborative learning, not as a task in itself. E-mail tandem language learning cannot stand on its own; there needs to be a more focused reason for communication than a general desire to learn a foreign language. The task can provide both focus and content for e-mail tandem communication. We would never dream of instructing our students to work collaboratively with their classmates without giving them a task they can work together on. This realization explains to a large extent the sustainability problem, and also indicates that e-mail tandem language learning will have the same problems as any other self-study task if it is not supported with content and guidance. We have now partly addressed the second objective stated at the start of the research section of this thesis, the disparity between initial enthusiasm and the problem of sustainability. The second part, the low levels of realization of its potential for language learning was addressed by looking at the cognitive conditions for language learning in the design for tasks.

A focus on task design for e-mail tandem language learning was the next step to be taken. For this purpose I looked at the SLA literature, using the same departure points

as Chapelle did for the development of her model, and the literature on socio-affective and cognitive conditions for language learning. In doing so I discovered that most of the models concerned with the role of interaction in SLA do not consider interaction settings other than face-to-face.

Concerning the socio-affective dimension I looked at the model Chapelle used, MacIntyre *et al.* 's (1998) construct of willingness to communicate (WTC). I also reviewed some of the literature in motivation and explored Keller's instructional design model. Chapter 7 described a case study focusing on socio-affective factors and I put forward a number of criteria that I suggest should be taken into account when designing tasks for e-mail tandem language learning. I also conducted a study comparing e-mail tandem language learning within a communicative and a task-based approach in order to explore further the problem of sustainability. I found that a task-based approach was more successful in maintaining sustainability.

Regarding cognitive factors for language learning, I looked at how different SLA models explained attention channeling in relation to SLA. Robinson's (2001) triadic model for the evaluation of pedagogical tasks provided a framework for experimentation with features that have an impact on how attention is channeled during task performance. In the review of textual features of e-mail in Chapter 2 one of the observations made concerned the variability of e-mail, the time pressure that it imposes and its purpose of use. The case studies in Chapters 4 and 5 also pointed to the risk that students may produce extended monologues with little interaction. I argued that these factors could explain that often focus on form does not take place in an e-mail tandem language learning context, and that we could explore the manipulation of the variables in Robinson's model in order to push students into focus on form.

From the work in this thesis it emerges that the task plays a crucial role for ensuring both sustainability and language learning. Within this context the tasks need to last for a certain period of time to allow for a fruitful e-mail correspondence but should not last long enough for students to lose interest. Four-week tasks which are clearly structured proved to be the most suitable. These tasks required the students to produce

an outcome, were goal-directed, allowed for focus-on form as needed and were documented through written reports and oral presentations.

Finally, there is a matter that started to surface in the first studies and finally is fully articulated in the finding reported in Chapter 9: the argument that e-mail tandem language learning should be embedded in learning communities. Chapter 3 (section 3.4.3) and Chapter 9 looked at experiments in psycholinguistics that explore syntax priming and coordination in the context of isolated pairs and communities. Chapter 9 describes an experimental study that set out to explore syntax priming in the context of e-mail tandem language learning, and found that a community setting was advantageous for enhancing syntax priming effects. Given the caveat that the nature of the link between syntax priming and SLA has not been established and needs further research, the results of the study of Chapter 9 indicate that learning communities would be beneficial. The developments reported in the previous chapters also pointed in the same direction. First of all I found that the integration of the activity into classroom practice was beneficial. The addition of the group board in the latest version of the ETR site also prompted the consideration of virtual learning communities.

The starting point of this thesis was the individual (or a pair of individuals) and how they might interact, from a cognitive and socio-affective point of view and how this interaction could lead to language learning. By the end of the thesis, the findings suggest that individuals need a learning community in which to situate their own language learning. The next step would be to analyse the implementation of e-mail tandem language learning in learning communities from a socio-cultural point of view. These results might be viewed as evidence supporting the argument that learning takes place in a social context. Furthermore, the results of the earlier studies support the argument that self-study does not work, whereas the progression of studies in this thesis suggest that it may be possible to design a learning programme for communities engaged in self-study. This argument runs against the idea that computers should facilitate self-study; on the contrary, the results reported here suggest that computers can and should be used most effectively to assist students who cannot participate in learning communities because of geographical or time restrictions.

I have resolved the main organizational obstacles to e-mail tandem language learning, identified the source of the problems of sustainability and low potential realization, and provided a description of the type of language and behavioural patterns in e-mail tandem language learning. Moreover, it is now possible to implement e-mail tandem language learning on a large scale. A tool that could suit very well this implementation is the European Language Portfolio. Included in this portfolio is the language passport where the learner is required to assess his/her language skills. For this purpose a grid is provided (see appendix M) based on the Council of Europe's common reference levels (Council of Europe 2001). These reference levels expressed in behavioural rather than linguistic terms are not language-bound and would be an optimal tool for teachers of different language working together on tandem projects. The grid and the detail checklists which elaborate on each level in the grid (see appendix N for two examples) would also provide a tool and common terminology for tandem partners to discuss their language learning objectives and progress.

The work in this thesis has uncovered a number of areas that can be further researched. One of the conclusions of this thesis is that e-mail tandem language learning needs to be embedded in learning communities, and so far cognitivist theories of SLA have not provided the analytical tools to take into account this fact. I have suggested that the next step would be to undertake an analysis under the framework of socio-cultural or situated cognition theories.

At the end of Chapter 6 I discussed the built-in mechanisms in the ETR design that facilitates the collection of a corpus of e-mail tandem messages inspired by the corpus collected by Granger (1998). This corpus would be very powerful, in that it could be multi-lingual, and collect simultaneously NS language and learner language within exactly the same context. Furthermore, the text produced by each speaker is collected over time and is interactive in nature and the interaction is recorded in multiple time-scales. A corpus like this could give rise to much research in areas such as discourse analysis, interlanguage development, priming and second language acquisition.

There is much work left in the area of developing pedagogical tasks. In Chapter 8 I explored one single feature of Robinson's model, the convergent/divergent interactive variable. There are many other features in this model that can be further researched,

as well as the interaction of theses features with one another. Motivation is another area where more research can be undertaken. Also, more research is necessary into how to modify existing SLA models in order to take account of new emergent technologies.

The research described in Chapter 9 only touched the tip of the iceberg. There is much more that could be done in the area of psycholinguistics and SLA, and e-mail tandem language learning provides a potentially fruitful context. Aspects such as size of community groups for optimal levels of priming, and the relationship between SLA and priming need to be further explored.

These four areas for further research I have proposed can surely suggest additional improvements to the ETR site. For example, in Chapter 9 I suggested the inclusion in the future of a tool for the coordinator interface that would automatically create small communities of a size calculated to produce optimal results in syntax priming amongst tandem pairs in a certain group.

Finally, the way in which e-mail tandem language learning has been studied in this thesis provides a model for how other technologies could be researched, whether computer applications, other CMC types, or any new development the future may hold. I suggest that new technologies should be examined in the light of existing theoretical models of SLA, precisely because language learning is one reason for employing this new technology. Many existing SLA theoretical models are surprisingly slow to take account of new technologies. In researching how the use of new technologies can be evaluated in the light of dominant SLA theoretical models we enrich the models by widening their scope. Research into CMC is not only necessary for its own sake, but can also contribute significantly to SLA. Furthermore, looking at the explosion of CMC, and at the great extent it is being used everyday around the world, and inevitably introduced in the language classroom, SLA theoretical models in general, and in particular those concerned with SLA through interaction can no longer limit the scenarios of their models to face-to-face interaction.

References

Aarseth, E., & Jopp, C., 1998: *CALLMOO fase I – Slutrapport.* Retrieved 02/11/2002 from the World Wide Web: http://cmc.hf.uib.no/dreistadt/eval/sluttrapp.html

Angell, D. & Heslop, B., 1994: *The Elements of E-Mail Style: Communicate Effectively Via Electronic Mail.* New York: Addison-Wesley.

Aitsiselmi, F., 1999: "Second language acquisition through email interaction". *ReCALL*, Vol. 11 (2), pp. 4-11.

Appel, M.C., 1997: "Tandem language learning by e-mail: some psycholinguistics issues and a case study". Unpublished M.Phil dissertation, Centre for Language and Communication Studies, Trinity College, University of Dublin.

Appel, M. C., 1999: "Tandem language learning by e-mail: some basic principles and a case study", *CLCS Occasional Paper* No.54. Dublin: Trinity College, Centre for Language and Communication Studies.

Appel, C., & Gilabert, R. 2002: "Motivation and task performance in a task-based, web-based tandem project". In *ReCALL*, Vol. 14 (1), pp. 16-31.

Appel, M.C., & Mullen, T., 2000: "A Common Gateway Interface for Tandem language Learning". In B. Strotmann (ed.), Proceedings of the International Congress on Technology in Teaching, jointly organized by IATEFL Computer SIG, TESOL-Spain and Universidad Europea de Madrid, 20-22 November 1998. Universidad Europea: CEES Ediciones.

Appel, M. C., & Mullen, T., 2000: "Pedagogical Considerations for Web-based Tandem language Exchange". *Computers & Education*, Vol. 34 (3-4), pp. 291-308.

Appel, C., & Mullen, T., 2002: "A new tool for teachers and researchers involved in e-mail tandem language learning". In *ReCALL*, Vol 14 (2), pp. 195-208.

Appel, C., & Vogel, C., 2001: "Investigating syntax priming in an e-mail tandem language learning environment". In K. Cameron (ed.): *CALL, The challenge of change*, 177-184. Proceedings of CALL 2001, University of Exeter, 1-3 September.

Archer, R.L., Hormuth, S.E. & Berg, J.H. 1982: "Avoidance of self-disclosure: an experiment under conditions of self-awareness". *Personality and Social Psychology Bulletin*, Vol. 8, pp. 122-128.

Aston, G. 1986: "Trouble-shooting in interaction with learners: the more the merrier?". *Applied Linguistics*, Vol. 7 (2), pp. 128-43.

Austin, R. & F. Mendlick, 1993: "E-Mail in modern language development". In *ReCALL* Vol. 9 (November), pp. 19-23.

Bandura, A., 1977: "Self efficacy: Toward a unifying theory of behavioural change". *Psychological Review*, Vol. 84, pp. 191-215.

Baron, N.S., 2000: *Alphabet to E-Mail*. London: Routledge.

Barson, J., J. Frommer, M. Schwartz, 1993: "Foreign language learning using e-mail in a task-oriented perspective: interuniversity experiments in communication and collaboration", *Journal of Science Education and Technology*, Vol. 2 (4), pp. 565-85.

Barson, J. & R. Debski, 1996: "Calling back CALL: Technology in the service of foreign language learning based on creativity, contingency and goal-oriented activity". In M. Warschauer, (ed.), 1996b, 49-68.

Belz, J.A., 2002: "Social dimensions of telecollaborative foreign language study". *Language Learning & Technology*, Vol.6 (1), pp. 60-81.

Berlyne, D.E., 1965: "Motivational problems raised by exploratory and epistemic behaviour". In S. Koch (ed.), *Psychology: A study of a science* (Vol.5). New York:McGraw-Hill.

Biber, D., 1988: *Variation across Speech and Writing*. Cambridge: Cambridge University Press.

Biber, D., 1991: "On the exploitation of computerized corpora in variation studies". In K. Aijmer and B. Altenberg (eds.), *English Corpus Linguistics: Studies in Honour of Jan Svartvik*, pp. 204-220. London & New York: Longman.

Biber, D., 1992: "On the complexity of discourse complexity: A multidimensional analysis". *Discourse Processes* Vol. 15, pp. 133-163.

Blin, F., 2003: "Towards an activity-theoretical perspective on the study of CALL and Learner Autonomy". Paper given at WorldCALL 2002, Banff, Canada, May 7-10.

Brammerts, H., 1996: "Tandem language learning via the Internet and the International E-Mail Tandem Network". In D. Little & H. Brammerts, 1996.

Brammerts, H., Kleppin, K., Schleyer, J. & Zarco de la Hoz, F., 1989*: Tandem Bochum-Oviedo, Intensivkurs Deutsch, Tándem Oviedo-Bochum, Curso intensivo de español, Oviedo 2.91989-30.9.1989*. Bochum: Seminar für Sprachlehrforschung der Ruhr-Universität [dto. 1990, 1991].

Branigan, H.P., Pickering, M.J., Liversedge, S., Steward, A., & Urbach, T., 1995: "Syntactic priming: Investigating the mental representation of language. *Journal of Psycholinguistic Research*, Vol. 24, pp. 489-506.

Brophy, J.E., 1985: "Teachers' expectations, motives and goals for working with problem students". In C. Ames & R. Ames (eds.), *Research on motivation in education: The classroom milieu*, 175-214. Orlando, FL: Academic Press.

Buckett, J., Datta, N., Lewis, D., Stringer, G., Plehn, H., Ruff, P., Tscherner, P., & Wegstein, W., 2001: "Conversation classes across Europe: a challenge for videoconferencing". In K. Cameron (ed.), *CALL – The Challenge of Change*, 169-176. Exeter: Elm Bank Publications.

Calvert, M., 1992: "Working in tandem: peddling an old idea". *Language Learning Journal,* Vol. 6, pp. 17-19.

Cameron, K., 2001: Editorial. *CALL*, Vol.14, (1), pp.1-2.

Carletta, J., 1996: "Assessing agreement on classification tasks: the kappa statistic". *Computational Linguistics*, Vol. 22(2), pp. 249-254.

Carletta, J. C., Isard, A., Isard, S., Kowtko, J., Doherty-Sneddon, G., & Anderson, A., 1997: "The Reliability of a Dialogue Structure Coding Scheme". *Computational Linguistics*, Vol. 23 (1), pp. 13-31.

Cavnar, W. B. & Trenkle, J. M., 1994: "N-Gram-Based Text Categorization". In Proceedings of Third Annual Symposium on Document Analysis and Information Retrieval, Las Vegas, NV, UNLV Publications/Reprographics, pp. 161-175, 11-13 April 1994.

Chambers, G. N., 1999: *Motivating Language Learners*. Clevedon: Multilingual Matters.

Chapelle, C., 1997: "CALL in the year 2000: still in search of research paradigms?". *Language Learning & Technology*, Vol.1 (1), pp.19-43.

Chapelle, C., 1999: "Research questions for a CALL research agenda: a reply to Rafael Salaberry". *Language Learning & Technology*, Vol.3 (1), pp.108-113.

Chapelle, C., 2001: *Computer Applications in Second Language Acquisition*. Cambridge: Cambridge University Press.

Chapelle, C., Luo, L. & Raby, F. 2003: "Three analytic perspectives for analysis of process data in CALL environments". Paper given at WorldCALL 2002, Banff, Canada, May 7-10.

Chun, D. M., 1994: "Using computer networking to facilitate the acquisition of interactive competence". *System*, Vol. 22 (1), pp.17-31.

Collot, M. & Belmore, N., 1996: "Electronic Language: A New variety of English". In S.C. Herring (ed.) 1996, pp.13-28.

Condon, S. & Čech, C.G., 1996: "Functional comparisons of face-to-face and computer-mediated decision making interactions". In S.C. Herring (ed.) 1996, pp. 65-80.

Connolly, T., 1997: "Electronic brainstorming: Science meets technology in the group meeting room". In S. Kiesler (ed.), *Culture of the Internet*, 263-276. Lawrence Erlbaum Associates, Publishers.

Council of Europe, 2001: *Common European Framework of Reference for Language.* Cambridge: Cambridge University Press.

Crookes, G. & Schmidt, R.W., 1991: "Motivation: Reopening the research agenda". *Language Learning*, Vol. 41 (3), pp. 469-512.

Crystal, D., 1995: *The Cambridge encyclopedia of the English language.* Cambridge: Cambridge University Press.

Crystal, D., 2001: *Language and the Internet.* Cambridge: Cambridge University Press.

Dam, L., 1995: *Learner Autonomy 3: From Theory to Classroom Practice.* Dublin: Authentik.

Dam, L., L. Legenhausen & D. Wolff, 1990: "Text production in the foreign language classroom and the word processor". *System,* Vol.18 (3), pp. 325-334.

Debski, R., 2000: "Exploring the re-creation of a CALL innovation". *CALL*, Vol.13 (4-5), pp. 307-332.

DeKeyser, R.M., 2001: "Automaticity and automatization". In P. Robinson (ed.) 2001a, pp. 125-151.

Donaldson, R.P., & Kötter, M. 1999: "Language Learning in Cyberspace: Teleporting the classroom into the target culture". *CALICO*, Vol.16 (4), pp. 531-557.

Dörnyei, Z., 2001: *Teaching and Researching Motivation.* Harlow: Longman.

Doughty, C.J. & Long, M.H. (eds.), 2003: *The Handbook of Second Language Acquisition.* London: Blackwell.

Doughty, C.J. & Williams, J. (eds.), 1998: *Focus on Form in Classroom Second Language Acquisition.* Cambridge: Cambridge University Press.

Eck, J.A. & Trim, J.L.M., 1991: *Threshold Level 1990.* Strasbourg: Council of Europe Press.

Èech, C.G. & Condon, S.L., 2002: "Does attentional load affect discourse management in on-line communication?". Paper given at SSGRR 2002, L'Aquila, Italy. Retrieved from WWW 05/08/2003 http://www.ssgrr.it/en/ssgrr2002s/papers/27.pdf.

Ellis, N., 2001: "Memory for language". In P. Robinson (ed.) 2001a, pp. 33-68.

Ellis, R., 2003: *Task-based language learning and teaching.* Oxford: Oxford University Press.

Esch, E., 1996: "Promoting learner autonomy: criteria for the selection of appropriate methods". In R. Pemberton, E.S.L. Li, W.W.F. Or & H.D. Pierson (eds.): *Taking Control, Autonomy in language learning*, 35-48. Hong Kong University Press.

Fischer, G., 1998: *E-mail in Foreign Language Teaching. Toward the creation of virtual classrooms*. Tübingen: Stauffenburg.

Flynn, N. & Flynn, T., 1998: *Writing effective e-mail*. Menlo Park, CA: Crisp Publications.

Foster, P. & Skehan, P., 1997: "Modifying the task: the effects of surprise, time, and planning type on task based foreign language instruction". *Thames Valley University Working papers in English language teaching*, Vol. 4.

Fourman, J. & Roig-Torres, T., 1998: "Utilization of electronic mail in the foreign language classroom". In E. Alcón Soler & V. Codina Espurz (eds.): *Current Issues in English Language Methodology*. Castelló de la Plana: Publicacions de la Universitat Jaume I.

Gardner, R.C., 1985: *Social psychology and language learning: The role of attitudes and motivation*. London: Edward Arnold.

Gardner, R. C., & Lambert, W. E., 1959: "Motivational variables in second language acquisition". *Canadian Journal of Psychology*, Vol. 13, pp. 266-272.

Gardner, R. C., & Lambert, W. E., 1972: *Attitudes and Motivation in Second-Language Learning*. Rowley, Mass.: Newbury House Publishers.

Garrod, S. C. & Anderson, A., 1987: "Saying what you mean in dialogue: a study in conceptual and semantic co-ordination". *Cognition*, Vol. 27, pp. 181-218.

Garrod, S. & Clark, A., 1993: " The development of dialogue coordination skills in schoolchildren". *Language and Cognitive Processes*, Vol. 8, pp. 101–126.

Garrod, S. C. & Doherty, G., 1994: "Conversation, coordination and convention: an empirical investigation of how groups establish linguistic conventions". *Cognition*, Vol. 53, pp. 181-215.

Givon, T., 1985: "Function, structure, and language acquisition". In D. Slobin (ed.), *The crosslinguistic study of language acquisition*, Vol 2, 1005-1027. Hillsdale, NJ: Erlbaum.

Gölz, P., 1995: "Virtual classrooms: University of Victoria's VCR MUSH". In M. Warschauer (ed.), *Virtual Connections: On-line Activities and Projects for Networking Language Learners*, 239-241. Honolulu, HI: University of Hawai'i, Second Language Teaching and Curriculum Center.

González-Bueno, M.,1998: "The effects of electronic mail on Spanish L2 discourse". *Language Learning & Technology*, Vol.1 (2), pp. 50-65.

Grabe, W. & R. B. Kaplan, 1996: *Theory & Practice of Writing*. London: Longman.

Granger, S.(ed.) 1998a: *Learner English on Computer*. Austin, TX, USA: Addison Wesley Longman.

Granger, S., 1998b: "The computer learner corpus: a versatile new source of data for SLA research". In Granger, S. (ed.) 1998a, pp.3-18.

Greenbaum, S. & Svartvik, J., 1990: "The London-Lund Corpus of Spoken English". In J. Svartvik (ed), *The London Corpus of Spoken English: Description and Research*. Lund Studies in English 82. Lund University Press.

Halliday, M.A.K., 1978: *Language as Social Semiotic: The Social Interpretation of Language and Meaning*. London: Arnold.

Harrington, M., 2001: "Sentence processing". In P. Robinson (ed.) 2001a, pp. 91-124.

Harrington, M. & Levy, M., 2001: "CALL begins with a 'C': interaction in computer-mediated language learning". *System*, Vol. 29 (1), pp. 15-26.

Hartsuiker, R. & Kolk, H., 1998: "Syntactic facilitation in agrammatic sentence production". *Brain and Language*, Vol. 62 (2), pp. 221–254.

Healy, P. G. T., 1995: "Communication as a special case of misunderstanding: semantic coordination in dialogue". Unpublished PhD Thesis, University of Edinburgh.

Hémard, D. P., 1999: "A methodology for designing student-centered hypermedia CALL". In R. Debsky & M.Levy (eds.): *WORLD CALL: Global perspectives on computer-asssisted language learning*, 215-228. Lisse: Swets & Zeitlinger.

Herring, S.C., (ed.) 1996: *Computer-Mediated Communication, Linguistics, Social and Cross-Cultural Perspectives*. Amsterdam / Philadelphia: John Benjamins Publishing Company.

Hoffman, R., 1994: "Powerful, personal: electronic mail and the L2 writing process". *ReCALL,* Vol. 6 (2), pp. 53-62.

Holliday, L., 1998: "The Grammar of Second Language Learners of English EMAIL Messages". In S. Jager, J. Nerbonne, & A. van Essen: *Language Teaching and Language Technology*, 136-145. Lisse, the Netherlands: Swets & Zeitlinger.

Hutchby, I., 2001: *Conversation and technology: From the telephone to the Internet*. Oxford: Blackwell.

Ibarz, T. & Monaghan, A., 2000: "Identifying issues in the introduction of information and communication technologies with adult learners of Spanish". *Vida Hispánica*, Vol.21, pp.8-13.

Jarvenpaa, S., Knoll, K., & Leidner, D.E., 1998: "Is anybody out there? Antecedents of trust in global virtual teams". *Journal of Management Information Systems*, Vol. 14 (4), pp. 29-64.

Johansson, S., 1991: "Times change, and so do corpora". In K. Aijmer & B. Altenberg (eds.), *English Corpus Linguistics*, 305-14. London: Longman.

Johnson, L. C., 1996: "The keypal connection". In M. Warschauer (ed.), 1996b, pp.131-143.

Jonassen, D.H., & Kwon, H., 2001: "Communication Patterns in Computer Mediated Versus Face-to-Face Group Problem Solving". *In Educational Technology Research and Development*, Vol 49 (1), pp. 35-51.

Keller, J.M., 1983: "Motivational design of instruction". In C.M. Reigelruth (ed.): *Instructional-design theories and models: An overview of their current status*, 383-434. Hillsdale, NJ: Lawrence Erlbaum.

Kitade, K., 2003: "The quality of language learners' production through e-mail exchange: the learners' interactions with peers and with native speakers". Paper given at Eurocall 2003, University of Limerick, September 3-6.

Kötter, M., 2003: "Negotiation of meaning and codeswitching in online tandems". *Language Learning & Technology*, Vol. 7 (2), pp. 145-172.

Krippendorf, K. 1980: *Content Analysis: An introduction to its methodology*. Beverly Hills, CA: Sage Publications.

Lamy, M-N. & Goodfellow, R. 1999a: "Reflective conversation in the virtual language classroom". In *Language Learning & Technology,* Vol. 2 (2), pp. 43-61.

Lamy, M-N & Goodfellow, R. 1999b: "Supporting Language Students' Interactions in Web-based Conferencing". In *CALL*, Vol. 12 (5), pp. 457-477.

Larsen-Freeman, D., & Long, M., 1991*: An introduction to second language acquisition research*. London: Longman.

Leahy, C., 2001: "Bilingual Negotiation via E-mail: An International Project". *CALL*, Vol. 14 (1), pp. 15-42.

Levy, M., 1997: *Computer-Assisted Language Learning: Context and Conceptualisation*. Oxford: Clarendon Press.

Levy, M., 2000: "Scope, goals and methods in CALL research: questions of coherence and autonomy". *ReCALL*, Vol. 12 (2), pp. 170-195.

Levy, M., 2003: "Effective use of CALL technologies: Finding the right balance". In R. Donaldson & M. Haggstrom (eds.): *Changing Language Education through CALL*. Lisse, The Netherlands: Swets & Zeitlinger.

Lewis, T. & Stickler, U. 1998: "Intercultural Learning on the Internet. Some Uses of Networked Computing in Preparing for Study Abroad". In L. Calvi & W. Geerts (eds.), *CALL, Culture and the Language Curriculum*, 86-101. London: Springer.

Liaw, M-L & Johnson, R.J., 2001: "E-mail writing as a cross-cultural learning experience". *System*, Vol.29, pp. 221-234.

Little, D., 1991a: *Learner Autonomy 1: Definitions, Issues and Problems*. Dublin: Authentik.

Little, D., 1991b: "Media, media technologies and language learning: some applied linguistic perspectives". In D. Little & B. O Meadhra (eds.), *Media Technologies and Language Learning*, 48-68. Dublin: Irish Association for Applied Linguistics.

Little, D., 1996: "Learner Autonomy and learner counselling". In D. Little & H. Brammerts, 1996.

Little, D.G., 1997: "The role of writing in second language learning: some neo-Vygotskian reflections". In R. Kupetz, (ed.): *Vom Gelenkten zum freien schreiben im fremdsprachenunterricht*, 117-128. Sonderdruck: Peter Lang.

Little, D., 2001: "Learner autonomy and the challenge of tandem language learning via the Internet". In A. Chambers & G. Davies (eds.), *ICT and Language Learning: a European Perspective*, 29-38. Lisse: Swets & Zeitlinger

Little, D., & Brammerts, H., 1996: A guide to language learning in tandem via the Internet. *CLCS Occasional Paper* No.46. Dublin: Trinity College, Centre for Language and Communication Studies.

Little, D., & Ushioda, E., 1998a: "Designing, implementing and evaluating a project in tandem language learning via e-mail". *ReCALL*, Vol. 10 (1), pp. 95-101.

Little, D. & E. Ushioda, 1998b: *Institution-wide Language Programmes: A Research-and-Development Approach to their Design, Implementation and Evaluation*. London: CILT, in association with the Centre for Language and Communication Studies, Trinity College Dublin

Little, D., Ushioda,E., Appel,M.C., Moran, J , O'Rourke, B. & Schwienhorst, K., 1999: "Evaluating tandem language learning by e-mail. Report on a bilateral project", *CLCS Occasional Paper* No.55. Dublin: Trinity College, Centre for Language and Communication Studies.

Long, M.H., 1983: "Native speaker/non-native-speaker conversation and the negotiation of comprehensible input". *Applied Linguistics*, Vol. 4 (2), pp. 126-141.

Long, M.H., 1985: "Input and second language acquisition theory". In S.Gass & C.Madden (eds.), *Input in second language acquisition*, 377-393. Rowley, MA: Newbury House.

Long, M.H., 1988: "Instructed interlanguage development". In L. Beebe (ed.), *Issues in second language acquisition: Multiple perspectives*, 115-141. New York: Newbury House.

Long, M.H. & Crookes, G., 1993: "Units of analysis in syllabus design –The case for task". In G. Crookes & S. Gass (eds.), *Tasks in a Pedagogical Context: Integrating theory and practice*, 9-54. Clevedon: Multilingual Matters.

Ma, R., 1996: "Computer-mediated conversations as a new dimension of intercultural communication between East Asian and North American college students In S.C. Herring (ed.) 1996, pp. 173-85.

MacIntyre, P.D., Clément, R., Dörnyei, Z. & Noels, K.A., 1998: "Conceptualizing willingness to communicate in a L2: A situated model of confidence and affiliation". *Modern Language Journal*, Vol. 82 (4), pp. 545-62.

MacWhinney, B., 2001: "The competition model: the input, the context, and the brain". In P. Robinson (ed.) 2001a, pp. 69-90.

Maehr, M.L., & Archer, J., 1987: "Motivation and school achievement". In L.G. Katz, (ed.): *Current topics in early childhood education*, 85-107. Norwood, New jersey: Ablex.

McClelland, D.C., Atkinson, J.W., Clark, R.W., Lowell, E.L. 1953: *The achievement motive*. New York: Appleton-Century-Crofts.

McCroskey, J.C., & Baer, J.E., 1985: "Willingness to Communicate: the construct and its measurement". Paper presented at the annual convention of the Speech Communication Association, Denver,CO.

Moran, C. & Hawisher, G. E., 1998: "The rhetorics and languages of electronic mail". In I. Snyder (ed.): *Page to Screen*, 80-101. London & New York: Routledge.

Moriarty, C. 1999: "The Development of Student and Teacher Facilities for Tandem Language Learning via E-mail". Unpublished B.A. (Mod) CSLL Dissertation. Centre for Language and Communication Studies & Department of Computer Science, University of Dublin, Trinity College.

Motteram, G., 1999: "Changing the research paradigm: qualitative research methodology and the CALL classroom". In R. Debski & M. Levy (eds.), *WORLDCALL, Global perspectives on computer-assisted language learning*, 201-214. Lisse, The Netherlands: Swets & Zeitlinger.

Navon, D. & Gopher, D., 1980: "Task difficulty, resources and dual-task performance". In R.S. Nickerson (ed.), *Attention and performance* VIII, 297-315.Hillsdale, NJ:Erlbaum.

Nerbonne, J., 2001: "Natural Language Processing in Computer-Assisted Language Learning". In R. Mitkov (ed.): *Handbook of Computational Linguistics*, 670-698. Oxford: Oxford University Press.

Neumann, O. 1987: "Beyond capacity: A functional view of attention. In H. Heuer & A. Sanders (eds.): *Perspectives on perception and action*, 361-394. Berlin: Springer.

Ní Dhea, D., 2000: "The design and evaluation of a game for tandem language learning via the Internet". Unpublished B.A. (Mod) CSLL Dissertation. Centre for Language and Communication Studies & Department of Computer Science, University of Dublin, Trinity College.

Noord, G. van, 1997: *TextCat*. Retrieved 02/09/2003 from the World Wide Web: http://odur.let.rug.nl/~vannoord/TextCat/

O'Dowd, R., 2000: "Intercultural learning via videoconferencing: a pilot exchange project". *ReCALL*, Vol. 12 (1), pp. 49-63.

O'Rourke, B., 2002: "Metalinguistic knowledge in instructed second language acquisition: a theoretical model and its pedagogical application in computer-mediated communication". Unpublished Ph.D thesis. Centre for Language and Communication Studies, University of Dublin, Trinity College.

Paramskas, D.M., 1999: "The shape of Computer-Mediated Communication". In K. Cameron, *CALL: Media, Design & Applications*, 13-34. Lisse, The Netherlands: Swets & Zeitlinger.

Pellettieri, J., 2000: "Negotiation in cyberspace: The role of chatting in the development of grammatical competence". In M. Warschauer & R. Kern (eds.), *Network-based language teaching: Concepts and practice*, 59-86. Cambridge: Cambridge University Press.

Peterson, M., 1997: "Language Teaching and Networking". *System*, Vol. 25(1), pp. 29-37.

Pica, T.,Kanagy, R., & Falodun, J., 1993: "Choosing and using communication tasks for second language instruction". In G. Crookes & S. Gass (eds.), *Tasks and Language Learning: Integrating Theory and Practice*. Vol.1, 9-34. Clevedon, England: Multilingual Matters.

Pickering, M.J. & Branigan, H.P., 1999: "Syntactic priming in language production". *Trends in Cognitive Sciences*, Vol. 3 (4), pp. 136-141.

Pintrich, P.R. & Schunk, D.H., 1996*: Motivation in Education: Theory, Research and Applications*. Englewood Cliffs, NJ: Prentice Hall

Robinson, P., 1995: "Attention, memory and the 'noticing' hypothesis". *Language Learning*, Vol. 45 (2), pp. 283-331.

Robinson, P., 2001: "Task complexity, cognitive resources and syllabus design: a triadic framework for examining task influences on SLA". In P. Robinson (ed.) 2001a, pp. 287-318.

Robinson, P. (ed.), 2001a: *Cognition and Second Language Instruction*. Cambridge: Cambridge University Press.

Robinson, P., 2003: "Attention and memory during SLA". In Doughty & Long (eds.) 2003, pp. 631-678.

Rosenthal, R. & Jacobson, L., 1968: *Pygmalion in the classroom*. New York: Holt, Rinehart & Winston.

Rueda, R., 1990: "Assisted performance in writing instruction with learning-disabled students". In L. C. Moll (ed.), *Vygotsky and Education*, 403-426. Cambridge: Cambridge University Press.

Rutter, D.R., 1987: *Communicating by Telephone*. Oxford: Pergamon.

Salaberry, R., 1999: "CALL in the year 2000: still developing the research agenda". *Language Learning & Technology*, Vol.3 (1), pp. 104-107.

Sato, C., 1988: "Origins of complex syntax in interlanguage development". *Studies in Second Language Acquisition*, Vol. 10, pp. 371-395.

Sato, C., 1990: *The syntax of conversation in interlanguage development*. Tubingen: Gunter Narr.

Schmidt, R., 1990: "The role of consciousness in second language learning". *Applied Linguistics*, Vol. 11, pp. 129-158.

Schmidt, R. & Watanabe, Y., 2001: "Motivation, strategy use, and pedagogical preferences in foreign language learning". In Z. Dörnyei & R. Schmidt (eds.), *Motivation and Second Language Acquisition* (Technical Report n.23), 313-359. Honolulu: University of Hawai'i Press.

Schober, M.F. & Clark, H.H., 1989: "Understanding by Addressees and Overhearers". *Cognitive Psychology*, Vol. 21, pp. 211-32.

Schrank, W., 1968: "The labelling effect of ability grouping". *Journal of Educational Research*, Vol. 62, pp. 51-2.

Schwienhorst, K. 1998a: "The 'third place'- virtual applications for second language learning. *ReCALL*, Vol. 10(1), pp.118-126.

Schwienhorst, K., 1998b: "Matching pedagogy and technology – Tandem learning and learner autonomy in online virtual language environments". In R. Soetaert, E. D. Man & G. Van Belle (eds.), *Language Teaching On-Line*, 115-127. Ghent: University of Ghent.

Schwienhorst, Klaus., 2000: "Virtual Reality and Learner Autonomy in Second Language Acquisition". 2 vols. Unpublished PhD thesis. Centre for Language and Communication Studies, University of Dublin, Trinity College.

Schwienhorst, K., 2002: "Evaluating Tandem Language Learning in the MOO - Discourse Repair Strategies in a Bilingual Internet Project". *CALL* 15 (2), pp. 135-145.

Short, J., Williams, E. & Christie, B., 1976: *The Social Psychology of Telecommunications*. London: Wiley.

Skehan, P., 1998: *A Cognitive Approach to Language Learning*. Oxford: Oxford University Press.

Skehan, P. & Foster, P., 2001: "Cognition and tasks". In P. Robinson (ed.) 2001a, pp. 183-205.

Snyder, I. (ed.) 1998: *Page to Screen*. London & New York: Routledge.

St John, E. & D. Cash, 1995: "German language learning via e-mail: a case study". *ReCALL*, Vol. 7 (2), pp. 47-51.

Sotillo, S.M., 2000: "Discourse functions and syntactic complexity in synchronous and asynchronous communication". In *Language Learning & Technology*, Vol. 4 (1), pp. 82-119.

Stockwell, G.R., 2000: *An analysis of e-mail based interactions between native speakers and advanced level nonnative speakers of Japanese*. Unpublished doctoral dissertation, Centre for Language Teaching and Research, University of Queensland.

Stockwell, G.R., 2003: "Effects of topic threads on sustainability of e-mail interactions between native speakers and nonnative speakers". *ReCALL*, Vol. 15 (1), pp. 37-50.

Stockwell, G.R. & Harrington, M., 2003: "The incidental development of L2 proficiency in NS-NNS Email Interactions". *CALICO Journal*, Vol. 20 (2), pp. 337-359.

Stockwell, G. & Levy, M., 2001: "Sustainability of E-mail Interactions Between Native Speakers and Nonnative Speakers". *CALL*, Vol. 14 (5), pp. 419-442.

Swain, M., 1985: "Communicative competence: some roles of comprehensible input and comprehensible output in its development". In S. Gass & C. Madden (eds.), *Input in second language acquisition*, 235-53. Rowley, MA: Newbury House.

Swain, M. & Lapkin, S., 1995: "Problems in output and the cognitive processes they generate: A step towards second language learning". *Applied Linguistics*, Vol. 16 (3), pp. 371-391.

Tarone, E., 1980: "Communication strategies, foreigner talk, and repair in interlanguage". *Language Learning*, Vol.30 (2), pp. 417-431.

Toffler, A., 1981: *The Third Wave*. London:Collins.

Townshend, K., 1997: *E-mail: Using Electronic Communications in foreign language teaching*. London: Centre for Information on Language Teaching and Research.

Trenchs, M., 1997: *E-mails a una mestra. Correu electrònic I aprenentatge de llengües*. Lleida: Pagès editors.

Tsui, A.B.M., 1994: *English Conversation*. Oxford: Oxford University Press.

Ushioda, E., 1998: "Effective motivational thinking: A cognitive theoretical approach to the study of language learning motivation". In E.A. Soler & V.C. Espurz (eds)*: Current Issues in English language methodology*, 77-89. Universitat Jaume I, Castelló de la Plana, Spain.

Ushioda, E., 2000: "Tandem Language Learning via e-mail: from motivation to autonomy". *ReCALL*, Vol. 12 (2), pp. 121-128.

VanPatten, B., 1990: "Attending to form and content in the input: an experiment in consciousness". *Studies in Second Language Acquisition*, Vol.12 (3), pp.287-301.

Varonis, E. M. & Gass, S. M., 1985: "Non-native/non-native conversations: a model for negotiation of meaning". *Applied Linguistics,* Vol.6 (1), pp. 71-90.

Vygotsky, L.S., 1962: *Thought and language* (G. Vakar, Trans.). Cambridge, MA: MIT Press.

Walker, L., 1998: "The face to face tandem learning module: A case study". [WWW publication: http://www.uclan.ac.uk/facs/class/languages/translang/tandem.htm]

Wallace, P., 1999: *The psychology of the Internet. Cambridge*: Cambridge University Press.

Warschauer, M., 1995: *E-Mail for English Teaching: Bringing the Internet and computer learning networks into the language classroom*. Alexandria, VA: TESOL Publications.

Warschauer, M., 1996a: "Computer-assisted language learning: An introduction". In S. Fotos (ed.), *Multimedia language teaching*, 3-20. Tokyo: Logos International.

Warschauer, M., (ed.) 1996b*: Tellecolaboration in foreign language learning: Proceedings of the Hawai'i Symposium*. (Technical Report #12). Honolulu, HI: University of Hawai'i, Second Language Teaching & Curriculum Center.

Warschauer, M.,1996c: "Comparing face-to-face and electronic discussion in the second language classroom". *CALICO Journal*, Vol. 13 (2), pp. 7-26.

Warschauer, M., 1996d: "Motivational aspects of using computers for writing and communication". In M. Warschauer (ed.) 1996b, pp. 29-46.

Warschauer, M., 1997: "Computer-Mediated Collaborative Learning: Theory and Practice". *Modern Language Journal*, Vol. 81 (3), pp. 470-481

Warschauer, M., 1998: "Researching technology in TESOL: Determinist, instrumental, and critical approaches". *TESOL Quarterly*, Vol. 32 (4), pp. 757-761.

Warschauer, M. & Kern, R. (eds.), 2000: *Network-Based Language Teaching: Concepts and Practice*. Cambridge: Cambridge University Press.

Warschauer, M., L. Turbee & B. Roberts, 1996: "Computer learning networks and student empowerment". *System*, Vol 24 (1), pp. 1-14.

Weiner, B. (ed.) 1974: *Achievement motivation and attribution theory*. Morristown, N.J.: General Learning press.

Wickens, C., 1989: "Attention and skilled performance". In D. Holding (ed.), *Human skills,*71-105. New York: John Wiley.

Williams, M. & Burden, R., 1997: *Psychology for Language Teachers*. Cambridge: Cambridge University Press.

Willis, J., 1996: *A framework for task-based learning*. Oxford: Longman.

Wold, A. H., 1992: "Oral and written language: arguments against a simple dichotomy". In A. H. Wold (ed.), *The Dialogical Alternative*, 175-194. Oslo: Scandinavian University Press.

Woodin, J., 1997: "Email tandem learning and the communicative curriculum". *ReCALL*, Vol. 9 (1), pp. 22-33.

Yates, S. J., 1996: "Oral and Written Linguistic Aspects of Computer Conferencing". In S.C. Herring (ed.) 1996, pp. 29-46.

Zähner, C., Fauverge, A. & Wong, J., 2000: "Task-based language learning via audiovisual networks". In M. Warschauer & R. Kern (eds.), *Network-Based Language Teaching: Concepts and Practice*, 186-203. Cambridge: Cambridge University Press.

Appendix A
Information given out to Irish subjects in case study, Chapter 4

Improve your foreign language skills with E-mail

E-MAIL TANDEM PROJECT SPANISH-ENGLISH

1. What is it?

This project consists in pairing native speakers of Spanish with native speakers of English so that they can help each other with their foreign language learning via e-mail. It follows the work done by The International E-mail Tandem Network, a network which has put in touch students from a variety of countries throughout the world with each other with the purpose of helping them learn foreign languages. You can find more information about the International E-mail Tandem Network at

http://www.tcd.ie/CLCS/home.html

So far, e-mail tandem language learning has taken place mainly in universities where students have access to the Internet and e-mail. With the ever-increasing availability of e-mail, however, tandem learning methods are becoming more and more accessible to everyone. The Centre for Language and Communication Studies, Trinity College is currently starting a pilot study which will specifically involve professional individuals in the process of tandem language learning via e-mail (for further information contact M. Christine Appel, e-mail: appelm@tcd.ie).

2. Why learn a language via E-mail?

Several aspects of e-mail make this medium ideal for language learning

- Messages are sent and received in a matter of minutes. Communication is fast and up to date.
- Your language learning does not tie you down to a set timetable. You can choose when to read your partner's messages and when to write back.
- You have first hand access to a person who speaks the language you are studying.
- Certain commands such as *reply* or *attach document* facilitate the exchange of corrections and other material which tandem partners may share.

3. How does it work?

Which language should you use?

It is important that both partners write in **both** English and Spanish. This will give you and your partner both a chance to **write** as well as **read** in the language you are learning. Reading your partner's messages in Spanish will give you a model to follow and a feeling of how Spanish is used by native speakers. Writing will give you a chance to put into practice what

you know and discover areas in which you may have difficulties. For the same reasons your partner needs to write messages in English and read your messages in English, too. It is therefore important that you **make sure you use both languages** in your e-mail exchange by writing half of each message in English and the other half in Spanish.

What should you write about?

First, write an introductory message telling your partner about yourself and your interests. You may have common interests you want to discuss or you may want to ask your partner about information on several aspects of Spain you would like to know more about. Don't feel compelled to tell your whole story in the first message: you'll have a lot of exchanges in which to tell parts of your story so far.

The project coordinator will regularly send out messages with suggested topics and activities which are totally optional and only intended to provide support for those tandem pairs who might be running out of conversation.

How do you correct your partner's writing?

- To start with, think about what you would like your partner to correct in your writing, and do the same.
- Do not try to correct everything. Pick the most important mistakes, the ones that prevent understanding or sound awkward (too foreign) to you.
- Write comments together with the corrections. You can ask questions or suggest other ways of expressing something.
- Remember that in order for both of you to benefit from the exchange you should both take the task of correction seriously.
- Correcting your partner's mistakes will help develop your ability to assess your own writing.
- Pay careful attention to your partner's mistakes and way of formulating things in English so you can learn even more about the way the Spanish language works.
- You can use the command *reply* to correct your partner's messages. This command reproduces the main body of the message you are answering on your screen. You can then insert corrections and comments on your partner's mistakes.
- Discuss with your partner the use of abbreviations or any code system you may want to use in your corrections.

How do you set your own learning goals?

Your tandem partner is a native speaker of the language you are learning but he/she is not a language teacher. Think about what language aspects you would like to focus on (e.g. a specific area of vocabulary, new expressions, grammar, verbs) and let your tandem partner know. You should not hesitate to ask your tandem partner to help you with a specific problem nor to make corrections on a specific language area you want to work on.

There are a series of additional activities you can undertake in order to maximize the benefits of this type of exchange. You can, for example, keep track of your most common errors to ensure continued improvement, or analyse your partner's messages in Spanish. For those purposes it can be useful to print out messages so that you have a hard copy on which you can make annotations. After analysing your partner's Spanish text, you can make an attempt to use in your answer those words or expressions which were new to you.

The main point of the exercise is that your tandem partner is your language learning partner. Sometimes questions emerge that neither can answer or things can go wrong and partners stop writing. In both cases, feel free to contact your project coordinator for help.

4. How do you join the project?

Write a message to the coordinator (appelm@tcd.ie), requesting to join the project. You will soon thereafter receive the address of an e-mail partner. Students are required to send a copy of all their messages for research purposes to the coordinator who will be in regular contact via e-mail with all students involved in the project. The messages will be used in a study of the merits of tandem language learning via e-mail. The data drawn from this project will be completely anonymous.

In the interest of research in the subject, the tandem e-mail project at Trinity College is currently being offered as a free service to foreign language learners of English and Spanish. There is no cost to join this project, and no obligations nor liability. Joining the project simply implies consent that messages in the exchange may be used anonymously for research purposes.

Appendix B
Information given out to Spanish subjects in case study, Chapter 4

PROYECTO DE E-MAIL EN TÁNDEM INGLÉS-ESPAÑOL

1. ¿De qué se trata?

El proyecto de intercambio inglés/español en tándem a través de correo electrónico (e-mail) consiste en emparejar hablantes nativos de español con hablantes nativos de inglés para que se ayuden mutuamente con el aprendizaje del inglés y el español. El proyecto se basa en los principios desarrollados por la Red Internacional Tándem por correo electrónico subvencionada por la comisión de la Unión Europea desde 1994. Puedes encontrar más información sobre la Red Internacional Tándem por correo electrónico en
http://www.tcd.ie/CLCS/home.html
Hasta ahora el aprendizaje de idiomas en tándem a través de e-mail se ha dado principalmente en universidades donde los estudiantes tienen libre acceso a correo electrónico. Sin embargo, el uso de e-mail se está expandiendo rápidamente, facilitando así el acceso a métodos de aprendizaje de idiomas en tándem a través de e-mail. El Centro de estudios del lenguaje y la comunicación (*Centre for Language and Communication Studies -CLCS-*) en *University of Dublin, Trinity College* ha iniciado ahora un proyecto piloto que estudia específicamente el proceso de aprendizaje de idiomas a través de e-mail llevado a cabo por profesionales (para más información escriba a M. Christine Appel, e-mail: appelm@tcd.ie).

2. Ventajas de aprender un idioma a través de E-mail

Varias características del e-mail hacen de éste un medio ideal para el aprendizaje de idiomas.

- Los mensajes se pueden enviar y recibir en cuestión de minutos. La comunicación es rápida y actualizada.
- El aprendizaje de idiomas no te ata a un horario determinado. Puedes elegir en qué momento quieres leer los mensajes de tu pareja de e-mail y cuándo responder.
- Tienes acceso de primera mano a un hablante nativo de la lengua que estés aprendiendo.
- Comandos tales como *responder (reply)* o *adjuntar documento* (*attach document*) facilitan el intercambio de correcciones y otro tipo de información que los miembros de una pareja tándem quieran compartir.

3. Cómo llevar a cabo el intercambio

¿Inglés o español?

Es muy importante que los dos miembros de la pareja escribáis en ambos idiomas: inglés y español. De esta manera tendrás la oportunidad de escribir y leer en la lengua que estés aprendiendo. El hecho de leer la parte escrita en inglés del mensaje de tu pareja de e-mail te dará un modelo a seguir y una idea de cómo un hablante nativo utiliza el inglés. Escribir en inglés te dará la oportunidad de practicar el idioma y descubrir las áreas en las que puedas tener dificultades. Por las mismas razones tu pareja de tándem necesita también escribir en español y recibir mensajes que leer en español. Es por tanto importante que ambos utilicéis los dos idiomas escribiendo la mitad de cada mensaje en inglés y la otra mitad en español.

Contenido de los mensajes

En el primer mensaje puedes presentarte y hablar sobre ti. Puede que descubras que tenéis intereses en común o que tu pareja puede darte información sobre algún tema en el que tengas interés. No te sientas obligado a contarle a tu pareja toda tu vida en el primer mensaje, habrá muchas más ocasiones para escribir. A partir del primer mensaje depende de vosotros el elegir temas de conversación aunque un tema al que deberíais prestar atención es la corrección de errores.

La coordinadora del proyecto enviará mensajes a todos los participantes con regularidad. En estos mensajes habrá sugerencias sobre temas de conversación para aquellas parejas que hayan agotado todos los temas.

Cómo corregir los mensajes de tu pareja

- Para empezar, piensa en qué te gustaría que tu pareja te corrigiese a ti y haz lo mismo.
- No intentes corregirlo todo, escoge los errores más importantes, aquellos que impiden la comunicación o suenan raro (extranjero).
- Incluye comentarios con las correcciones. Puedes hacer preguntas o sugerencias sobre cómo expresar algo de diferentes maneras.
- Presta atención a los errores de tu pareja y la forma en que tu pareja se expresa y entenderás mejor cómo funciona la lengua inglesa.
- Puedes utilizar el comando *responder (reply)* para corregir los mensajes de tu pareja. Este comando reproduce el texto que has recibido en la pantalla y te permite insertar correcciones y comentarios.
- Ponte de acuerdo con tu pareja sobre cómo vais a corregiros y qué tipo de abreviaciones o códigos vais a usar.
- El corregir los errores de tu pareja te ayudará a mejorar tu habilidad para evaluar tu propio lenguaje escrito.
- Recuerda que para que los dos podáis beneficiaros del intercambio es necesario tomarse la tarea de corrección en serio.

Cómo definir tus objetivos

Tu pareja de e-mail es un hablante nativo pero no es un profesor de idiomas. Piensa en qué aspectos del inglés quieres concentrarte (e.g. un área específica de vocabulario, expresiones nuevas, gramática, verbos) y comunícaselo a tu pareja de tándem. No dudes en pedirle ayuda sobre problemas específicos o sobre correcciones en un área del inglés en la que tengas más interés.

Puedes hacer una serie de actividades para beneficiarte al máximo del intercambio. Por ejemplo, puedes hacer un seguimiento de los errores más frecuentes o analizar los mensajes de tu pareja en inglés. Con ese fin, puede ser útil imprimir los mensajes para tener una copia en papel sobre la que puedas hacer anotaciones. Después de analizar la parte inglesa de los mensajes de tu pareja de tándem, intenta utilizar aquellas palabras y construcciones nuevas que hayas observado en el mensaje en tu respuesta.

La razón de este ejercicio es que tu pareja de e-mail y tú colaboráis en el aprendizaje de idiomas. A veces pueden surgir preguntas que ninguno de los dos puede responder o uno de los miembros de la pareja puede dejar de escribir. En cualquiera de estos casos, no dudes en escribir a la coordinadora del proyecto para pedir ayuda y aclarar cualquier duda que tengas.

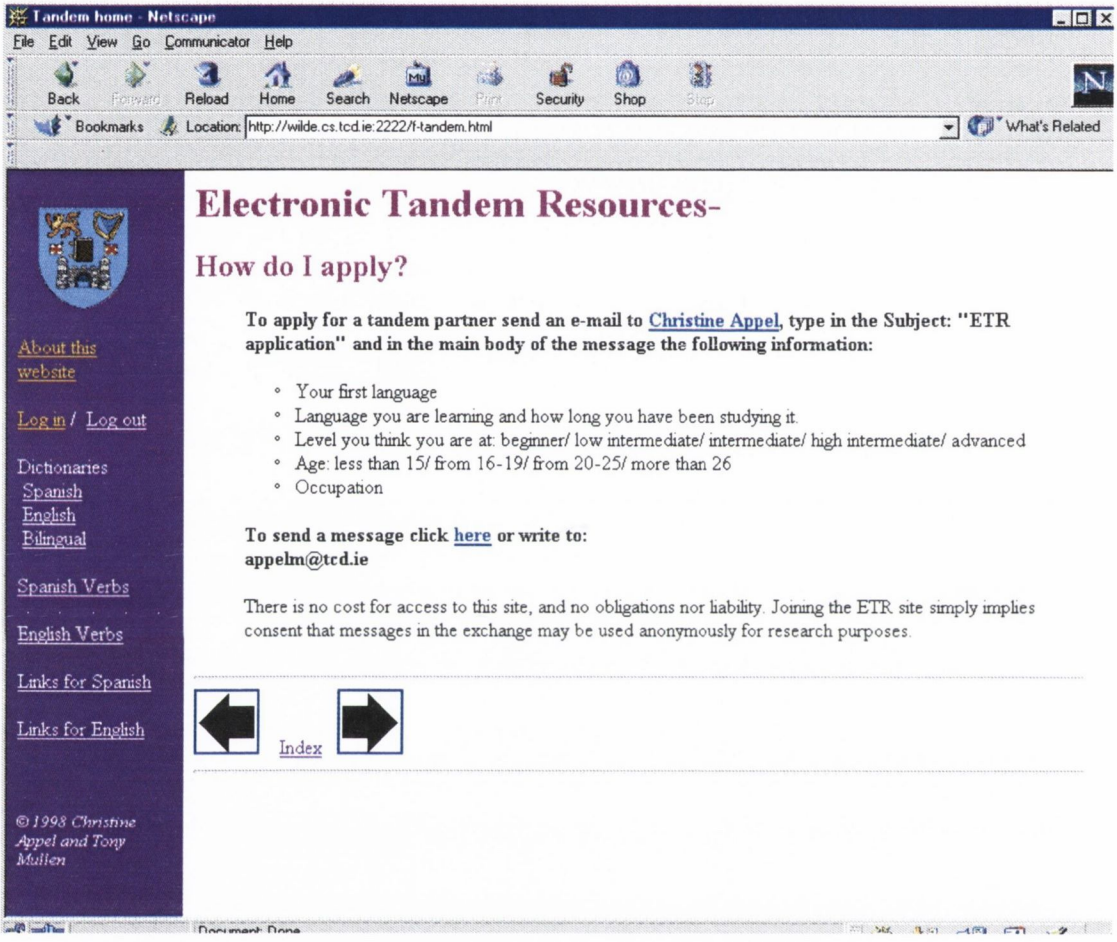
4. Cómo apuntarse al proyecto

Escribe un mensaje a la coordinadora (appelm@tcd.ie) diciendo que deseas apuntarte al proyecto. Recibirás una respuesta con la dirección de e-mail de tu pareja de tándem. Aquellos estudiantes que se unan al proyecto deben enviar una copia de todos sus mensajes a la coordinadora del proyecto que estará en continuo contacto con todos los estudiantes. Los mensajes serán utilizados únicamente con fines de investigación en un proyecto que estudia los méritos del aprendizaje de idiomas a través de e-mail y serán tratados anónimamente.

En el interés del estudio de este área, el proyecto de tándem e-mail se ofrece en Trinity College en estos momentos de forma gratuita. Apuntarse al proyecto no cuesta nada y no conlleva obligaciones o responsabilidades. Simplemente se requiere tu consentimiento para que los mensajes de e-mail sean utilizados con fines de investigación.

Appendix C

Instructions on the web for applying to the ETR tandem site (version 2).



Appendix D

Task 1 instructions for students in the divergent condition (Chapter 8).



Task 1	**A weekend away: Dublin & Barcelona** **Un fin de semana en Dublín y en Barcelona**
Descripción	Para este proyecto trabajaréis en parejas en clase y necesitaréis la ayuda de vuestras parejas de tándem. Los estudiantes en DCU tenéis que hacer planes para un fin de semana en Barcelona y los estudiante del Blanquerna para un fin de semana en Dublín. Para ello podéis buscar información en guías, en Internet, etc y también preguntar a vuestras parejas de tándem sobre los lugares que vale la pena visitar. Tendréis que tomar decisiones sobre: • vuelos, horarios • alojamiento (¿tienen vuestras parejas de tándem sitio para alojaros?, ¿hay algún hostal/hotel cerca?, etc) • transporte • actividades durante el día • salidas nocturnas (restaurantes, bares,discotecas)
Group Work	Let you tandem partner know what you like to do so that they can suggest places and activities of your liking. It is also important that you remember to answer their questions, bear in mind that they will need your help as much as you will need their help. When you send your tandem partner information about your home town, it is a good idea to include several options. This way they will have a choice for their planned weekend. Once you have decided what to do during your weekend away you will need to draw a budget and send your route to your tandem partner. You will make an oral presentation on your weekend away. Your presentation should include: -route (use a map of the city if possible) -description of places -reason why you chose to visit these places -budget You will also make a second presentation on the weekend your tandem partner plans to spend in Dublin/Barcelona. For this presentation you need to find out who is the other student in Barcelona/Dublin working with your tandem partner, and find out who in your class was the tandem partner of this person ... ask Roger or Christine if you are not sure about this, or post a message on the Tandem Group board to find out.

Presentations & Written Report	**Presentations** (10 minutes + questions) Blanquerna students Tuesday 26th February, 15:00- 16:30. A weekend away in Dublin. Thursday 28th March, 15:00- 16:30. A weekend in Barcelona. DCU students martes 26 de febrero, 15:00-16:00, 17:00-18:00. Fin de semana en Barcelona lunes 4 de marzo, 16:00-17:00. Fin de semana en Dublín. **Written Report** (max. 500 words) Blanquerna students Tuesday the 5th of March DCU students Tuesday the 5th of March
Objetivos	• Conocer a tu pareja de tándem y lo que le gusta hacer en su tiempo libre • Descripción de locales: decoración y ambiente • Dar direcciones sobre el plano de una ciudad • Hablar sobre gustos y preferencias • Hacer sugerencias y dar consejos • Conectores temporales • Comparaciones • Aprender sobre aspectos de la cultura de tu pareja de tándem
Enlaces/ Links	Página del Ayuntamiento de Barcelona Barcelona de noche Webcam Barcelona Dublin City Council Homepage Softguide Dublin Webcam Dublin

Appendix E

Task 1 instructions for students in the convergent condition (Chapter 8).

Task 1	**A weekend away: Dublin & Barcelona** **Un fin de semana en Dublín y en Barcelona**
Descripción	Para este proyecto trabajaréis en grupos de cuatro personas (2 estudiantes en Barcelona y dos en Dublín) y tenéis que hacer planes para dos fines de semana. En uno de ellos imaginad que vuestras parejas de tándem vienen de visita y pasáis el fin de semana juntos. En el segundo fin de semana se supone que sois vosotros los que hacéis el viaje para visitarles a ellos. Tendréis que tomar decisiones sobre: • vuelos, horarios • alojamiento (¿tienen vuestras parejas de tándem sitio para alojaros?, ¿hay algún hostal/hotel cerca?, etc) • transporte • actividades durante el día • salidas nocturnas (restaurantes, bares,discotecas)
Group Work	You will have to find out what your tandem partner likes to do and let them know about your preferences. Once you have agreed on what you will do during these two weekends you will need to draw a budget for each weekend and mark on a map the different places you plan to visit. You will make an oral presentation on your two weekends away. Your presentation should include: -route (use a map of the city if possible) -description of places -reason why you chose to visit these places -budget
Presentations & Written Report	**Presentations** (10 minutes + questions) Blanquerna students Monday 25th February, 09:30- 11:00. A weekend away in Dublin. Friday 1st March, 09:30- 11:00. A weekend in Barcelona. DCU students lunes 25 de febrero, 16:00-18:00. Fin de semana en Barcelona. viernes 1 de marzo, 11:00-12:00. Fin de semana en Dublín. **Written Report** (max. 500 words) Blanquerna students Tuesday the 5th of March DCU students Tuesday the 5th of March
Objetivos	• Conocer a tu pareja de tándem y lo que le gusta hacer en su tiempo libre

	• Descripción de locales: decoración y ambiente • Dar direcciones sobre un plano de una ciudad • Hablar sobre gustos y preferencias • Hacer sugerencias y dar consejos • Conectores temporales • Comparaciones • Aprender sobre aspectos de la cultura de tu pareja de tándem
Enlaces/ Links	Página del Ayuntamiento de Barcelona Barcelona de noche Webcam Barcelona Dublin City Council Homepage Softguide Dublin Webcam Dublin

Appendix F

Task 2 instructions for students in the divergent condition (Chapter 8).

Task 2	**Leyendas Urbanas / Urban Legends**
Descripción	Vamos a tratar el tema de las leyendas urbanas. ¿Cómo se originan las leyendas urbanas? ¿Qué rasgos característicos tiene una leyenda urbana? ¿Hay alguna diferencia entre las leyendas urbanas que se cuentan en España y en Irlanda?
Group Work	You will work in pairs. Choose a recurrent topic in urban legends (e.g. food and drinks, animals, accidents, horror stories, etc) and look at the different stories you can find in Spain/Ireland. Let your tandem partner know what your topic is and ask her/him to tell you what urban legends they have heard on this topic. Provide some examples on the topic your tandem partner has chosen. Compare urban legends in Spain and Ireland: Are these the same? Are any of them obvious translations from each other? Are there any urban legends that only work in any one country? What are the elements that work for each story? **Deadline** for choosing a topic: 8thMarch, 4 p.m. (Barcelona)/ 5p.m. (Dublin) A member of each group should send a message to the Group Board with the following information: -topic -students in the group Groups in the same class should be dealing with different topics so the sooner you send your message to the Group Board the greater the chance for you to be able to work on the topic of your choice.
Presentations & Written Report	**Presentations** (10 minutes + questions) Blanquerna students Tuesday 19th March 2002 DCU students Tuesday 26th March 2002 **Written Report** (max. 500 words) Blanquerna students Thursday 21st March 2002 DCU students Tuesday 26th March 2002
Objetivos	Narración oral y escrita Situar hechos en el pasado y relacionar diferentes momentos del pasado Estilo indirecto en el pasado Comparaciones Conectores
Enlaces/ Links	UrbanLegends and Folklore The AFU & Urband LegendsArchive ULRC

	Urban Myths & Legends Leyendasurbanas.com @Rompecadenas Leyendas Urbanas.es.fm Centro de FormaciónContínua

Appendix G

Task 2 instructions for students in the convergent condition (Chapter 8).

Task 2	**Leyendas Urbanas / Urban Legends**
Descripción	Vamos a tratar el tema de las leyendas urbanas. ¿Cómo se originan las leyendas urbanas? ¿Qué rasgos característicos tiene una leyenda urbana? ¿Hay alguna diferencia entre las leyendas urbanas que se cuentan en España y en Irlanda?
Group Work	You will work in groups of four students: two DCU students and two Blanquerna students. Choose a recurrent topic in urban legends (e.g. food and drinks, animals, accidents, horror stories, etc) and look at the different stories you can find in Spain and Ireland. Are these the same? Are any of them obvious translations from each other? Are there any urban legends that only work in any one country? What are the elements that work for each story? **Deadline** for choosing a topic: 8th March, 4 p.m. (Barcelona)/ 5p.m. (Dublin) A member of each group should send a message to the Group Board with the following information: -topic -students in the group Each group should be dealing with a different topic so the sooner you send your message to the Group Board the greater the chance for you to be able to work on the topic of your choice.
Presentations & Written Report	**Presentations**(10 minutes + questions) Blanquerna students Monday 18th March 2002 DCU students Monday 25th March 2002 **Written Report**(max. 500 words) Blanquerna students Friday 22th March 2002 DCU students Monday 25th March 2002
Objetivos	Narración oral y escrita Situar hechos en el pasado y relacionar diferentes momentos del pasado Estilo indirecto en el pasado Comparaciones Conectores
Enlaces/ Links	Urban Legends and Folklore The AFU & Urband Legends Archive ULRC Urban Myths & Legends

	Leyendasurbanas.com @Rompecadenas Leyendas Urbanas.es.fm Centro de Formación Contínua

Appendix H

Questionnaire administered on the first day of the semestre (Chapter 8)

QUESTIONNAIRE

Look at the following statements and give your opinion by ticking the box that better expresses your opinion about each statement.

	1= strongly disagree	2= disagree	3= neutral or no opinion	4= agree	5= strongly agree
1. I really enjoy learning Spanish.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
2. My language class is a challenge that I enjoy.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
3. When class ends, I often wish that we could continue.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
4. I enjoy using this language outside the class whenever I have a chance.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
5. I don't like language learning.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
6. I would take this class even if it were not required.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
7. I mainly study this language to satisfy the university language requirement.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
8. Increasing my proficiency in this language will have financial benefits for me.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
9. I am learning this language to understand films, videos, or music.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
10. Studying this language is important because it will allow me to interact with people who speak it.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
11. I want to be more a part of the cultural group that speaks this language.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
12. I would like to learn several foreign languages.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
13. I enjoy meeting and interacting with people from many cultures.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
14. Studying foreign languages is an important part of education.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
15. This language is important to me because it will broaden my world view.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
16. I like the subject matter of this course.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
17. It is important to me to learn the course material in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
18. What I learn in this course will help me in other courses.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
19. I'm certain I can master the skills that are taught in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
20. I believe I will receive an excellent grade in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
21. I am worried about my ability to do well in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
22. I feel uncomfortable when I have to speak in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
23. When I take a test I think about how poorly I am doing.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
24. I have an uneasy, upset feeling when I take an exam.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒

25. I don't worry about making mistakes when speaking in front of the class.	1. ❒	2. ❒	3. ❒	4. ❒	5
26. I am afraid that my teacher is ready to correct every mistake I make.	1. ❒	2. ❒	3. ❒	4. ❒	5
27. I feel more tense and nervous in this class that in my other classes.	1. ❒	2. ❒	3. ❒	4. ❒	5
28. I can imitate the sounds of this language very well.	1. ❒	2. ❒	3. ❒	4. ❒	5
29. I can guess the meaning of new vocabulary words very well.	1. ❒	2. ❒	3. ❒	4. ❒	5
30. I am good at grammar.	1. ❒	2. ❒	3. ❒	4. ❒	5
31. In general, I am an exceptionally good language learner.	1. ❒	2. ❒	3. ❒	4. ❒	5
32. Getting a good grade in this class is the most important thing for me right now.	1. ❒	2. ❒	3. ❒	4. ❒	5
33. I want to learn this language because it is important to show my ability to others.	1. ❒	2. ❒	3. ❒	4. ❒	5
34. I learn best when I am competing with other students.	1. ❒	2. ❒	3. ❒	4. ❒	5
35. I want to do better than the other students in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
36. I learn best in a cooperative environment.	1. ❒	2. ❒	3. ❒	4. ❒	5
37. My teacher's opinion of me in this class is very important to me.	1. ❒	2. ❒	3. ❒	4. ❒	5
38. My relationship with the other students in this class is important to me.	1. ❒	2. ❒	3. ❒	4. ❒	5
39. I often feel lazy or bored when I study for this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
40. I work hard in this class even when I don't like what we are doing.	1. ❒	2. ❒	3. ❒	4. ❒	5
41. When course work is difficult, I either give up or only study the easy parts.	1. ❒	2. ❒	3. ❒	4. ❒	5
42. Even when course materials are boring and uninteresting, I always finish my work.	1. ❒	2. ❒	3. ❒	4. ❒	5
43. I can truly say that I put my best effort into learning this language.	1. ❒	2. ❒	3. ❒	4. ❒	5
44. Grammar should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
45. Reading and writing should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
46. Vocabulary should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
47. Language lessons should be relevant to the students' learning objectives.	1. ❒	2. ❒	3. ❒	4. ❒	5
48. Students should ask questions whenever they have not understood a point in class.	1. ❒	2. ❒	3. ❒	4. ❒	5
49. Pronunciation should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
50. Listening and speaking should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5
51. Activities in this class should be designed to help the students improve their abilities to communicate in this language.	1. ❒	2. ❒	3. ❒	4. ❒	5
52. It is important that the teacher give immediate feedback in class so that students know if they are correct.	1. ❒	2. ❒	3. ❒	4. ❒	5
53. Language instruction should focus on the general language of everyday situations.	1. ❒	2. ❒	3. ❒	4. ❒	5

54. During this class, I would like to have no English spoken.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
55. In a class like this I prefer activities and material that really challenge me to learn more.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
56. I prefer a language class in which there are lots of activities that allow me to participate actively.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
57. I prefer to sit and listen, and don't like being forced to speak in language class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
58. I like language learning activities in which students work together in pairs or small groups.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
59. I prefer to work by myself in this language class, not with other students.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
60. I prefer a language class in which the students feel they are a cohesive group.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
61. Culture should be an important focus in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
62. I like to set my own objectives for language learning.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
63. I like language classes that use lots of authentic materials.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
64. I try to relate new vocabulary words to other words I know.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
65. I always compare this language with other languages I know.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
66. I try to guess the meaning of new vocabulary words from the context.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
67. I look for patterns in this language on my own.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
68. I always evaluate my progress in learning this language.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
69. When studying, I think through a topic and decide what I need to learn about it.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
70. I ask the instructor to clarify concepts I don't understand well.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
71. I try to work with other students from this class on assignments.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
72. When studying, I often discuss the course material with my classmates.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
73. When I can't understand the material, I ask another student in this class for help.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
74. When I study, I carefully organize what I have learned in this class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
75. After a test I always review difficult material to be sure I understand it all.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
76. I have a regular place set aside for studying.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
77. I always arrange time to prepare before every language class.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
78. When studying, I reread all the course materials.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
79. In preparing for tests, I usually review the material a few days ahead of time.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
80. I usually wait until the night before to study for a quiz or a major test.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
81. I usually study vocabulary periodically rather than in one long session.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒
82. I repeat new vocabulary words to memorize them.	1. ❒	2. ❒	3. ❒	4. ❒	5. ❒

83. When studying for a test, I try to determine which concepts I don't understand well.	1. ❒	2. ❒	3. ❒	4. ❒	
84. I like to see words before I pronounce them.	1. ❒	2. ❒	3. ❒	4. ❒	
85. When I get to a word that I don't know, I usually look it up.	1. ❒	2. ❒	3. ❒	4. ❒	
86. I am mostly concerned in this class with keeping up with the materials and activities that we have to do.	1. ❒	2. ❒	3. ❒	4. ❒	
87. I really like to know what will be on a test so that I can study for it.	1. ❒	2. ❒	3. ❒	4. ❒	

Appendix I

Coding system emplyed for question B, Chapter 8.

L*	Description	Opening tag	Closing tag	Example
1	English L1	<eng1>	</eng1>	
1	English L2	<eng2>	</eng2>	
1	Spanish L1	<esp1>	</esp1>	
1	Spanish L2	<esp2>	</esp2>	
1	Corrections	<corr>	</corr>	
2	Task	<task>	</t>	
2	Non-task	<non_task>	</t>	
3	Information Exchange	<INE>	</s>	
4	cut & paste	<INE:cut_paste>	</s>	
4	information	<INE:req_info>	</s>	What are you studying?
4	opinion	<INE:req_opinion>	</s>	Do you like it?
4	Suggestion/ recommendation	<INE:suggest>	</s>	if you plan a trip here in barcelona don't forget to visit Sagrada família!!!!!
4	info	<INE:supply_info>	</s>	It costs from about 10 to 20 euros.
4	opinion	<INE:supply_opinion>	</s>	I think it's a really good idea!
3	Focus on Form	<FOF>		
4	metalanguage	<FOF:meta_lang>	</s>	If i write out some of my work would you be able to tell me mis errores por favor.
4	request agreement	<FOF:req_agreement>	</s>	If you don't mind, of course!
4	request clarification	<FOF:req_clarif>	</s>	Why you call me Lola?
4	request confirmation	<FOF:req_confirm>	</s>	have we?
4	agreement	<FOF:supply_agree/conf>	</s>	
	agrees/confirms	<FOF:supply_agree/conf:+>	</s>	Yes, we will work with ghosts!
	does not agree	<FOF:supply_agree/conf:->	</s>	We don't like that topic
4	supplies clarification	<FOF:supply_clarif>	</s>	me refiero a que a lo mejor Marie no ha interpretado bien el mensaje y ha creído que Clara estaba enfadada con ella
3	Task & Communication management	<TCM>	</s>	Dentro de poco tendremos que empezar a trabajar, eh?
4	planning (who & when)	<TCM:plan>	</s>	Here in Spain I work with a friend called Celia, and she is working with Maire (in your class), so I think we are going to work the four of us together.
4	request (task parts)	<TCM:request>	</s>	Are Celia and Maire getting on ok??
4	progress	<TCM:progress>	</s>	I started to look for infomation last Friday but I didn't find so much information;

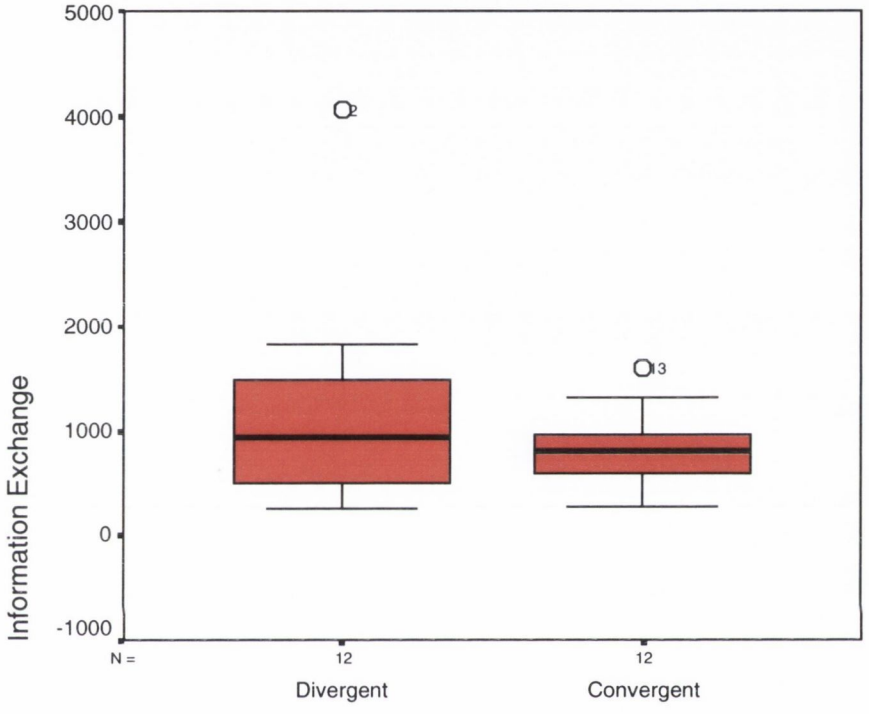
4	task evaluation	**<TCM:evaluate>**	**</s>**	Our presentation was ok. I think it wasn't really bad at all!
4	communication management	**<TCM:Com>**	**</s>**	
5	language signalling	**<TCM:Com:lang_flag>**	**</s>**	Ok now im going to write in English
5	greeting	**<TCM:Com:greet>**	**</s>**	How are you?
5	closing	**<TCM:Com:close>**	**</s>**	bye bye!!!!
5	pre-closing	**<TCM:Com:preclose>**	**</s>**	I'd better go to class now if I don't wanna be late,
3	**Inter-personal dimension**	**<IPD>**	**</s>**	
4	apology/ justification	**<IPD:apology>**	**</s>**	I'm sorry to write you so late but I had problems with my computer …
4	response to an apology	**<IPD:apology_response>**	**</s>**	don´t worry for the last task
4	complaint	**<IPD:complaint>**	**</s>**	...everything is in Spanish!!
4	empathy	**<IPD:empathy>**	**</s>**	Pobrecita!No te preocupas!!
4	encourage	**<IPD:encouragement>**	**</s>**	I know you'll do great!!
4	humor	**<IPD:humor>**	**</s>**	JAJAJAJAJA you look as a party animal not me! i DO LOOK INSANE in the video!
4	mood	**<IPD:mood>**	**</s>**	Oh my god, I was so nervous going to class today.
4	offer	**<IPD:offer>**	**</s>**	If you need anymore help just ask.
4	praise	**<IPD:praise>**	**</s>**	Your English is very good.
4	other	**<IPD:other>**		
4	thanking	**<IPD:thank>**	**</s>**	Thanks a million for your emails,
4	urging	**<IPD:urging>**	**</s>**	I sent you a message on friday but you have not answered to me. I hope you do it soon!
4	wish	**<IPD:wish>**	**</s>**	Oh well, hopefully we'll get by!
4	emoticon	**<IPD:emoticon>**	**</s>**	:)
3	**Other**	**<Other>**	**</s>**	

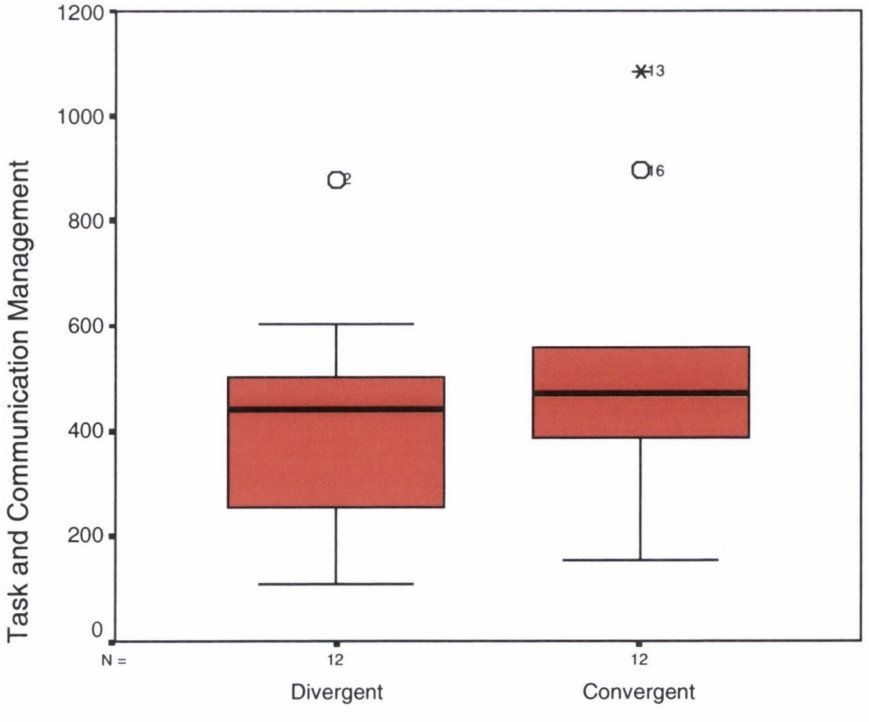
*L= Level in mark-up hierarchy

Appendix J

Boxplots and statistical tests run on the comparison of the four macro-functions identified in Chapter 8 in the divergent and convergent condition.

Information Exchange (INE) and Task and communication management (TCM)





Ranks

	CONDITIO	N	Mean Rank	Sum of Ranks
INE	Divergent	12	13.50	162.00
	Convergent	12	11.50	138.00
	Total	24		
TCM	Divergent	12	11.17	134.00
	Convergent	12	13.83	166.00
	Total	24		

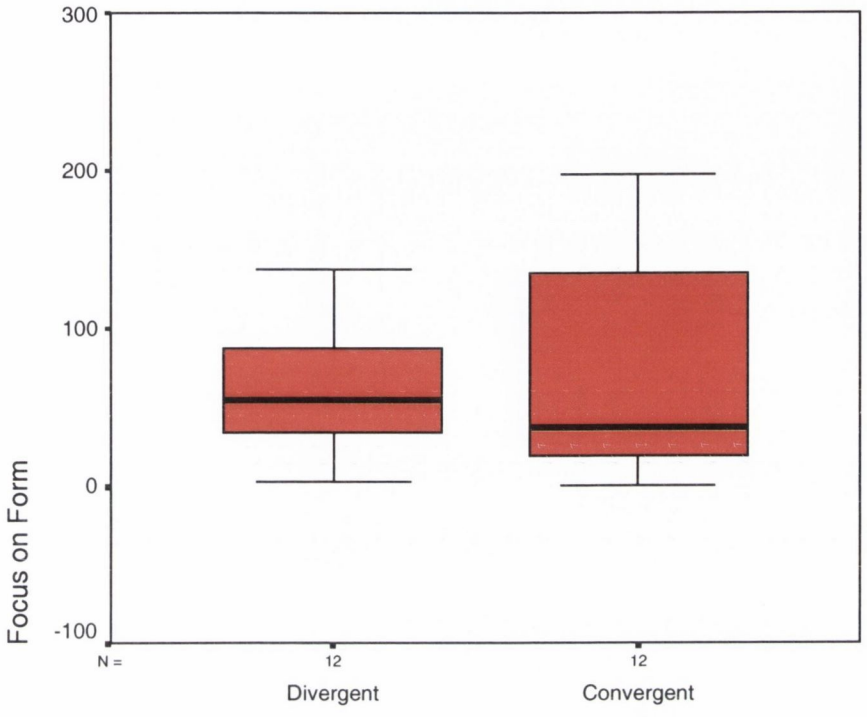
Test Statistics[b]

	INE	TCM
Mann-Whitney U	60.000	56.000
Wilcoxon W	138.000	134.000
Z	-.693	-.924
Asymp. Sig. (2-tailed)	.488	.356
Exact Sig. [2*(1-tailed Sig.)]	.514[a]	.378[a]

a. Not corrected for ties.

b. Grouping Variable: CONDITIO

Focus on Form (FOF)



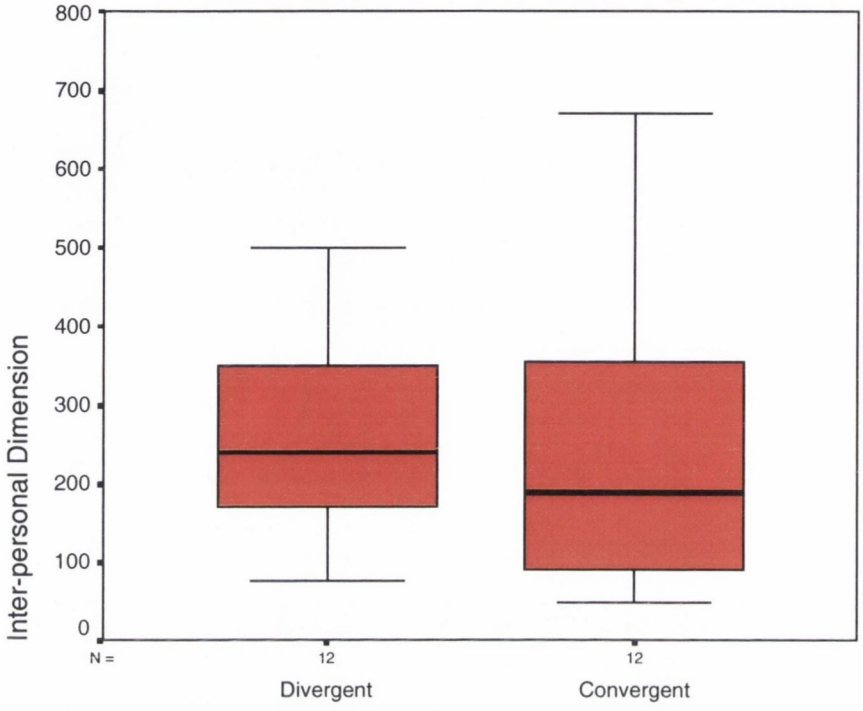
Group Statistics

	CONDITIO	N	Mean	Std. Deviation	Std. Error Mean
FOF	Divergent	12	61.1667	37.33834	10.77865
	Convergent	12	68.8333	67.97437	19.62251

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	7.452	.012	-.342	22	.735	-7.6667	22.38799	-54.09652	38.76319
Equal variances not assumed			-.342	17.084	.736	-7.6667	22.38799	-54.88348	39.55015

Inter-personal dimension (IPD)



Group Statistics

	CONDITIO	N	Mean	Std. Deviation	Std. Error Mean
IPD	Divergent	12	263.0000	123.22559	35.57216
	Convergent	12	237.6667	181.70022	52.45234

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.218	.282	.400	22	.693	25.3333	63.37686	-106.10223	156.76889
Equal variances not assumed			.400	19.352	.694	25.3333	63.37686	-107.15295	157.81962

Appendix K

Questionnaire sent to applicants for the tangram experiment in Chapter 9.

Please complete all parts of the questionnaire.

1. Name:

2. Age:

3. Sex:

4. Contact telephone number for this week:

5. Country of origin (please specify area):

6a. Do you live in your country of origin at the moment?

(if you answered 'no' to the question above, please answer the following questions)

6b. What country do you live in?

6c. How long have you been away from your country?

7. Describe your level of experience with the Internet.

8. Describe your level of experience with email.

9. Are you a touch typist?

10. Do you have any injury that prevents you from typing at the present moment?

11. Do you tend to write more with your right hand or your left hand?

12. How many years have you studied Spanish? Where? In what ways (e.g. formal study in grammar school, self study, television, etc.)?

13. What is your main interest in learning Spanish?

14. Do you have a girlfriend or boyfriend who speaks Spanish as a first language?

15. Do you have Spanish relatives?

16. When (if ever) did you last NEED to use Spanish?

17. How often (if at all) do you communicate with Spanish native speakers via email, and in what language?

18. What was the last thing you read in Spanish.

19. How many times have you visited a Spanish speaking country? What places did you visit? How long was the visit? What is the total amount of time you've spent there if you've traveled more than

once?

20. What languages besides your native language have you studied and to what level of fluency?

21. Are you a student? If so, what is the degree you are studying for?

22. What do you know about paella?

23. What do you know about tangrams?

24. How long does it take to pour a pint of guinness?

25. What is a Jota?

26. That do you know about ceilis?

27. Name the suits in a deck of cards in Spain.

28. What is a hurl?

29. What do you know about tao?

30. What is tango?

31. If you smoke, how many cigarettes do you usually smoke between 10 and 3 (please note that none will be provided)?

32. Who all else do you know who is participating in this experiment?

33. Describe in a few lines what you think are the weaknesses and strengths of your level of Spanish, and what do you think you need to do improve your proficiency in Spanish:

Than you for answering the questions.
Please e-mail back to Christine Appel at appelm@tcd.ie
Or return to her postbox in CLCS, Arts Building , 4th floor (if you don't know where the postbox is, ask the CLCS secretary in room 4091) before Wednesday the 4th of May, 6 pm.
If you are a DCU student, Christine will be in DCU , Henry Grattan building, room CG54on Wednesday the 3rd of May from 1pm to 2pm, you can hand in questionnaires then.

Appendix L

Tangram Shapes used for the tangram experiment in Chapter 9.

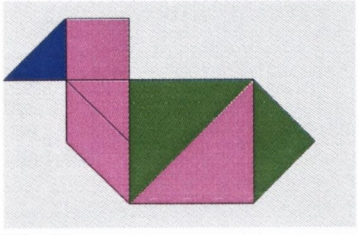


Fig 87

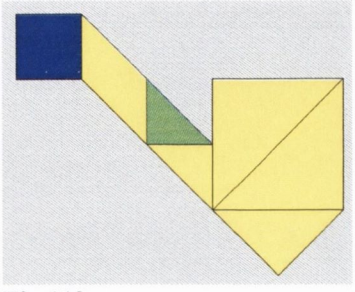
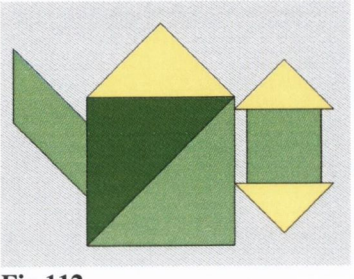


Fig 113



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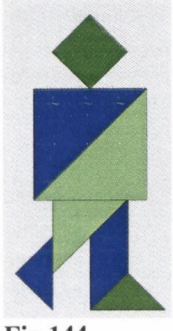

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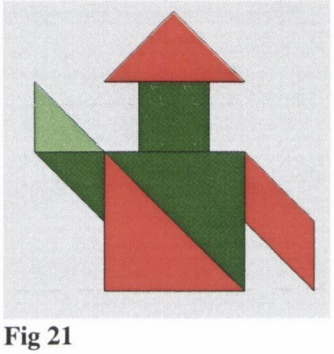

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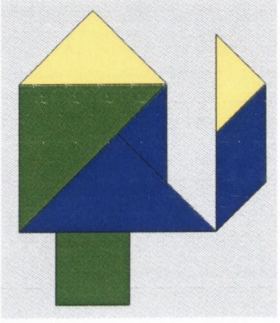
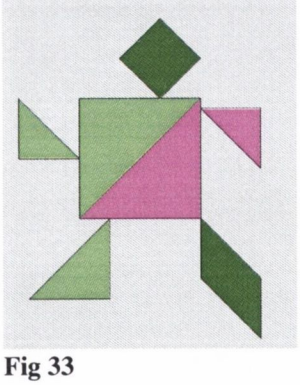


Fig 139

Tangram figures, Game 1 Community Condition



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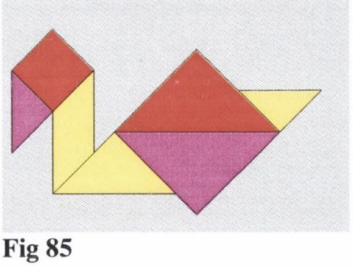

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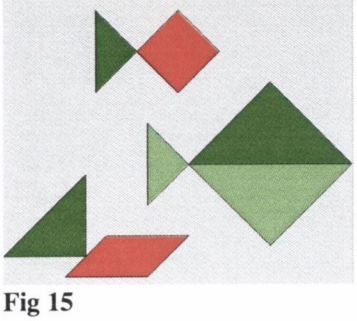

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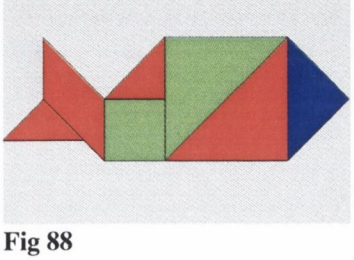
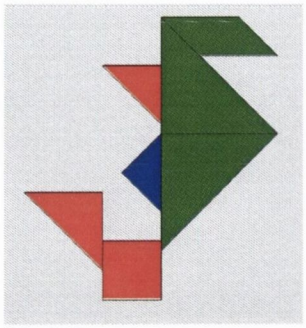


Fig 88

Tangram figures, Game 1 Isolated Condition



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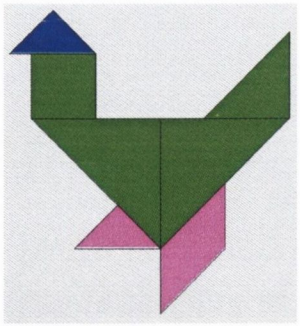

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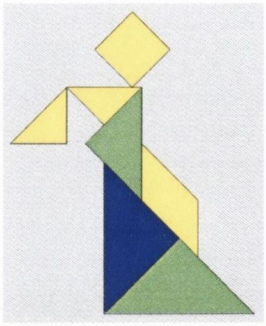

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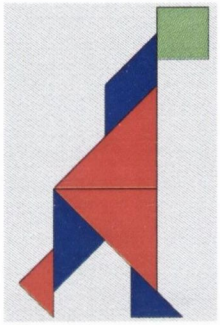

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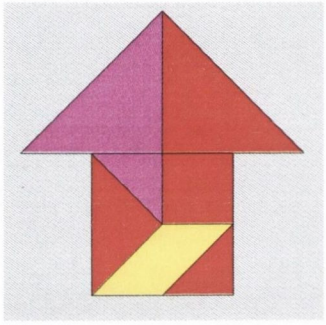

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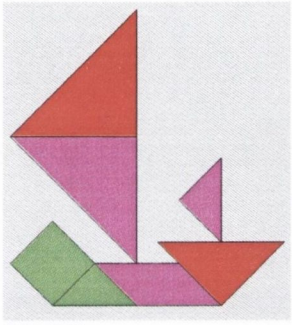
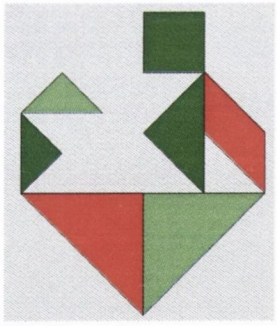


Fig 109

Tangram figures, Game 2 Community Condition



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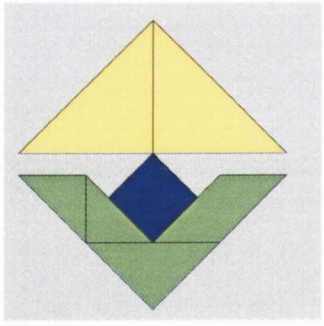

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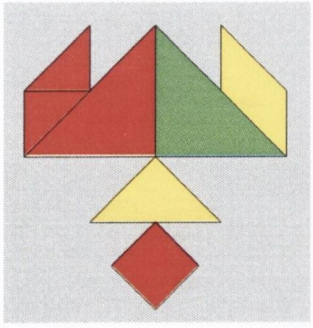

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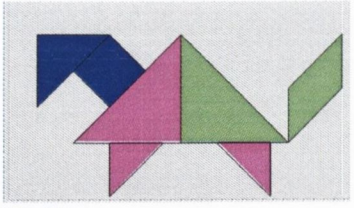
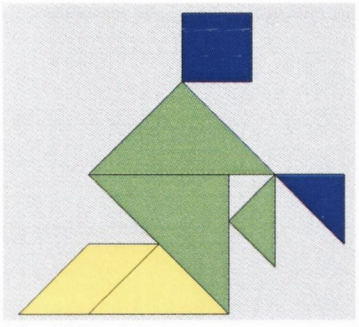


Fig 70

Tangram figures, Game 2 Isolated Condition



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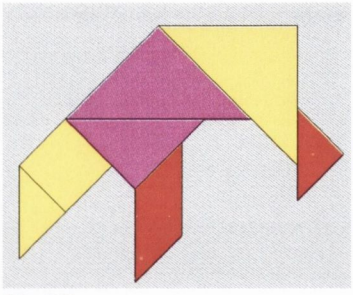

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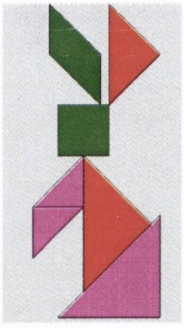

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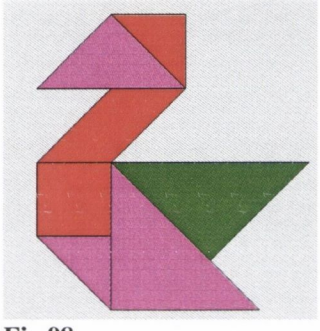

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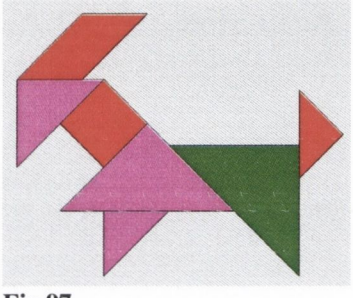

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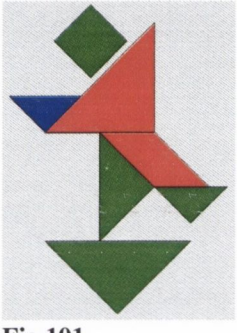
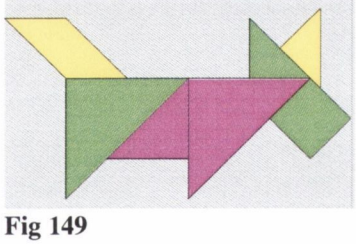


Fig 101

Tangram figures, Game 3 Community Condition



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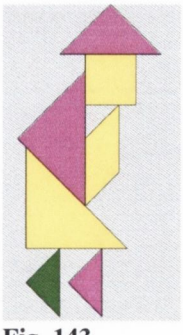

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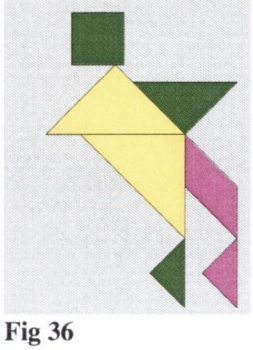

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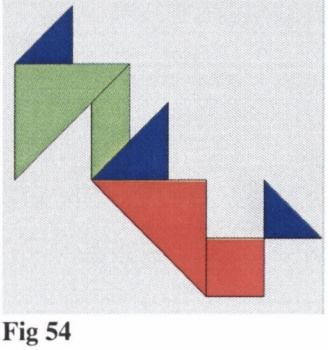
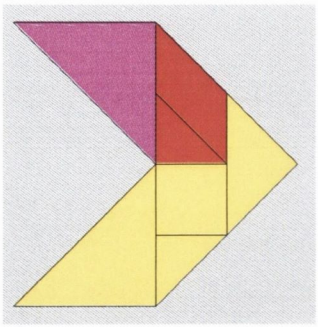


Fig 54

Tangram figures, Game 3 Isolated Condition



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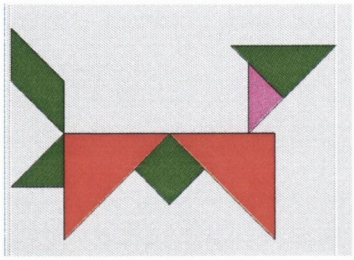

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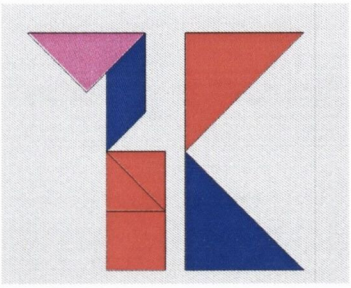

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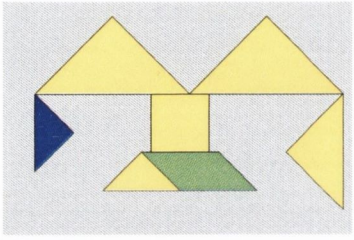


Fig 64



Fig 116

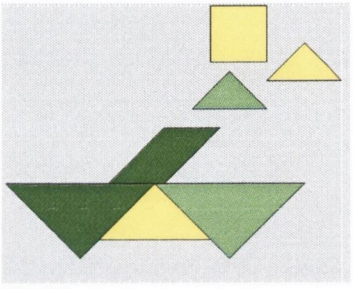
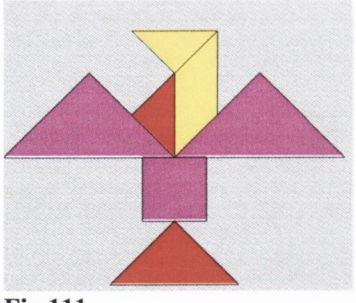


Fig 72

Tangram figures, Game 4 Community Condition



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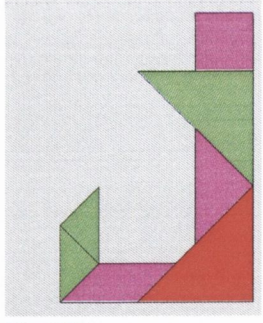

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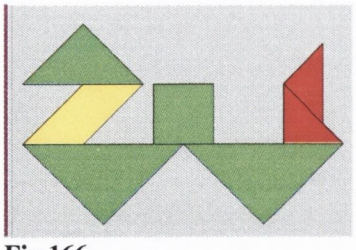
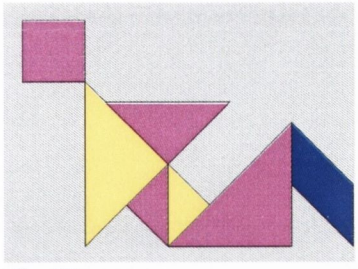


Fig 166



Fig 146

Tangram figures, Game 4 Isolated Condition



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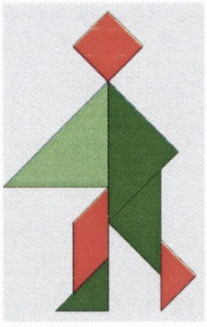
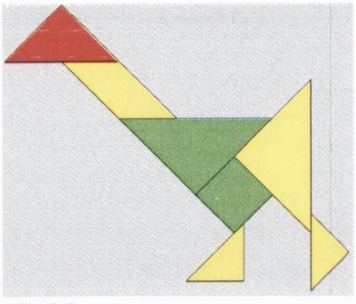


Fig 119



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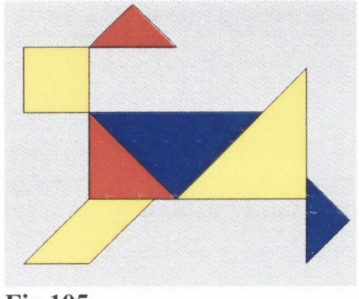

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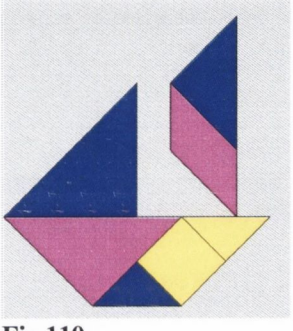


Fig 110



Fig 102

Tangram figures, Game 5 Community Condition

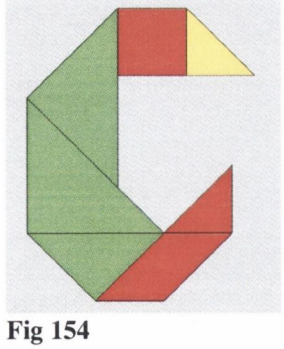
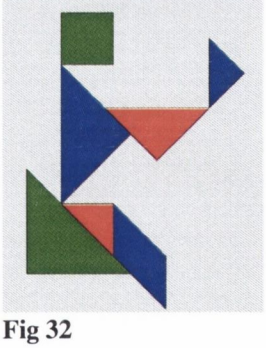


Fig 154



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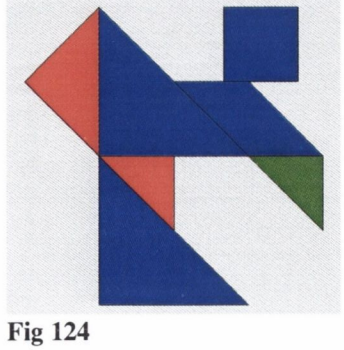

Fig 124

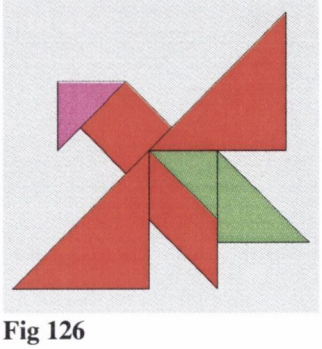

Fig 126

Tangram figures, Game 5 Isolated Condition

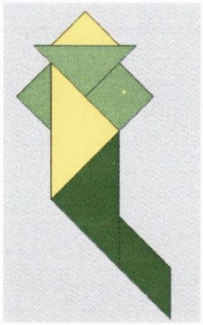

Fig156

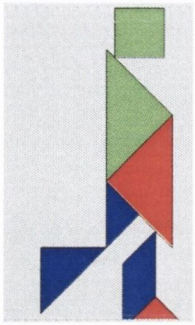

Fig 50

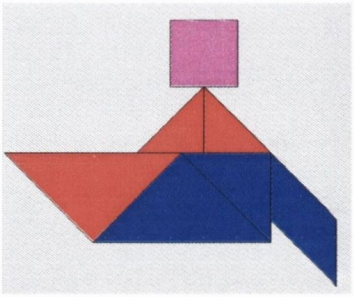

Fig 125

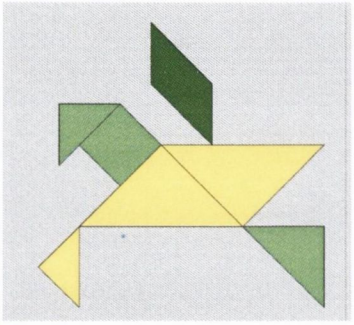

Fig 41

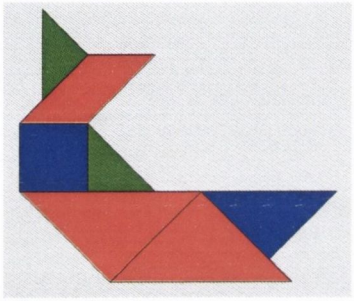

Fig 159

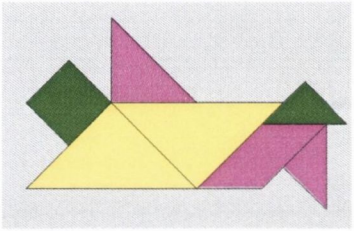

Fig 23

Tangram figures, Game 6 Community Condition

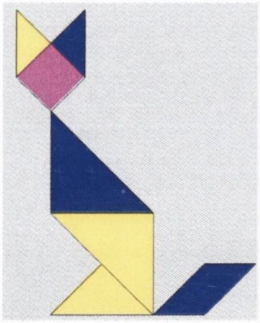

Fig 141

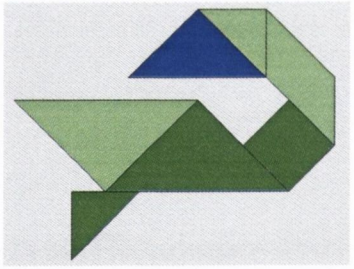

Fig 131

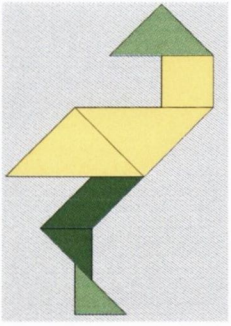

Fig 147

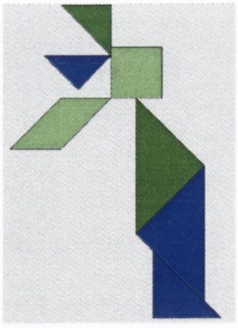

Fig 121

Tangram figures, Game 6 Isolated Condition

Appendix M

Self-assessment grid, European Language Portfolio.

		A1	A2	B1	B2	C1	C2
UNDERSTANDING	**Listening**	I can recognise familiar words and very basic phrases concerning myself, my family and immediate concrete surroundings when people speak slowly and clearly.	I can understand phrases and the highest frequency vocabulary related to areas of most immediate personal relevance (e.g., very basic personal and family information, shopping, local area, employment). I can catch the main point in short, clear, simple messages and announcements.	I can understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure, etc. I can understand the main point of many radio or TV programmes on current affairs or topics of personal or professional interest when the delivery is relatively slow and clear.	I can understand extended speech and lectures and follow even complex lines of argument provided the topic is reasonably familiar. I can understand most TV news and current affairs programmes. I can understand the majority of films in standard dialect.	I can understand extended speech even when it is not clearly structured and when relationships are only implied and not signalled explicitly. I can understand television programmes and films without too much effort.	I have no difficulty in understanding any kind of spoken language, whether live or broadcast, even when delivered at fast native speed, provided I have some time to get familiar with the accent.
	Reading	I can understand familiar names, words and very simple sentences, for example on notices and posters or in catalogues.	I can read very short, simple texts. I can find specific, predictable information in simple everyday material such as advertisements, prospectuses, menus and timetables and I can understand short simple personal letters.	I can understand texts that consist mainly of high frequency everyday or job-related language. I can understand the description of events, feelings and wishes in personal letters.	I can read articles and reports concerned with contemporary problems in which the writers adopt particular attitudes or viewpoints. I can understand contemporary literary prose.	I can understand long and complex factual and literary texts, appreciating distinctions of style. I can understand specialised articles and longer technical instructions, even when they do not relate to my field.	I can read with ease virtually all forms of the written language, including abstract, structurally or linguistically complex texts such as manuals, specialised articles and literary works.
SPEAKING	**Spoken Interaction**	I can interact in a simple way provided the other person is prepared to repeat or rephrase things at a slower rate of speech and help me formulate what I'm trying to say. I can ask and answer simple questions in areas of immediate need or on very familiar topics.	I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself.	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken. I can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life (e.g., family, hobbies, work, travel and current events).	I can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible. I can take an active part in discussion in familiar contexts, accounting for and sustaining my views.	I can express myself fluently and spontaneously without much obvious searching for expressions. I can use language flexibly and effectively for social and professional purposes. I can formulate ideas and opinions with precision and relate my contribution skilfully to those of other speakers.	I can take part effortlessly in any conversation or discussion and have a good familiarity with idiomatic expressions and colloquialisms. I can express myself fluently and convey finer shades of meaning precisely. If I do have a problem I can backtrack and restructure around the difficulty so smoothly that other people are hardly
	Spoken Production	I can use simple phrases and sentences to describe where I live and people I know.	I can use a series of phrases and sentences to describe in simple terms my family and other people, living conditions, my educational background and my present or most recent job.	I can connect phrases in a simple way in order to describe experiences and events, my dreams, hopes and ambitions. I can briefly give reasons and explanations for opinions and plans. I can narrate a story or relate the plot of a book or film and describe my reactions.	I can present clear, detailed descriptions on a wide range of subjects related to my field of interest. I can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.	I can present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion.	I can present a clear, smoothly-flowing description or argument in a style appropriate to the context and with an effective logical structure which helps the recipient to notice and remember significant points.
WRITING	**Writing**	I can write a short, simple postcard, for example sending holiday greetings. I can fill in forms with personal details, for example entering my name, nationality and address on a hotel registration form.	I can write short, simple notes and messages relating to matters in areas of immediate need. I can write a very simple personal letter, for example thanking someone for something.	I can write simple connected text on topics which are familiar or of personal interest. I can write personal letters describing experiences and impressions.	I can write clear, detailed text on a wide range of subjects related to my interests. I can write an essay or report, passing on information or giving reasons in support of or against a particular point of view. I can write letters highlighting the personal significance of events and experiences.	I can express myself in clear, well-structured text, expressing points of view at some length. I can write about complex subjects in a letter, an essay or a report, underlining what I consider to be the salient issues. I can select style appropriate to the reader in mind.	I can write clear, smoothly-flowing text in an appropriate style. I can write complex letters, reports or articles which present a case with an effective logical structure which helps the recipient to notice and remember significant points. I can write summaries and reviews of professional or literary works.

Appendix N

Check lists associated to the Self-assessment grid in the European Language Portfolio (Council of Europe's common reference levels, elaborated in the Common European Framework of Reference for Languages, Council of Europe 2001), Writing Level B1 and B2.

Level B1	**My next goal**	*	**	***
I can write a description of an event (e.g., a recent trip), real or imagined				
I can write notes conveying simple information of immediate relevance to people who feature in my everyday life, getting across comprehensibly the points I feel are important				
I can write personal letters giving news, describing experiences and impressions, and expressing feelings				
I can take down messages communicating enquiries and factual information, explaining problems				
I can write straightforward connected texts and simple essays on familiar subjects within my field, by linking a series of shorter discrete elements into a linear sequence, and using dictionaries and reference resources				
I can describe the plot of a film or book, or narrate a simple story				
I can write very brief reports to a standard conventionalized format, which pass on routine factual information on matters relating to my field				
I can summarize, report and give my opinion about accumulated factual information on familiar matters in my field with some confidence				
I can write standard letters giving or requesting detailed information (e.g., replying to an advertisement, applying for a job)				

Level B2	**My next goal**	*	**	***
I can write clear detailed text on a wide range of subjects relating to my personal, academic or professional interests				
I can write letters conveying degrees of emotion and highlighting the personal significance of events and experiences, and commenting on the correspondent's news and views				
I can express news, views and feelings effectively in writing, and relate to those of others				
I can write summaries of articles on topics of general, academic or professional interest, and summarize information from different sources and media				
I can write an essay or report which develops an argument, giving reasons to support or negate a point of view, weighing pros and cons				
I can summarize and synthesize information and arguments from a number of sources				
I can write a short review of a film or book				
I can write clear detailed descriptions of real or imaginary events and experiences in a detailed and easily readable way, marking the relationship between ideas				
I can write standard formal letters requesting or communicating relevant information, with appropriate use of register and conventions				