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A new tool for teachers and researchers involved in e-mail tandem language learning

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Abstract

This paper presents a new teacher interface for the Electronic Tandem Resources (ETR) site, the student interface described in Appel & Mullen (2000), and a new version of the site designed specifically for research purposes. The main features of the original site geared towards the language learner were the creation of a virtual environment for tandem language learning and the provision of tools and data intended to help foster the development of learner autonomy. The new teacher interface supports the integration of tandem language learning activities in the foreign language classroom and addresses the difficult issue of performance assessment and task evaluation. Computer-mediated communication activities between students in different countries are notoriously difficult for teachers to monitor. Nevertheless, there is evidence that in certain situations it is beneficial for the teacher to be able to monitor these activities. The teacher interface of the ETR site offers a user-friendly interface which requires only basic computer skills, and gives teachers access to data such as the date of the most recently sent messages, the number of words sent by students and the percentages of text written by each student in their respective L1 and L2, without giving teachers access to the content of the messages, thus preserving students' privacy. Furthermore, a slightly different version has also been designed for evaluation of the learning by the researcher investigating second language learning in an electronic tandem environment. This interface has been designed for setting up experiments and some of its features allow for control over variables related to the experiment. The interface records time stamps for sent and received messages.

1 Introduction

In this paper we introduce the latest version of the ETR web-based tandem language exchange environment, expanded for use with French, German and Catalan, as well as the original English and Spanish languages. The original versions of the ETR website (Appel & Mullen, 2000) 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, the authors have incorporated sev-

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eral 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 5.3 and the addition of the 'automatic monitoring' function described in Section 5.2, and issues related to teaching and research. The system is designed to be used simultaneously for multiple classes by multiple teachers, and the teachers' interface has been greatly enhanced to make their work more straightforward. The new version facilitates incorporation into a classroom environment more fully than the original version 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.

2 The Electronic Tandem Resources website

The first version of the ETR site was specifically designed for use between classes of students learning Spanish and English, and consisted primarily of a dedicated web-based messaging environment for tandem pairs, modelled loosely after online e-mail environments such as Hotmail™. This site was intended as an improvement upon the use of ordinary e-mail as a tool for tandem language learning.

At the time, preliminary research in the field had indicated that e-mail tandem language exchange exercises were beneficial to second language learning (Austin & Mendlick, 1993; St John & Cash, 1995; Woodin, 1997; Appel, 1999; Little *et al.,* 1999). However, many problems were found to arise from the use of ordinary e-mail for this purpose. The most difficult problem to deal with in researching the subject of e-mail tandem exchanges was the organization of the data. Investigations into actual L2 improvement depended upon having an organized corpus of collected message exchanges over time. This turned out to be nearly impossible to accomplish using personal e-mail accounts. Students could be directed to send cc'd copies of all messages to the researcher, but would often forget to comply; sometimes they would forward the messages singly or in groups later, other times they would forget to pass along messages at all. In many cases the messages collected replies back and forth, becoming redundant and difficult to analyze. From a pedagogical perspective, also, the traditional e-mail environment posed problems. Students would generally look at their tandem exchange e-mails at the same time as checking their personal e-mails, and often not be in the appropriate frame of mind for language study. This resulted in quick and careless responses or reduced levels of participation.

The creation of the ETR environment eliminated these problems. A front-end form, accessible to students on the World Wide Web with a password, was used as a simulation of an online e-mail environment, with the difference being that the environment could be used to send and receive messages only between the student and his or her tandem exchange partner. All messages were stored centrally on a server-side computer, and a timestamped transcript was created automatically. Superfluous repeated text, such as is sometimes included in e-mail replies, was eliminated. All of this made data

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collection for research purposes a straightforward matter, no longer reliant on the students following sometimes confusing instructions.

From a pedagogical standpoint, ETR also improved upon the most glaring faults of traditional e-mail, and furthermore added features to make the environment still more conducive to language learning. The fact that the site was devoted to the task of tandem language learning meant that the time spent by the students working on the activity would be relatively uninterrupted by distractions such as social e-mails. The website was accessible by the student from any computer with an internet connection, facilitating the inclusion of tandem exercises into classtime. Automatic recording of statistics on the exchange (number of words, messages and percentages of text in each language) was integrated into the system, to help students self-enforce the principle of reciprocity, which requires both participants to use both their target and native languages with equal frequency. The students were also provided with special areas to make corrections on their partner's previous message. This, in principle, allowed for explicit language-related comments to be made in a considered, reflective way. The entire environment was designed to foster a much more focussed, less 'key-pal' oriented atmosphere for the exchange. In addition to these improvements, the ETR website also included links to online resources for the study of English and Spanish. These links were accessible to students at all times.

2.1 Improvements and new developments

The initial version of the ETR environment was an improvement over traditional e-mail in that it took the advantages of e-mail and incorporated them into a tool specifically designed for the purpose of conducting structured tandem language exchanges. Perhaps the biggest advantage of all, however, is the fact that it can be altered and adjusted centrally to better suit the needs of its users. A primary goal in creating the first version was to conduct research into approaches to e-tandem exchange. This research has yielded important insights into how the environment itself can be improved so as to better meet the needs of students, teachers and researchers. Direct responses and commentary by students and teachers have motivated many of the changes we present in this paper, and indirect feedback in the form of behaviours and mistakes made by users have also been instructive. The most fundamental changes we present here are:

(a) the addition of a fully developed teacher interface, where teachers can monitor the work of their students without accessing the actual messages (privacy for the students is maintained), add exchange accounts, and communicate with students;
(b) changes in the student interface, to enhance usability and transparency, as well as an expansion of the automatic monitor function, all allowing students to concentrate more fully on the language task; and
(c) 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 5.2.

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In addition to these changes, the site has been expanded for use with the five 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 total number of languages incorporated. Further language expansion is in progress. The automatic language guesser portion of the software (van Noord, 1998) is already equipped with over sixty separate language models, capable of recognizing (in romanized text) most of the world's major languages.

In short, we have developed the service offered by the ETR site into an environment which can be used by more people in more languages than before, which is much better integrated into classroom activities, and 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.

3 Feedback on developmental versions

Several developmental versions of the ETR website have been tested over the course of the past three years, as shown in Table 1. In this section, we describe the various groups of students making use of these versions and the type of feedback collected.

Table 1. *Different ETR versions and user description*

	Features	Users
ETR 1		
1998	**webmailer** ***transcript***	Class exchange: **40** T.C.D (Dublin) – E.O.I. Pamplona Informal feedback: **18**
ETR 2		
1999	**+ data page** **+ lang. guesser** **+ teacher interface**	Class exchange: **32** students T.C.D (Dublin) - Universidad de León Individual pairs: **18** Feedback session (teach/ stud): **10**
ETR 3		
2000	**+ new student interface allowingfor near-synchronous communication**	Class exchange: **42** D.C.U(Dublin) – Blanquerna, Barcelona Feedback sessions: **20 + 20** Experiments: **22** (tangram), **20** (Mordo), **6** (discourse analysis exercise)
ETR 4		
2001	**+ new features and design for teacher site** **+ student L2 interface** **+ automatic monitoring**	

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3.1 Collecting feedback

Feedback 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 had been involved in the exchanges. The total number of users has been 246. 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 (for an example of the use of this environment fully integrated within a task-based approach, see Appel & Gilabert, 2001); laboratory language learning experiments in which students were set specific tasks to be fulfilled in tandem (e.g. the tangram experiment reported in Appel & Vogel, 2001); 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 questionnaire administered has changed over time, as the system has gone through changes and different questions have arisen. Questionnaires also varied in that often questions about the use of the ETR environment were closely linked to the pedagogical approach taken: for some students correspondence to their ETR tandem pair was their main language learning activity whereas for others it was a means of collecting information for a task to be fulfilled in class.

3.2 Different versions and users

Table 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 was very rudimentary in relation to the tools available to users. Feedback from these users and the teacher involved made it clear that there was plenty of room for improvements. The data page and language guesser added to the second version enforced the students' perception of the site as an environment for language learning purposes shared with a tandem partner, and which had an added value to using personal e-mail accounts. The teacher interface[1] 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 the work of the researcher 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. Up until now, exchanges undertaken with the tandem site were all carried out on a voluntary 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

[1] An early version of the teacher interface was developed by Clodagh Moriarty in her final year project (Moriarty, 1999). We would like to acknowledge here her contribution.

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Blanquerna, Universitat Ramon Llull, Barcelona. We were confident that the site was robust enough to be used in a compulsory activity context. The present paper takes into account the experience and feedback gathered by all the experiences listed in Table 1 and settles on the final version: ETR4.

3.3 What we have learned

Taken together, the research projects described and the feedback we have collected over the past few years point to several main issues which we have attempted to address in our improvements 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. We have learned that the added structure of a class environment is a huge benefit in terms of the usefulness of the ETR website, and that the environment is well suited as a complementary aspect of an organized language course. We discuss this in greater detail in the next section.

4 Classroom integration of the ETR environment

Over the past three years, the ETR environment has been used for exchanges both in a class setting and between individual language learners, as discussed in Section 3. The individual learners were in some cases enrolled in courses, but their work with the tandem exchange was independent of any course. It was our conclusion that the ETR environment was optimally exploited when integrated with a structured course for a number of reasons:

- **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 an inordinate 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 three (as opposed to an average of around 16 messages per person during two semesters' worth of project work in a course). 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 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 guide less independently motivated students towards autonomous learning.

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- **Content guidance**
  Closely related to the problem of motivation loss is the difficulty for the students 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 distracting, and even frustrating. 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 interview quotes:

  "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 the students to concentrate more fully on their language.

- **Benefits to the course**
  In addition to benefits that the structured environment of a course has on the effectiveness of the ETR tandem exchange, there are also benefits the other way. The ETR site 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.

  The new design of the ETR site, as described in the next section, has much to do with the decision to shift towards integration of the site into a class setting. This shift has been prompted by our experience in using the site as described in Section 3. There is also emerging literature in e-mail tandem language learning that points in the same direction. Ushioda (2000), in discussing the benefits of tandem language learning focusing on learner motivation and autonomy, also affirms that this type of exchange needs 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.

5 A new ETR environment

The changes introduced in this version of the ETR environment are primarily in the

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areas of teacher interface, student interface, and the development of a virtual tandem community environment. In this section each of these areas will be treated in depth.

5.1 Teacher interface

One of the most significant changes to the ETR website is the addition of a teacher interface, which allows 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 is 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. 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, essays, and such 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.

For these reasons, the teachers' access 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. The information is organized in such a way that teachers may get a general overview of all students and their most recent message data (see Figure 1), or look more

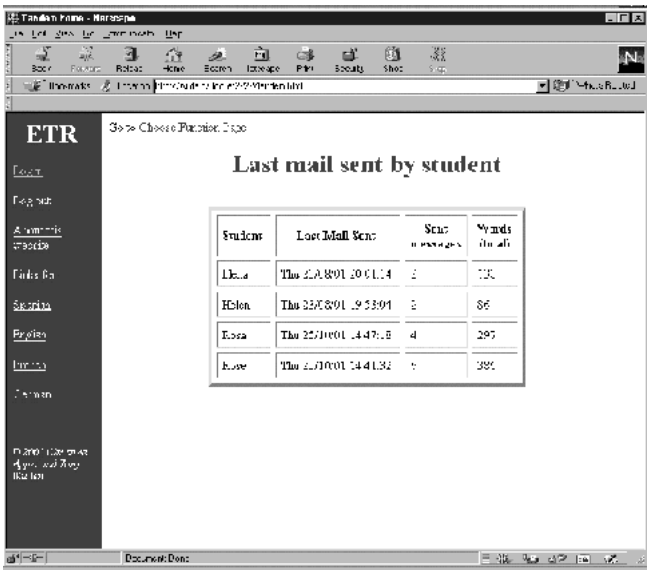


Fig. 1. A general overview of students' most recent e-mails.

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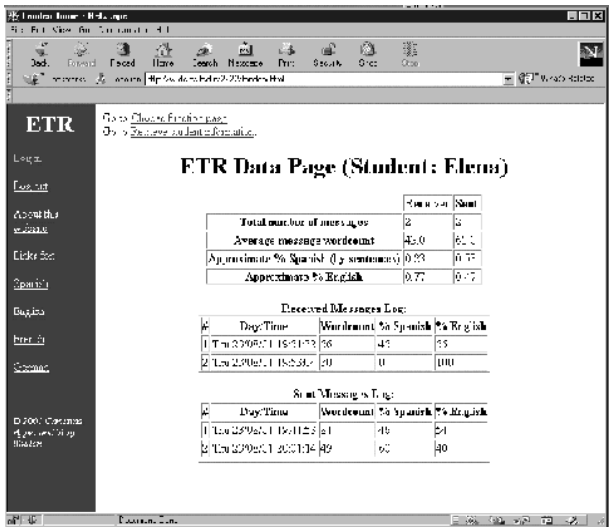


Fig. 2. Shows the entire e-mail history of the student.

closely at the entire history of an individual student (Figure 2). All data pages are in a format which may be easily printed out if it is desirable to bring them to class for discussion. The overview page is particularly concise and useful in identifying trends of participation in order to set realistic goals.

The teacher 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.

Finally, the teacher has access to the Group board area of the tandem class-pair, which will be discussed further in Section 5.3. Access to the Group board means that the teacher can read as well as post messages to the group discussion.

5.2 Student interface

A number of things have changed in the student interface, all of which are primarily intended to make the exchange clearer, both in terms of website navigation and in terms of content. An example of the latter is the addition of coloured text to distinguish new incoming messages from new corrections on a previous message. A large number of navigational improvements have been made for the new version which, among other things, allow the student to compose mail simultaneously to reading new incoming mail and to receive new mail without having to stop writing and start again as was the case in the first implementation (Figure 3). Slight changes were made in the manner of sending corrections, in that the text of the message to be corrected was removed from the corrections box. This was done with the intention of encouraging more thoughtful and less superficial corrections, as well as reducing the amount of superfluous text in the transcripts. In addition to these changes, further language-specific customization has been introduced. Previously, all site text was written in English, whereas now all site material appears in the student's target language upon login.

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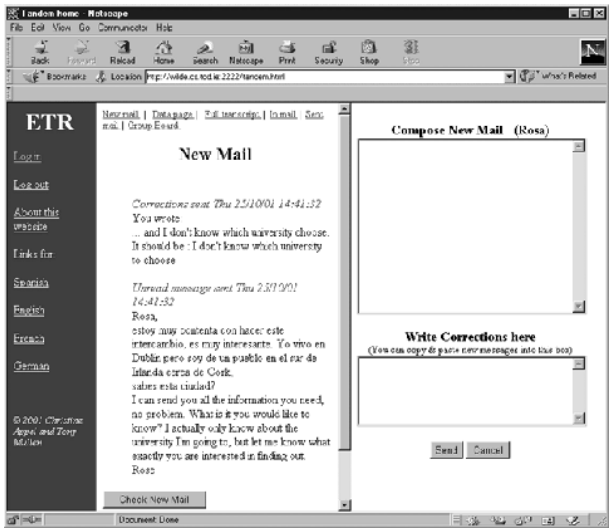


Fig. 3. The navigational improvements include allowing the student to compose mail simultaneously to reading new incoming mail and receiving new mail without having to stop writing responses.

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 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. One instance may occur during the sending of a message, if a student has written more than 75 percent in either target or native language (this is done using a statistical language guesser (van Noord, 1998)). The message will be sent, but a notification will come on the screen briefly informing them of the inequality and requesting that the student put effort into keeping the two numbers as close to equal as possible. In this way, the reminder is passed on in a less obtrusive way than if the teacher had given it personally, while simultaneously the reminder is absolutely unforgiving, and will come up on the screen with regularity if the percentages are not kept more close. 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 this student receives a new message in the ETR environment; this function is limited to sending out reminders no more often than once every two hours.

Other improvements have also been made, making it 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 from 'policing' or organiza-

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tional duties. Finally, like the teachers, the students have access to the Group board, discussed in the next section.

5.3 The virtual tandem community

In keeping with the goal to move the ETR environment more fully into an integrated class setting, efforts have been made to 'open up' the environment and induce a sense of community within the class-pair groups. One crucial element to this is the control given to the teachers with the teacher interface described in Sectiom 5.1, which allows teachers 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 4), 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. The environment is along similar lines to a bulletin board for discussions, seen often on websites. Students are encouraged to check it regularly, and it may also be used by teachers to give tandem assignments, which can then be done on the spot. 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. Group exercises may also be designed by the teachers 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.

5.4 Discussion

We have developed a tool that addresses some of the difficulties 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 follows the practice 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 the more restrictive environment. In fact, the guides and reminders put into place are intended to *encourage* the student to take charge of his/her own learning process. Meaningful autonomy does not occur in a

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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 (1991) discusses the misconceptions of learner autonomy and the difficulties that some teachers experience within such an approach, often feeling frustration or confusion at losing control of what takes place. The ETR environment also supports teachers new to this approach in that it does not leave the teacher not knowing what is going on. Finally, without wanting to underestimate the value of key-pal writing, the approach taken here is to maximise the possible benefits, and to force students not only to be engaged in the use of the target language but also to be pushed to learn and improve. The teacher interface and the Group board allow for directing communication in such a way that interaction will allow 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: Chapter 3).

6 A tool for research

A number of the changes made to the site have also been geared towards research. In this respect, the site has become more than ever '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 in Section 3, a number of different forms of feedback, both direct and indirect, are currently collected.

The most conspicuous change made in the interest of collecting data is the introduction of an introductory 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. This is supplemental to questions which will be asked subsequent to the course.

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.

6.1 Corpus collection

The ETR website also allows for the collection of a new corpus of asynchronous tandem writing. All transcripts are recorded in their entirety, with timestamps 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 documents essay writing covering 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 we 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 types of corpora could then be compared to each other. Furthermore, the corpus is not simply a collection of written texts, but a collection of timestamped, interactive progressions, thus offering the

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potential to yield a great deal of information about the progression of second language acquisition through interaction with a native writer.

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 paper are important, as they will make it easier for teachers to incorporate the ETR environment into their regular teaching.

7 Conclusion

Our work since 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 we now have the structure 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 and Catalan, and are learning another one of those languages. It is not difficult to expand the system to cover other languages, and very shortly more will be added to this list. All data is collected centrally as part of the corpus to be built. 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 Navigator or Internet Explorer.[2]

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[2] For further information about the use of the ETR, see site at http://www.dcu.ie/~salis/tandem

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