# Chapter 11

# Large-scale individual ESP instruction
## Interim report on ICT-based practices

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## 1 Introduction

In France, while students of English for specific purposes (ESP) make up about 90% of all students (Causa & Derivry, 2013), universities tend to face problems in meeting student demand and coping with student heterogeneity (Taillefer, 2008). To deal with these challenges, it may seem appropriate to explore the potential of digital learning environments to (i) facilitate the organization of more flexible and more open forms of training; (ii) support the needs and characteristics of heterogeneous groups of students with disparate skills and knowledge; and (iii) broaden the scope of those who can currently benefit from education services.

This chapter aims at exploring the potential of an experimental guided autonomy course incorporating a semi-automated online tutoring system to address these very objectives. In this respect, a presentation of the course and the associated tutoring practices will first be provided. A comprehensive assessment of this training pathway to deal with large groups of students, individually tutor their online (written and oral) production tasks and achieve institutional objectives will then be delivered. A discussion on the potential of large-scale and tailor-made ESP teaching and learning practices at the university level will eventually be proposed.

### 1.1 Introducing online instruction in a second language course

In July 2011, the Language Department of University Pierre et Marie Curie (also known as Paris VI University) wished to implement an online English course. This course had to be designed using a top-down approach to allow 250 first-year (A2 level) STEM (*Science, Technology, Engineering and Mathematics)* undergraduate students to reach a threshold level in English by the end of the academic year in four language

skills: written production, oral comprehension, written comprehension and oral production (or 'sustained monologues'). To design this course, we decided —in line with Doughty and Long's (2003: 50) claim that "rational choices among the numerous technological options available for foreign language teaching need to be based, in part, on psycholinguistic considerations"— to rely on a theoretical model in second language acquisition (SLA). The objective was to identify how all the obstacles related to the way learners actually learn foreign languages could be taken into account in the course, in order to further circumvent them. For example, if it is indeed largely admitted that cognitive properties play a key role in the success of instruction (Bracht, 1970; Bracht & Glass, 1968; Cronbach & Snow, 1977), the "endowment" and "quality" of factors such as the second language (L2) learners' language aptitude (Carroll, 1981), intelligence type (Gardner, 1983/2003) or learning style (Ehrman & Oxford, 1995) may be more or less favourable to the L2 acquisition process. As a matter of fact, those "individual differences" (Robinson, 2002) play an important part in the degree of proficiency ultimately attained by the learners in L2 (Bialystok & Hakuta, 1994) and, as such, need to be taken into account when designing and implementing pedagogical environments meant to foster L2 proficiency development.

To do so, in order to design the L2 online course, it was hypothesized —in line with Robinson (2002)— that the implementation of an individualized learning environment able to meet each learner's specific L2 needs would act as a lever to promote L2 proficiency development.

After a preliminary study of the academic literature of the field (Brudermann, 2010a), several options were considered to allow the implementation of individualized learning pathways:

(1) to provide learning environments, which are —at least in part— based on the use of digital tools;

(2) to offer access to workspaces promoting the implementation of real situations of interaction in L2;

(3) to encourage individual work and lead the learner to pay attention to L2 forms he/she is not yet able to use when processing input and/or to question about his/her mistakes in L2 (focus on form instruction);

(4) to propose a (distance) tutoring scheme.

### 1.2 From theory to practice

Subsequent to this reflection on educational solutions integrating findings in SLA for the design of the pedagogical device, it was further necessary to proceed to an educational engineering phase, to look at how these theoretical considerations could be translated into curricular decisions. An online educational environment including self-directed learning opportunities and the presence of a human tutor emerged from this reflection. As shown in Figure 1, such an online learning environment can be referred to as a guided autonomy course: while the black arrows represent the workflow carried

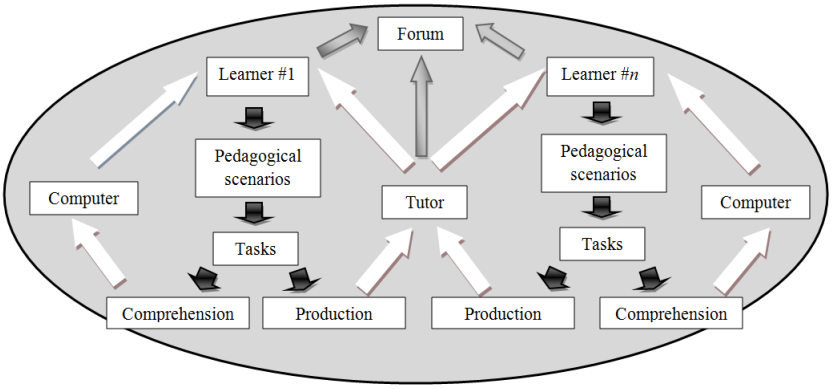



Figure 1: Schematic diagram of the ESP guided autonomy environment

out by the learners, the white arrows symbolize the mediation process at stake within the environment and show that the feedback is partly provided by the computer (self-assessment practices) and partly by a human tutor; the grey arrows stand for the twofold interactional space offered by the learning environment, *i.e.* between peers and between the learner(s) and the tutor(s), whether it be through the use of the forum or email accounts.

### 1.3 Online course

At the start of the academic year 2011–2012, the online course was set up (Fig. 2). This course offered task-based scenarios dealing with various scientific and societal topics (global warming, obesity problems in the US, social networks, etc.) and was designed to have students work on both (oral and written) comprehension and (oral and written) production skills: in this pedagogical environment, each scenario offered written and audio / video documents, self-assessment comprehension exercises and selected additional readings, to drive students into noticing and handling ideas which could prove useful for the subsequent oral and written production tasks they also had to work on.

One grey area which remained to be answered in this learning environment had to do with the way oral and written tasks could both be technically and pedagogically performed and tutored, notably in order to promote the implementation of real situations of interaction in L2. To explore this question, based on a longitudinal study carried out between 2007 and 2010 —in which an online tutoring system exposing learners to asynchronous focused recasts on their L2 output was implemented (see Brudermann, 2010a) and led to positive results on the informants' L2 proficiency levels—, it was estimated that resorting to this very same feedback process would be a relevant approach to follow in this project as well.

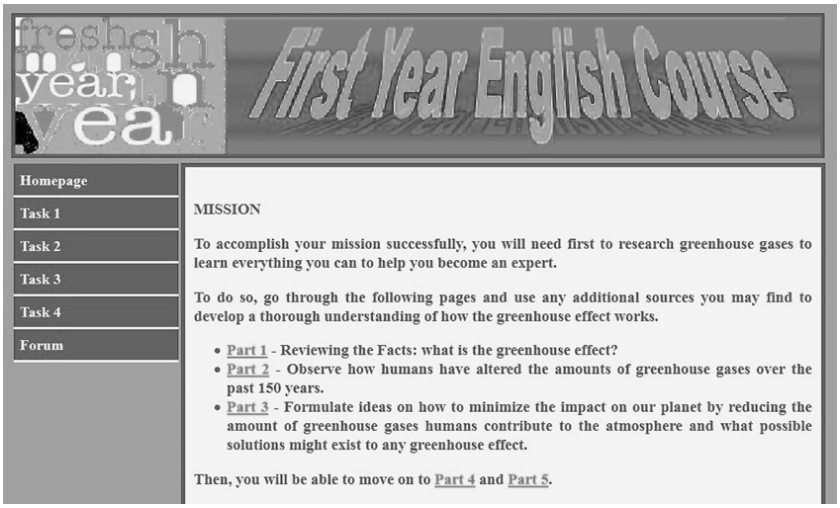



Figure 2: Screenshot of the online learning environment during academic year 2011–2012

### 1.4 Online tutoring and individualized corrective feedback

To implement this methodology, it was necessary to rely on an individualized corrective feedback generation system. To do so, following the conclusions of several studies —whose goal was to investigate about B1/B2 ESP students' L2 needs when performing offsite oral and written tasks (Brudermann, 2010a; 2010b; 2010c) — a twofold Web application was designed and comprised: a customized online assistant (http://www.taskbasedenglish.eu/) (Brudermann, 2010c), devised to serve as a guide through the elaboration of the students' work and to raise their awareness of a certain number of L2 aspects they are already acquainted with but which they nonetheless sometimes tend to forget when completing L2 production tasks (Brudermann, 2010a; 2010d).

For the tutors, a system of personalized revision had to be designed. As it is now, this system comprises a master file allowing tutors to provide ready-made feedback concerning a certain number of frequent L2 errors French A2 students tend to encounter in English (see Brudermann, 2010a).

Using the master file, the tutors can copy ready-made comments providing links to online help (grammar, phonology, vocabulary, ) and paste them directly onto the students' revision sheets. To complete the tutoring process, a system of revision codes (see Table 1) was also developed to highlight the problems and specify their nature (grammar, vocabulary, methodology, transfer, phonology). Those revision codes can be directly inserted into the students' productions.

These revision codes thus enable learners to locate exactly where an L2 problem has been noticed in a given production by the tutor and to have more information about the nature of a given problem. To go even further in this approach and encourage noticing, the tutoring system described in this article aims at having learners correlate

Table 1: Revision codes

| **Written tasks** | **Oral tasks** |
|---|---|
| • Highlighted elements: vocabulary problems, rereading problems, nativization<br>• Underlined elements: morphosyntax<br>• XXX: missing elements | • "MS": morphosyntax<br>• "PH": phonology<br>• "Voc": lexicon<br>• "FR": French / nativization<br>• "XXX": missing elements |

the highlighted problems with the explanations provided in the revision sheet (which do not follow the order of the mistakes). In doing so, the tutoring system offered in this pedagogical environment was designed to encourage both various cognitive operations (*e.g.* noticing, attention to forms, form-focus instruction, etc.) and meta-reflection.

## 2 Experimentation: assessing the management-related aspects of the course

In order to explore the potential of the experimental guided autonomy course to manage a somewhat large group of learners, a quality assurance audit was conducted between 2011 and 2013 amongst two groups of 250 first-year students. In line with the Wulkow Memorandum (Cercles, 2010), the objective of this study was to evaluate the device —through observation of learners' L2 productions, behaviours (forum) and uses of both the environment and the various online tools— so as to further improve potential weaknesses and validate the pedagogical specifications of the learning environment, both in its ergonomic aspects and its educational relevance. In this respect, the two following subsections pinpoint selected key aspects that worked well and those that needed improvement during the first year of implementation of the pedagogical device.

### 2.1 Positive aspects

By encouraging feedback from a variety of sources (learners, teachers, the institution, etc.), this audit highlighted that:

- The extensive flexibility in operation provided by the pedagogical environment allowed to get around student management issues, even though most of the 250 students enrolled in the English course had different study schedules.

- Dropout rates were very low.

- The role of the forum was notably to provide students with a workspace promoting the implementation of spontaneous situations of interaction in L2 (Fig. 1). Their participation was therefore on a voluntary basis. At the end of the first academic year, 196 messages had been posted in 56 different threads (see http://goo.gl/p96KZw). This shows that —contrary to other studies in which

the connection of the forum to the course may be perceived negatively by students and as a non-essential add-on to the course (Chong, 1998; Sherry, 2000)— the forum effectively functioned both as an active online 'study room' and as a communication tool in this study, both between peers and between students and tutors.

- The online tutoring system enabled teachers to provide follow-up throughout the course, to tailor feedback to the learners' L2 needs and to manage large groups of learners.

- Very few technical problems deriving from the students' use of digital tools were listed. This aspect had been anticipated and online explanations and screenshots were at the students' disposal for them to be autonomous as regards the use of digital tools.

### 2.2 Setbacks

Firstly, as the hosting system of UPMC did not allow the publication of dynamic Websites, the online pedagogical environment was initially made up of around one hundred and thirty static (HTML/CSS) Webpages (Fig. 2), which had been developed one by one. Every time a new item was added up in the menu or a new Webpage was included, the HTML code of all the other pages had to be modified, for all the pages of the Website to be interrelated, all the hyperlinks to work and all the menu items to point towards the pages that were meant to be opened. The management of the content of the Website during the first year of implementation was therefore rather time-consuming and tedious.

Secondly, the Website was hosted on the secured server of the university. As a matter of fact, the access to the course was not restricted to the 250 enrolled students and all the students and staff members of the university could log into the Website (*i.e.* around 20,000 people). Some students (*i.e.* around 250), which were not officially enrolled in this online course, therefore acted as 'free agent learners' and submitted unsolicited tasks, which generated additional work for the tutors.

In the same vein, communication with the students involved in the course was not always easy, as they had chosen various majors and therefore were scattered in various places all over the campus. This situation required several information relays (which, in turn, sometimes resulted in distortion of information), a 'survey work' amongst various services of the university to identify relevant contact points and an extensive mail flow —notably with the secretariats of the various undergraduate programs— to reach the students and spread information throughout the year. A system designed to optimize communication —for the staff to be in direct contact with the students— had to be devised, to cut out the third party and to facilitate and shorten procedures for all users.

Finally, online feedback was time-consuming with the tutoring system which was implemented (about six oral and/or written tasks per hour), as it implied manipulating the keyboard and mouse quite a lot but could be improved; in this respect, after one

year of experimentation, the development of a computer system allowing to automate the master file was thought of as worthwhile tool to consider to reduce revision time.

### 2.3 Adjustments

In order to formulate possible responses to the obstacles mentioned above, a new Website was designed during the summer of 2012, so as to be fully operational by the beginning of the academic year 2012–2013 (Fig. 3). A dynamic Website including a database was developed and hosted on a paid server. *Wordpress* —a content management system— was used in order to reduce possible problems and pitfalls in the development and regular update of the Website. As shown in Figure 3, links to external resources were added to guide students through the proposed tasks. In addition, an internal search engine was implemented to allow faster access to relevant information, and a new forum was also set up. The graphic interface of the site was also redesigned to improve navigation, information scanning, and to reduce cognitive overload and disorientation (Rouet, 2000).




Figure 3: Screenshot of the online learning environment (academic year 2012–2013)

With the new version, students did not have to go through the university system, which made it easier to control access to the site. Students received their logins and passwords directly from the teachers running the English course. This has considerably reduced problems related to the management of the course. The course was therefore confined to a capacity of 250 students (enrolled on a first-come first-served basis); a waiting list was also established to replace students wishing to leave the program in the course of the year. Students also had to sign a pedagogical contract to join the course. The contract required them to complete four tasks (two oral tasks

and two written tasks), to undergo a short personal interview in English related to the activities proposed in the course, and to take a mock exam, in preparation for the final English examination; the contract also stipulated that if these terms were not respected, they would automatically be delisted and enrolled in an autonomous English learning program (see section 3.3 below) instead.

## 3 Results and further developments

After two years of implementation, the first objective —that is the evaluation of the device and its potential weaknesses— was validated, as all the management-related aspects (students, administrative tasks, online activities, etc.) had been accounted for and the course delivery system had become a robust one. However, in order to explore the second objective —the evaluation of its educational relevance to the course— further qualitative and quantitative inquiries had to be taken. The second component of the study was carried out in 2012–2013, the second year of the experiment.

### 3.1 Participation

A survey on student participation in the course was carried out: 10 students (out of 250) dropped the program in 2012–2013 (about 4% of the whole cohort). They were replaced by students from the waiting list. At the end of the academic year, 179 out of 250 had respected the terms of the contract (*i.e.* 71.6%).

### 3.2 Satisfaction

Satisfaction of the students enrolled in the online course was assessed in May 2013. 181 out of the 250 enrolled students (*i.e.* 72.4%) filled in an online questionnaire, the results of which are below (Table 2).

Those results reveal an overall satisfaction rate of 3.54/5. Besides, some of the students who filled in the online questionnaire also posted a certain number of comments / messages, which can be broadly broken down into four categories: compliments, requests to have more work (particularly in grammar and vocabulary), requests to have more time and more guidance to complete the assignments, and a few proposals for improvements. In this study, the largest number of comments was found in the "compliment" category. Students' satisfaction rates can therefore be considered satisfactory in this study.

### 3.3 Performance at the final examination

In order to assess whether the approach presented was coherent with UPMC's institutional needs, the study participants' performance at the final exam was measured in May 2013. At UPMC, first year students take a placement test in September and, according to the results, embark on various courses tailored (as much as possible) to their L2 needs. The online English course was designed for A2 students who scored between 55 and 69 (out of 100) at the placement test. For the first-year students who scored 70 or more, another online English course tailored to match B1 and B2 needs was available. (For the descriptors of the CEFR scale, see Council of Europe, 2001). The more advanced learning path is an autonomous language learning pro-

Table 2: Online questionnaire and answers collected

| **Questions** | **Results out of 5** (1 = minimal / 5 = maximum) (N = 181) |
|---|---|
| Choice of the thematic areas proposed in the course | 3.2 |
| Interest of the task-based approach proposed in the course | 3.27 |
| Quality of the materials / resources (videos, self-assessment exercises, tasks, etc.) | 3.72 |
| Effectiveness of the teaching / learning approach taken to address your L2 needs | 3.2 |
| Effectiveness of the pedagogical approach taken to foster L2 acquisition | 3.25 |
| Task workload (O = heavy, 5 = light) | 3.19 |
| Remote access to pedagogical staff | 3.51 |
| Quality of the online pedagogical follow-up | 3.14 |
| Usefulness of the forums | 2.96 |
| Navigation / ergonomics of the website | 3.38 |
| Level of global satisfaction | 3.28 |

gram which includes no feedback or teacher intervention. At the end of the academic year, students enrolled in the two online courses are required to take the same final examination (B1 proficiency level), which includes a written comprehension part, an audio listening exercise and some grammar questions. Table 3 gives an overview of the results collected from the two cohorts of students.

Table 3 reveals that 139 of the 250 students who were enrolled in the guided autonomy learning pathway and who respected the pedagogical contract (N = 179) passed an English examination equivalent to B1 (CEFR), which amounts to 84.2%. In comparison, out of the 529 students enrolled in the autonomous English learning program, 276 eventually turned up at the examination (52.17%) and 127 of them passed it (*i.e.* 46.73%). We can note here that, if the number of students who turned up at the final examination is pretty similar (139 from the guided autonomy learning pathway and 129 from the autonomous English learning program), the success rates of those students almost varies by twice as much (84.4% for the guided autonomy learning pathway *vs* 46.73% for the autonomous English learning program).

Table 3: Comparison of final examination results

| | **Guided autonomy learning pathway** | **Autonomous English learning program** |
|---|---|---|
| Number of enrolled students | 179 | 529 |
| Number of students who turned up at the final year examination | 165 (= 92.17 %) | 276 (= 52.17 %) |
| Number of students who passed the test | 139 (= 84.24 %) | 129 (= 46.73 %) |
| Number of students who failed the test | 26 (=15.75 %) | 147 (= 53.26 %) |
| Average grade of students who passed the test | 56.22 / 100 (7815 / 139) | 58.59 / 100 (7558.5 / 129) |
| Average grade of students who failed the test | 41.63 / 100 (1082.5 / 26) | 33.15 / 100 (4873.5 / 147) |
| Average grade | 59.98 / 100 (9897.5 / 165) | 45.04 / 100 (12432 / 276) |

## 4 Discussion

The data collected in this study seem to reveal that the guided autonomy-learning pathway enabled a large proportion of A2 students —who regularly worked on various tasks in English during one academic year (*i.e.* 84.24%)— to reach the B1 level, as far as comprehension and grammar are concerned. As a consequence, based on this study, the pedagogical practices offered in the guided autonomy course seem to be effective in the case of students who have abided by the terms of the pedagogical contract they have signed (*i.e.* 139 students who passed the test out of the 165 who turned up). It might be worth looking into the problem of the students who have not.

Until now, the students who dropped out of the program in the course of the academic year were replaced by other students who had been put on a waiting list. Therefore, dropping out is not a real problem. What is disturbing for the course and affects the results are the students who finish some, but not all, of the tasks—maybe three or four out of the six they have agreed to. The present practice is to cancel the enrolment of these students from the program. As a result, they take the final test with the students enrolled in the autonomous English learning program. In 2012–2013, these students, who represented 28.4% of the whole cohort (*i.e.* 71 out of the 250 enrolled students in the guided autonomy program), operated as "free agents" of a new kind, *i.e.* who could only be recognized as such at the very end of the academic program. As it is anticipated that this phenomenon will probably reappear in the ongoing experimentation, it will surely be rather complex to try to curb it because, apart from the pedagogical contract, it is not really possible, from an institutional point of view, to go any further to lead students into achieving more work.

The results of this study seem to indicate that the students who were more proficient in English at the beginning of the year end up with poorer results when working on their own than those who followed an online language course throughout the academic

year. These figures notably give rise to the question of whether the students from this program actually carried out some of the work which was proposed to them: the average grade of the 'advanced' students is 45.04/100 *vs* 59.98 for the students enrolled in the guided autonomy learning pathway (*i.e.* 14 percentage points less); the students from the guided autonomy learning pathway who failed the test scored 41.63 points on average *vs* 33.15 for the students from the other module (*i.e.* 8.5 percentage points more) and the average grade of the students who passed the test is approximately the same for students from both English learning programs (*i.e.* 56.22 *vs* 58.59 percentage points). These figures seem to suggest that, without a pedagogical follow-up, the proficiency level of the originally higher-level students decreased.

## 5 Conclusion

After two academic years and several readjustments, the online pedagogical device discussed in the present article has now become a perennial tool —at least for administrative and managerial aspects— and the current feedback system seems to be coherent with the institutional needs, since it allowed to achieve the objectives which were set (*i.e.* the requirement of students reaching the threshold level). However, to have students achieve those encouraging results, the tutors involved in this project used a master file (see section 1.3 above). Their work involved extensive keyboard and mouse manipulation and, therefore, time-consuming practices. In order to reduce the amount of time currently required from the pedagogical staff to provide feedback, a computer system aiming at automating the master file will soon be implemented in the course. In the subsequent part of this study, the focus will therefore shift and will explore possible ways to improve revision procedures for the teaching staff.

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