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ReCALL Journal

The forthcoming issue of **ReCALL** (Vol. 23, Part 2) will be distributed to EUROCALL members in May 2011. Please send articles, software reviews, details of relevant events or other items of interest for future issues to June Thompson, Editor **ReCALL** d.j.thompson@hull.ac.uk.

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Project

Languages Open Resources Online (LORO): Fostering a culture of collaboration and sharing

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Abstract

As the last ten years have seen the advent of the Open Educational Resources (OER) movement, large numbers of digital content are now available for learners and teachers to use and reuse. Engaging with OER compels educators to address issues of sharing, quality, ownership, and changing professional practices. In this report, we describe the experience of setting up LORO, a repository of languages OER, especially in relation to teachers' perceptions of barriers and enablers to successful engagement with open content.

Keywords: OER, repositories, culture change, user engagement, sharing, re-use

This report explains the development of LORO (Languages Open Resources Online), a repository of language teaching and learning resources set up at the Open University (OU), UK, in 2010. First we introduce the concept of Open Educational Resources (OER) and describe how languages are taught at the Department of Languages, The Open University, to set forth the philosophy and context behind LORO. We then relate how the project was implemented and present the results of an environmental assessment exercise designed to find out about the views and expectations of OU language tutors

with regard to learning repositories and sharing materials. Finally, we conclude with a description of the features and functionality of the LORO repository, and some reflections on the changes in practice that its introduction has sparked at the Department of Languages.

1. Overview of the Open Educational Resource Movement

The Open Educational Resources (OER) movement is inspired by the Open Source Software movement (Wiley, 2009; Baraniuk, 2007), and shares with it 'the simple and powerful idea that the world's knowledge is a public good, and that technology in general and the World Wide Web in particular provide an extraordinary opportunity for everyone to share, use and reuse it' (Smith & Casserly, 2006:8).

In recent years there has been considerable interest in developing OER collections, notably since in 2001-2 the Massachusetts Institute of Technology (MIT) launched its [OpenCourseWare](#) initiative, providing most of its curriculum as online, free study modules, so that anyone could use them and, more importantly, reuse, adapt, remix, and publish them again.

In 2002 UNESCO coined the term 'Open Educational Resources' which was defined as: 'The open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes' (UNESCO, 2002). The term has since been re(de)defined to encompass teaching and learning resources, software, and any other tools made available under an intellectual property (IP) license, usually a Creative Commons license, that allows for the 'free use or re-purposing by others' (William and Flora Hewlett Foundation, 2008).

Since the launch of MIT's OpenCourseWare other OER initiatives have followed, such as Rice University's [Connexions](#), The Open University's [OpenLearn](#) or [Merlot](#), from California State University. More recently the University of Nottingham has created [Xpert](#), a repositories aggregator which harvests content from other online sources. These projects are often supported by considerable donations from charitable foundations such as the [William and Flora Hewlett Foundation](#), or innovation funding bodies such as the [Joint Information Systems Committee \(JISC\)](#) in the UK.

In this fairly new field of OER there is already a considerable body of literature devoted to reviewing the organisational, technical and pedagogical issues around setting up specific OER projects – Butcher (2009) offers a comprehensive overview of the large institutional OER projects in Higher Education, and Gourley & Lane (2009) and Sclater (2009) provide accounts of OpenLearn. However, as Kozinska et al. (2010) have pointed out, after the initial years spent creating a critical mass of both resources and users around large OER projects, the OER movement is now starting to focus on conducting research and developing research methods to understand the use and impact of OER (see University of Oxford, 2009), and to 'build a robust evidence base to support and enhance the design, evaluation and use of OER' (OLnet, 2008: 5).

One of the crucial transformations that have affected how OERs are presented to users, according to Baraniuk (2007), is that whereas web 1.0, using a 'broadcast' model, was characterised by the slogan 'Content is King', web 2.0, the remix web, encourages participation and interaction under the banner 'Community is King'. Consequently, one of the central challenges for the OER project is transforming static repositories of OER, which simply provide content, into dynamic hubs where contributors engage with each other while uploading their own resources, and reusing and repurposing resources for other teaching and learning contexts. One of the emerging areas of research, therefore, is around the issues that enable or inhibit the use, reuse and remix of OER.

2. A culture of sharing

Central to the OER movement is the willingness for content creators to share their educational resources, usually under Creative Commons licences, which enable others to use and also ideally to adapt the materials to suit their own needs and contexts. However, as Byskov Lund (2010) explains, 'it is not easy to make teachers share materials'. Indeed, in their survey of educational repositories in Europe, EdReNe (2009:

93) report on a study that Becta –the now abolished UK government agency for educational technology– conducted on the barriers and enablers to teachers using, repurposing and sharing Digital Learning Resources (DLRs). Becta's study looked at school teachers' attitudes to accessing, repurposing and sharing resources, and found the following:

- As far as **accessing** DLRs, some of the drivers identified were time saving and curiosity about other teachers' work. However, barriers included concerns about quality, issues of trust, and the sheer volume and discoverability of resources.
- In terms of **re-purposing** DLRs, one important benefit was the amount of material available, but the barriers included: difficulties in navigating one's way through that wealth of materials; insufficient or inadequate teacher training; concerns about copyright; time implications of repurposing; and teachers' need to feel ownership of the resources they use.
- Finally, in terms of **sharing** DLRs, the Becta study identified some drivers, including technology as an enabler to sharing, efficiency and time saving, the furthering of one's knowledge and employability; and also some barriers, such as lack of time, lack of training, lack of a sharing culture, concerns about copyright, the feeling that one's work might be 'stolen' by others, and concerns about 'looking stupid in a very public forum'. Ultimately, the study concluded that teachers prefer to feel part of the community before they are comfortable sharing their resources.

The next section describes the system of supported distance language learning at the Open University, and outlines the main advantages of creating a repository of resources for languages teaching and learning in this context.

3. The context

3.1 Language teaching at the Open University

Since 1995 the Open University (OU) has been offering language modules under its successful model of supported distance learning. Students work independently with structured learning materials produced by the institution (print, audio-visual and web-based), whilst also being supported by a regionally-based tutor or Associate Lecturer (AL) who offers advice, gives individualised feedback on assignments, and runs regular group tutorials. More recently, a system of blended tuition has been adopted for all language modules, which means that some tutorials take place face-to-face while others are held on Elluminate, an online audio-visual conferencing system. A total of 18 modules in French, Spanish, German, Italian, Chinese, Welsh and English for Academic Purposes are currently run by Department of Languages (DoL).

Although, typically, modules at the Open University have high student populations (from several hundred to over one thousand), and up to 50 Associate Lecturers (ALs) may be teaching the same module at the same time, each AL is individually responsible for the preparation and running of tutorials for their group of students (approximately 20 students per tutor). Initially, language ALs were expected to create the teaching materials they required for these group sessions. However, with the advent of electronic tuition the Department of Languages decided to create materials for online teaching sessions as a way of providing examples of suitable activities for online classrooms and easing the workload of individual tutors. These materials were initially presented as ready-made tutorials following the syllabus of each module, and tutors were given access only to the tutorial resources needed for the module they supported. However, as these materials were made available to tutors through each module's website in the Virtual Learning Environment (VLE), tutors had no automatic access to the resources for other courses, levels and languages.

Most ALs have been making use of these resources, but almost all of them have also been producing some of their own materials from scratch. Sharing of these materials has so far been infrequent and restricted to a few trusted colleagues. Although many regions were pooling resources and used staff development events to allow ALs to prepare teaching sessions jointly, attempts to share resources electronically *across* regions had previously been achieved through various uncoordinated, localised sharing

schemes where materials were presented on a variety of formats (paper-based or electronically). No neat solution for sharing across the whole community was available.

There was clearly a lot of scope for improvement to the status quo. The first step taken was to disaggregate the ready-made tutorials given to tutors into individual activities so that tutors would have greater freedom and encouragement to mix and match activities according to their groups' size, needs and preferences, and to the timing of the tutorial session in relation to the syllabus, for example. The second step was to find a system that, unlike the VLE, would allow all tutors to access all resources irrespective of the module they taught.

3.2 Potential benefits of a teaching and learning repository

The creation of a digital repository for language teaching resources was perceived as potentially beneficial in the OU context in terms of workload and professional development, and to provide a source of inspiration and new ideas.

It was felt that the likely impact of such a repository would be in three main areas:

- Access to all resources provided by the Department of Languages:

Each AL at the Department of Languages had access only to the teaching resources provided for the module they supported. This is one of the disadvantages of the VLE, as it locks content allowing only users linked to a particular module to access it.

A digital repository would mean that all resources for all languages and all levels would be stored on one searchable platform accessible to all staff.

- Re-use and sharing of resources produced by ALs:

ALs working on the same module used to prepare similar tutorial resources, but had little opportunity to discuss or share these with colleagues, beyond regional staff development events.

A digital repository would allow resources to be shared with colleagues and adapted as required, thus providing the community with culturally and linguistically richer and more up-to-date materials.

- Access to Open University tutorial materials for the wider language-teaching community:

Through the OpenLearn project, the Open University has made a proportion of their learning materials freely available online for use by students and educators (see Sclater, 2009). Tutorial materials for languages, however, were still restricted to a narrow group of OU tutors.

A digital repository would allow language teaching professionals across the world to access and re-use teaching resources produced at the Open University.

Having decided on the desirability of having a digital repository of resources for language teaching and learning, the Department of Languages sought funding that would allow the development of such a tool. The following sections describe the implementation of the LORO project.

4. Developing a digital repository for language teaching materials: the LORO Project

From April 2009 to June 2010, the Department of Languages at the OU was funded by JISC to develop LORO, an integrated repository of language teaching and learning resources based on the Language Box, the lightweight repository for languages established as a proof of concept by the Faroese team at the University of Southampton.

The LORO project was carried out in two stages, as shown in the table below:

Stage 1: Environmental assessment, technical development and seeding

(April 09 – Jun 10)

- environmental assessment survey and follow-up focus groups
- development of the LORO site
- uploading of OU tutorial resources produced by central academic teams

encouraging users to search and browse LORO

Stage 2: User engagement (on-going since May 2010)

encouraging users to share their own resources through LORO

staff training and support activities

user survey and analysis of user statistics

4.1 Stage 1: Environmental assessment, technical development and seeding

At the start of the project a survey was conducted to establish languages ALs' range of experience and views on using online repositories. To this purpose an online questionnaire was emailed to all 316 ALs, of whom 129 responded (40.8%). Contributions were anonymous and the sample was both self-selected and random as all tutors had an equal chance to participate. Subsequently, focus groups with a subset of 33 questionnaire respondents were conducted via audio-graphic conferencing (using Elluminate) to provide deeper insights on the same themes and to validate the data. Focus group discussions were recorded and the co-occurring online text chat was also saved separately after the session. The online medium for both the questionnaire and the focus groups could conceivably bias the representativeness of the sample, offering the views of those who are more positive or open to using online tools. However, email and online conferencing tools are regularly used by all staff at the Department of Languages where they are becoming the default modes of communication. In this sense, the bias for this particular group would be minimal. This initial environmental assessment exercise investigated issues around ICT expertise, creation and sharing of tutorial resources as well as awareness of, and expectations from, digital repositories; the results are reported in detail in section 5, "Environmental Assessment: Main findings".

The technical development of LORO was carried out by colleagues at the University of Southampton's School of Electronics and Computer Science in collaboration with the LORO project team. LORO is based on Web 2.0 principles and powered by the open source repository software *E-Prints*; its functionalities are based on those of the Language Box (see Davis et al., 2009) although customised to the needs of the OU Department of Languages. The development site was initially hosted by Southampton and later on migrated to the Open University servers.

The first step in organising the upload of resources to LORO was to work with all our existing centrally-produced materials for tutorials and organise them into self-standing 'resources' or 'learning objects'. Between September 2009 and February 2010 around 700 OU teaching resources were uploaded to LORO, to seed the repository with a critical mass of content that would make it worth using. All resources uploaded to LORO in this initial phase were labelled, tagged and described; initially organised by module, as this is a helpful categorisation for Open University teachers; and mostly designed specifically for an online learning environment (although easily adapted for use in face-to-face teaching). The materials cover the seven languages taught at the OU and range in CEFR level from A1 to C1.

A small number of ALs received training in how to use LORO and were given the job of uploading the OU resources and providing technical testing and feedback on usability, functionality, etc. for the technical developers and the LORO team. Involving ALs at this stage meant that a group within the larger body of tutors became very familiar with the new repository, which enabled them to continue, if they chose to do so, to act as LORO champions and assist other colleagues.

Uploading of resources was timed to coincide with module start dates and ALs were informed that their resources were now available on LORO rather than distributed by module. Instructions on how to access the materials and the link to LORO were posted on OU module websites, and most users found the process of browsing and downloading from LORO straightforward.

4.2 Stage 2: User engagement

In the second stage of the project starting in May 2010 *all* language ALs were encouraged to become actively engaged with LORO by searching and browsing LORO, expanding their user profile and uploading their own resources. A range of staff

development opportunities were offered to support ALs at this stage of the project in order to meet training needs previously identified in the environmental survey. Training sessions were conducted online via Elluminate and aimed at giving practical guidance on how to upload resources to LORO. Potential benefits of sharing such as professional enhancement, community building and peer feedback were discussed. The sessions also included information on copyright, attribution of ownership, and on how to enhance the usability and visibility of resources through descriptions, labelling and tagging. The online sessions were well attended and the recordings of the sessions and accompanying training materials were made available online to all OU language ALs.

In order to evaluate the use of LORO so far, statistical data on users' engagement has been collected from March 2010 onwards and a second survey was conducted in July 2010 in order to gather responses on how well ALs thought that LORO was meeting the requirements expressed in the environmental survey a year earlier. The analysis of these results is still on-going and will be made public at a later date.

In the following section we report the findings of the environmental survey carried out at the beginning of the project. The data provide an insight into relevant practices and attitudes of OU languages ALs and will be used as a basis for further investigation into the impact of LORO on professional development and teaching and learning.

5. Environmental survey: main findings

The first environmental survey (Tomás, 2009) with Open University ALs was carried out in June/July 2009 and informed the LORO project by investigating practices and attitudes as well as perceived barriers and enablers to using repositories, with a view to identifying training needs and informing the development of the repository. The survey was followed by three focus group discussions that took place on Elluminate with a subset of the survey respondents. Hereafter we will present the findings from both the survey and focus groups.

5.1 ICT expertise

Results show that OU language ALs have a positive attitude to using ICT tools (see table 1). The levels of self-reported ability to perform several ICT-related tasks reveal a group of teachers who are generally confident with ICT. Almost all ALs work with word processed documents, use the internet and handle digital audio files, while well over two thirds also use presentation software and spreadsheets and have experience in tutoring via computer conferencing systems. The electronic medium is the most popular method of storing materials, alongside traditional paper storage.

5.2 Creation and re-use of materials

The majority of ALs prefer to create their own materials, and 95% of them say they produce some of their materials from scratch at some point during the delivery of the course. Almost all ALs (89%) use the teaching resources provided by the institution but they adapt them to suit their own teaching style or their groups' particular needs and dynamics (97%). The internet is used extensively for material preparation. The focus groups suggest that the internet is particularly useful for finding grammar activities on specific points, videos, pictures, audio files, authentic language samples and up-to-date information. The survey reveals that, if a resource is used, it will nearly always be adapted and modified irrespective of where it may come from.

5.3 Awareness and knowledge of online repositories

In comparison with materials produced by the Department of Languages and general and language-specific internet sites, learning materials repositories appeared to be the least preferred online tool used to develop teaching materials (see table 1). The lack of knowledge about learning materials repositories and what they offer, as well as the lack of skills or confidence on how to use them, were the main reasons given by tutors for not using online repositories.

Do you share your own tutorial materials (handouts, forum messages, activities, etc) with other tutors? (tick all that apply)	Respondents (n=129)	
	Yes %	No %
I send them if somebody asks me	87	13
I share them with certain colleagues	58	42
I offer them to colleagues (through forums or at staff development events)	36	64
I often share my teaching materials	26	74
I send them to my regional/national centre	19	81
I upload them to a teaching materials repository (Jorum, for example)	5	95

Table 1. Sharing of materials and modes.

5.4 Attitude to sharing

The survey revealed that there was no strong culture of sharing teaching materials among OU ALs (see table 1), a similar situation to what other researchers have found in other contexts (Byskov Lund, 2010). A certain amount of informal sharing happened between close colleagues; within some regions ALs were encouraged to circulate resources they had created which they felt had worked particularly well, and these were then shared with other colleagues. The lack of a sharing culture is not particularly surprising since at the time of the survey ALs did not have a formal system for sharing their resources, and they would not therefore volunteer their materials widely to each other. Although the overall reaction to the idea of sharing materials was positive, some ALs raised concerns and mentioned the barriers that would prevent them from sharing their own materials, such as lack of time and remuneration, working with an unreliable system, lack of reciprocity (unequal participation of users), (lack of) quality and usefulness of materials, lack of feedback on own materials, fear about copyright issues, and concerns about ownership and attribution not being acknowledged (see table 3). It is also important to understand that sharing is not necessarily a universally accepted concept and that in some cultures there may be considerable reluctance to accept this principle, as exemplified in this quote from one of the tutors: 'I'm not a fan of sharing. I prefer private property.'

5.5 Enablers and barriers to sharing

Another topic that this survey sought to understand was which aspects would encourage or discourage ALs to use a languages repository. Among the former, respondents cited a user friendly online system, easily accessible and quick to use, and to a lesser extent, contributing to the creation of a large, frequently used collection of materials (see Table 2). Notably, publishing and showcasing their own materials was only important for around a third of respondents.

Which of the following would encourage you to use a repository?	Response (n=129) %
A user friendly online system that is easily accessible and quick to use	94
Contributing to the creation of a large, frequently used collection of materials	66
An effective way of storing, reviewing and linking to or referencing my materials	55
Being identified clearly as the creator	38
Being able to publish and take down my own materials	35

Table 2. Encouraging factors to use a repository.

Accordingly, most ALs found that a complicated or slow system would discourage them from using a repository and around half of them had concerns about their work being misappropriated or misused (see Table 3).

Which of the following would discourage you from making your materials available to others? (tick the three most important to you)	Response (n=129) %
A complicated, hard to use or slow system	93
People appropriating my stuff without acknowledgment	54
People misusing my stuff, e.g. adapting inappropriately	50
Making sure that I have copyright clearance before sharing can be a problem	35
Other (please specify)	24
I lose control over what happens with my materials	18
I don't like to place my own work in a public area	13
I don't trust the technology	10
I don't want others to use my stuff	2

Table 3. Discouraging qualities of a repository.

5.6 Users' expectations of a repository

ALs were asked what they would like a languages repository to do for them and results, summarised in Table 4 below, show that the highest expectations, although not universally shared, relate to access to materials as a source of inspiration, and the ability to adapt those materials.

What would you like a languages repository to do for you? (tick the three most important to you)	Response (n=129) %
Give me access to materials as sources for ideas or inspiration	59
Allow me to adapt materials I found	53
Allow me to find materials produced by other ALs	51
Allow me to store and manage my own materials	49
Allow me to access materials produced by course teams	36
Give me access to a wider pool of materials (stuff from other cultures)	25
Allow me to view materials from other languages and levels	22

Table 4. Functions of a repository.

6. The LORO repository

This final section explains the main features of the LORO repository.

The LORO home page allows users to log in as OU staff or guests (any user can create a guest account) so as to access the full functionalities and features of the repository.



Figure 1. LORO Home page (<http://loro.open.ac.uk>)

Without logging in, users can still search, browse (by language, tag, CEFR level, or module code, which is helpful to OU users) and download resources, but cannot leave comments on resources or upload their own content.

Each resource usually contains a teaching activity and can include a single file or several files, such as teachers' notes or lesson plans, whiteboards or presentations for use in the (virtual) classroom and, in some cases, worksheets, images, sound files or other additional documents. Most file types can be previewed by the user in a preview box, and those that cannot, i.e. Elluminate whiteboards, are also saved as images and presentations.

L197Unit2_Session 5_rearranging characters to make sentences (Resource)

Figure 2. Resource page (<http://loro.open.ac.uk/425/>)

Each resource page displays the title and a brief description of the materials contained in the resource, their purpose and/or suggestions on how to use them, and very simple metadata:

- the name of the person who has added the resource to the repository, when it is not labelled as an OU resource, and the date in which it was uploaded;
- a number of tags designed to help find resources when browsing;
- the language and CEFR level;
- the attribution, that is to say, the name of the person who created the materials, or if adapted, the name of the original author and that of the person who has adapted it; and
- copyright information

All resources in LORO are published with one of two Creative Commons licenses, which include the following:

- Attribution, which means the author of the original resource must always be acknowledged if the resource is reused, repurposed or republished;
- Non-Commercial, which means that users must not make a commercial gain by publishing that resource; and
- a choice between No Derivatives, where the author states a desire for the resource to be used 'as is', and Share Alike, where the author allows users to change that resource as they want.

Metadata in LORO also includes the number of times a resource has been downloaded, and this information is closely linked to the visibility choices that users can make when uploading content to LORO: keeping content private while the user is still working on it or not ready to share it, or sharing it openly with the whole community of language professionals inside and outside the OU. For OU users, there is a third choice of sharing their content with other OU users only rather than making it completely open. Only those with OU accounts will then be able to access those resources.

The screenshot displays the LORO repository interface. On the left, a search bar and navigation icons are visible. The main content area shows a grid of images related to public buildings. Below the images, there are three download buttons: 'Other Download', 'Other Download', and 'Microsoft PowerPoint Download'. On the right side, there is a sidebar with the following sections:

- OU tutorial material** (with the Open University logo)
- Description**: Asking and answering where a public place is. Describing a building.
- Resource Metadata**:
 - From**: Open University Languages
 - Added**: 03 Nov 2009 19:20
 - Tags**: Descriptions, Places Of Interest, Cities, Monuments, Buildings
 - Language**: Spanish
 - Course Code**: L194
 - Unit**: Book 1 Unit 2 Espacios públicos
 - Attribution**: Open University Languages
 - Downloads**: 59
 - Copyright**: CC BY-NC-SA
- Toolbox**:
 - ⇒ Make a Resource based on this one
 - ⇒ Download this Resource as a zip
 - ⇒ Email the uploader
 - ⇒ Bookmark this Item
 - ⇒ Edit Item
 - ⇒ Download this Resource as a zip

At the bottom of the interface, there is a 'Comments & Notes' section with tabs for 'Comments' and 'Notes'.

Figure 3. Metadata and Toolbox (<http://loro.open.ac.uk/399>)

In addition, a toolbox allows all registered users to download the resource as a zip file (as opposed to individually downloading each of the files it contains), email the author of the resource, bookmark the item and make another resource based on that one. If registered users have already uploaded materials to the repository, the toolbox also

displays a link for them to edit their own resources. Finally, there is also section of the resource page to add comments and notes for all users or for the author of the resource.

Registered users have a profile page which functions as their home, where they can modify their profile –usually name, location and any personal information they decide to make available to others; manage their resources (i.e. upload new materials, delete, edit and organise existing resources in collections) and keep a record of their bookmarks and saved searches.



Susanne Winchester

Associate Lecturer in German
Hurst Green

I have been teaching with the OU since 1997, tutoring on L130, L203 and in recent years on L193. I have also studied with the Open University and have been on the French, Spanish, Italian and Welsh Beginners' courses and am currently studying Mandarin Chinese.

This is a placeholder for the widget 'ProfileDetails'

Latest Additions

Item title	Embed
L193test	Embed
L193Thema05_Kulturelles_Modalverben	
L193_L130_Bridging_Suggestions	
Urlaub in Lübeck	
L193Thema07_Biorhythmen_Perfect_tense	
L193Thema06_Wohnen_seit_vs._Perfect	
L193Thema04_Arbeitswelten_arranging_meetings	
L193Thema05_Kulturelles_directions	
L193Thema06_Wohnen_Wechselpraepositionen	
L193Thema07_Biorhythmen_weil	

Most Viewed Items

Item title	Views	Embed
1 L193Self-Help-Group_Activities_Collection	316	
2 L193Thema07_Biorhythmen_Perfect_tense	306	
3 L193Thema07_Biorhythmen_weil	302	
4 L193Thema06_Wohnen_seit_vs._Perfect	277	
5 L193-Self-Help-Group_Activity 2	276	
6 L193Thema06_Wohnen_typischer_Tag	276	
7 L193Thema05_Kulturelles_Inversion	271	
8 L193_L130_Bridging_Suggestions	268	
9 L193Thema05_Kulturelles_directions	266	
10 Urlaub in Lübeck	266	

Figure 4. User Profile <http://loro.open.ac.uk/profile/95>)

7. A growing culture of sharing: final note

The evidence of our initial questionnaire and focus groups is that a certain amount of sharing was already taking place, previous to the development of LORO. However, sharing was informal, mostly took place between known colleagues and close networks, through personal contacts and emails or in face-to-face staff development meetings at regional events. Sharing resources was acknowledged to save time, or, in the words of one AL, 're-inventing the wheel' and gave ALs the chance to 'get inspired by other colleagues' work'. It also led to improving the student learning experience by providing ALs with a wider variety of resources and teaching approaches and ideas, and a richer pool of cultural knowledge. Existing practice had been characterised by the Department of Languages providing tutorial resources for each module through the VLE, which meant that the content was locked in and only accessible to certain users for a certain period of time. The Department wanted to move from a culture of informal sharing to a more transparent, formalised system that would provide easy access to all teaching materials.

Clear institutional support and a clear vision at the outset has facilitated the development of LORO, resulting in a repository that is fully embedded with the departmental procedures for course development and delivery and making available over 1,500 resources (over 300 hours of languages Open Educational Resources) for seven languages. LORO has started a significant culture change within the institution in the way in which materials are sourced, produced and distributed or shared.

Users have been involved in the project in many ways: they have been consulted through surveys to find out about usage as well as user satisfaction, kept up-to-date through regular newsletters and training events, and given opportunities to participate in the project as technical testers, uploaders of materials or trainers and supporters of other users. The community aspect needs to be encouraged and nurtured, but there are

some signs of increased awareness of the potential of such a platform for facilitating community development, as indicated in this quote from an AL:

'LORO has indeed given us tutors a platform in which we can develop and grow as a community of practitioners that goes well beyond the language or level you teach, or the region you work in. Maybe we are not doing it yet, but the bones are there to start communicating with other tutors, independently of whether you like sharing or not. (...) I feel that LORO has opened up the boundaries for all tutors to engage with each other by choice (not because the OU organises a staff development day, for instance), 24/7 in a space where regional limits do not exist.'

At the Open University's Department of Languages, the LORO initiative has started a process which aims to make OERs a central part of language teaching. With its two strands of Open University resources on the one hand, and materials uploaded by individuals on the other, LORO is effectively both an institutional and a 'community of users' repository. One of LORO's strengths is that it builds on an 'existing community of practice with defined needs' (EdReNe 2010b), which 'seems to be one of the most promising strategies' encouraging 'ownership and trust, often cited as essential requirements for sharing' as well as offering 'important roads to support sustainability of services [...] as the underlying needs of the community will remain'. A sustainable system, which reliably addresses the needs of its users, would be expected to benefit not only the existing community of OU language ALs, but also the wider community of languages practitioners who, it is hoped, will engage with and help to shape LORO in the future.

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Recommended website

Doorway to Research: Issues in the Development of an Interactive Website for International Graduate Students

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Abstract

This paper describes results of a study evaluating the content, functionality and design features of an innovative online website called the Doorway to Research (<http://rsc.acid.net.au/Main.aspx>), which was developed to support international graduate students studying at universities in Australia. First, the key features of the website are described. Second, the result of a pilot study involving 12 students and faculty members who tested key aspects of the design, content and functionality of the website and provided written and oral feedback base on task-based questions and focus group discussions are explored. Finally, recommendations for future development are presented. Results of the study indicate general student satisfaction with the website and its design, content and functionality, with specific areas identified for further development.

Keywords: Innovation, technology, international graduate student, web-based resources, NESB students, social networking.

1. Introduction

This paper describes results of a pilot study of stakeholder responses to an innovative online website for international graduate students studying at universities in Australia called the 'Doorway to Research'. First, an outline of key features and considerations of the website development will be described. Then the results of the study will be presented. Finally, implications and recommendations for further development will be discussed.

The use of online environments to support international and non-English speaking background (NESB) students has grown significantly (e.g., Bates, 2001; Bretag, Horrocks, & Smith, 2002; Chumley-Jones, Dobbie, & Alford, 2002). As the Australian post-graduate research system currently has strict time limits for completion of higher degree research (HDR) students (AEI, 2010), the primary goals of the 'Doorway to Research' website are to enhance research and research training by increasing student understanding of cultural and academic differences between their home cultures and Australian culture (Ingleby & Chang, 2009); to enhance their language skills to support the requirements of successful graduate studies in Australia; and to enhance their knowledge and skills in their academic research areas of interest (Marcus & Gould, 2000; Pearce, 2002).

The Doorway to Research website is intended to enhance the quality of the research and research training experience by expanding and enhancing:

- Understanding of Australian culture and language;
- Understanding of Australian research culture;
- Language knowledge and skills in terms of requirements for graduate studies

The online resources include four key topic areas:

- Life in Australia – This topic features resources based on materials from the Australian government to provide key information and advice;
- Research in Australia – This topic features links to key research facilities, funding agencies and universities in Australia;
- Research Training – This topic features links to resources that support reading, writing, listening and speaking in English; as well as professional development for researchers; and intercultural skills development.
- Fields of research – This topic features links, activities and information about research studies within different disciplines.

Resources and functions incorporated into the website include videoclips, self-assessment activities, and individual student profile pages incorporating social networking functionality. For example, search functions within the site will enable users to identify other users by region, topic and research interest. By connecting with like-minded colleagues before arrival in country, new students may begin their studies within a community of learners (White, 2004; Woodman, 2004). It is anticipated that these online communities will also extend to provide on-going support and collaboration throughout the students' studies, and ideally, post-graduation (Web, 2002).

Anticipated learning outcomes include increased confidence and enhanced understanding of the Australian cultural and research environments, and increased networking with contacts for support during candidature; and skill development in English comprehension and use (Cotterall, 2004; Waschauer, 2002). By improving the quality of their personal and professional experience, it is anticipated students will experience more satisfactory progress through candidature and timely completions will result (Finch, 2001).

1.1 Background

In 2008, the Queensland University of Technology (QUT) in Australia identified the development of its profile as a research intensive university as a key goal. One of the performance indicators in realising this goal was to increase the proportion of international graduate students from 20% to 50% over a five-year period.

The University Research Students Centre (RSC) was aware that many of its international graduate students experienced delays between receiving their acceptances and arriving to commence study, usually due to visa approval processes. Students reported frustration during this time as they awaited commencement. They also reported anxiety in the first months in Australia as they sought to make the transition to graduate studies and life in a new country (Martin, MacLachan, and Karmel, 2001). It was agreed to develop a website to deliver information and activities to students while they were awaiting commencement to support transition.

To support these students, the RSC decided to develop a website to help prepare students before their arrival in Australia, by delivering online information and support to students between the period of their acceptance to their graduate programs and their arrival into the country. It was anticipated that increasing international graduate student numbers could create challenges for the institution in terms of providing support in terms of differences related to cultural, linguistic and academic factors. These factors also informed the development of the DR website in terms of the use of online delivery, and key design decisions related to content, design, and functionality.

1.1.1 Cultural, linguistic and academic factors

Cultural, linguistic and/or academic differences between student home cultures and/or institutions and the Australian context may impact students' progress. Culture is a filter through which we perceive and experience the world. Thus, cultural differences may effect communication between students and their supervisors, students and other students, or students in the greater community (Marcus & Gould, 2000). Providing clarity of the appropriate and reasonable expectations of students and supervisors in terms of the research training environment in Australia is a key consideration.

Linguistic challenges may include high level, and often highly specific, language skills and/or knowledge. For example, graduate students are expected to be able to write appropriately in a specific genre or discipline, present orally in seminars and at conferences, as well as interact appropriately with colleagues and others. They are expected to know and be able to use discipline specific terminology appropriately, and to read regular academic journal articles (Web, 2002). Engaging in critical thinking and reading to articulate and evaluate new ideas is a challenge for all research students, and can be made more so when involving a second or third language.

Finally, different countries and different institutions often have distinct academic cultures. Differences may include expectations regarding student and teacher/supervisor roles and responsibilities, discipline-specific skills expectations, or even different understandings of approaches to research (e.g., what it is, how it's done) and requirements for different types of research degrees (Briguglio, 2000). Short videos by key researchers discussing their approach to supervision of research students and expectations of the candidate's journey is one approach to addressing this need on Doorway to Research

1.1.2 Online delivery

The RSC was aware that many of its international graduate students experienced delays between receiving their acceptances and arriving to commence study, usually due to visa approval processes. Students reported frustration during this time as they awaited commencement. They also reported anxiety in the first months in Australia as they sought to make the transition to graduate studies and life in a new country. Given the window of opportunity to provide support at a distance, developing a website to deliver information and activities for students online while they were anticipating commencement to support transition appeared to address these key issues most effectively and efficiently. Providing free access 24/7 to research discipline specific information in English which student can read and listen to is aimed at strengthening linguistic skills as well as understanding.

2. Design considerations

Development of the website was also influenced by a number of key design issues: information access, relationship development, linguistic and cultural awareness development, multi-institutional access, and privacy concerns.

2.1 Information access

The initial impetus for the development of the Doorway to Research was to create a portal for international students which could simplify access to relevant information regarding living and studying in Australia and Australian institutions. For example, while many university websites have extensive information on many different topics, limited search functions may make it difficult for students to access the information, minimizing the impact (Chumley-Jones et al, 2002).

In addition, it was determined that an online environment could provide the best access for users in diverse geographical locations (e.g., pre-arrival graduate students), allowing both synchronous and asynchronous access to access content, discuss content, add content, and/or evaluate content (Woodman, 2004; Woodman & Kazoullis, 2007). Another key design issue was a desire for the minimal use of text in the interface. Many international students come to Australia from non-English speaking backgrounds (NESB), thus text-intensive websites can be problematic (Marcus & Gold, 2000; White, 2004). They can 'get lost' in a sea of words and miss relevant information. The principle of 'less is more' was therefore a key feature of the design of the Doorway to Research website. Furthermore, use of graphic rather than textual information, and use of multimedia (e.g., video clips) to illustrate key concepts in English and other languages can increase usability by presenting critical information in alternate modalities. The site will have both public and private content areas, supporting external inquiries (and possible future marketing) through publicly available resources, while also supporting private social networking functions.

2.2 Social networking and relationship development

To address the isolation often experienced by new graduate students, who by the nature of graduate study tend to work in small groups or individually, a key aspect of the design of the Doorway to Research was the incorporation of social networking functionality (Cahill, 1997; Cotterall, 2004). This functionality should allow users to create their own profile pages (e.g., like in Facebook), identify other students from their own cultural and/or academic background at their (or other) institutions to 'friend', etc. By making such connections prior to arrival in country, it is anticipated that new students would be able to find support within a community of scholars, discussing life and academic issues with others who had 'been there' already, and therefore be better prepared upon arrival to begin their studies and research.

2.3 Linguistic, cultural and research development

Providing access to online resources for autonomous language skills development was also a key design feature of the Doorway to Research (Finch, 2001). Many international graduate students experience difficulty in working and living English. However, generic language programs may not be appropriate to learners at their level. Finding time to study language can also be challenging. Therefore, providing links to key language development sites for different language skills, allowing users to rank sites, and providing strategies for identifying more personally relevant sites can promote autonomous learning whereby learners expand and explore their personal journey of language development (Bretag et al, 2002; Briguglio, 2000; White, 2004).

Cultural differences can also influence general as well as academic understanding and experience (Bruce, 2009; Cahill, 1997; Ingleby & Chung, 2009; Marcus & Gould, 2000). Therefore, one goal was to incorporate case studies that introduce and explore differences between Australian and other cultures can raise awareness of such differences, and lead to better understanding of expectations and perceptions (e.g., how is this different from what is done in my country).

Finally, different countries and different institutions often have distinct academic cultures. Differences may include different expectations regarding student and teacher/supervisor roles and responsibilities, varying discipline-specific skills expectations, or even different understandings of approaches to research (e.g., what it is, how it's done) and requirements for different types of research degrees (Cahill, 1997). Therefore, the Doorway to Research provides links to research support sites for specific institutions, as well as case studies for specific situations which may be encountered within Australian academic context.

These resources include: access to resources developed to support Research Graduate Capabilities including project management, writing and critical thinking. It was anticipated that pre-arrival students could benefit from reflection on the skill set and the pedagogical approach adopted in the materials, and arrive better prepared to begin their studies and research.

2.4 Other issues

Consideration was also given to a number of other issues which were identified during the development process have impacted on design decisions. For example, although initially intended for the Queensland University of Technology only, interest in the Doorway to Research was shown by a number of other institutions within the Australian Technology Network universities (ATN). Therefore, site functionality included modifications to allow any future partner institutions to personalize their own institutional information and administrative functions (e.g., adding users, etc.). Also, public content created by QUT was made more generic to Australia, rather than specific to Brisbane (or Queensland).

The incorporation of social networking functions within the website raised issues related to the creation of both private and public areas. Ensuring individual user control regarding access to their private and public pages was addressed by password protection to private areas, and providing individual users control over access to their personal information (e.g., location, name, network, etc.) (Bates, 2001).

Changes were also made to the section intended to help students develop their language skills. Although all graduate students accepted to the University are required demonstrate high levels of English language (Cahill, 1997), concerns have been raised by supervisors and other research personnel about this issue with the RSC.

3. Content

The Doorway to Research website incorporates three main types of resources:

- Key information,
- Skills development activities, and
- Interactive networking opportunities.

3.1 Topic areas

Resources were identified across four key topic areas: Life in Australia, Research in Australia, Research Training; and Fields of Research.

3.1.1 Life in Australia

This topic area features resources based on materials access from the Australian government provide key information and advice to support understanding of what will be expected of international students commencing study in Australia. Topics covered range from packing and budgeting to finding accommodation and accessing utilities.

3.1.2 Research in Australia

This topic area features a range of links to key research facilities, funding agencies and universities in Australia. There are also links to key policy and procedure that inform research in Australia. Finally information about the nature of the Research awards offered in Australia highlighting differences in course structure and thesis requirements.

3.1.3 Research Training

This topic area features a range of categories of language skills with links to resources that support reading, writing, listening and speaking in English. This section also includes intercultural training and professional skills development. Resources have been selected acknowledging the language needs of research students and their anticipated language capacity and need on admission. Through the resources the students are introduced to a suite of online resources developed by the ATN eGrad School to support research skills development identified as linked to employability. Heightened focus is placed on particular skills that may be culturally specific including referencing and critical thinking.

3.1.4 Fields of research

This topic features resources catalogued against the Excellence in Research in Australia Fields of Research. The ERA is a new framework for recent in Australia. Within each of the fields students can access links, activities and information about research studies within distinct disciplines. Within the Australian context "Fields of Research" may include: Mathematical Sciences; Physical Sciences; Chemical Sciences; Earth Sciences; Environmental Sciences; Biological Sciences; Agricultural & Vet Sciences; Information & Computing Sciences; Engineering Sciences; Technology; Medical and Health Sciences; Built Environment and Design; Education; Economics; Commerce, Management, Tourism and Services; Studies in Human Society; Psychology and Cognitive Sciences; Law and Legal Studies; Studies in Creative Arts and Writing; Language, Communication and Culture; History and Archaeology; and Philosophy and Religious Studies. This provides a discipline specific introduction to eResearch resources provided by the individual universities to support research candidature.

3.2 Identification of resources

Resources were designed to focus on particular needs identified through knowledge of student performance issues and discussion with key staff at QUT engaged in international student support.

The resources included:

- Video welcomes from graduate students from a range of countries and research backgrounds;
- Self-assessment/Short quiz activities with feedback features that facilitated access to appropriate on line resources and links;
- Research activities linked to discipline specific stimulus materials that could be stored, shared and reviewed,
- Institution specific information including course rules and graduate student service points, and
- Individual student profile pages where students can store resources, search across the system for students with common interests and readily access preferred activities and information.

Networking opportunities have been incorporated into the activities and profile page. Search functions include the ability to search by region, topic and research interest to allow the student to select engagement with other participants as well as key experts (e.g., experienced supervisors, international support services staff and training support staff). Networking functions were intended to help the students form friendships and create research links, as well as practice and/or develop discipline specific language skills, both pre- and post-arrival on campus.

4. Site functionality

A number of key features were incorporated into the design of the site. Adoption of common web community icons has been used to make the site more user-friendly. Minimal use of text was also used to minimize possible confusion by NESB students. The social networking functions use layout and design features similar to more popular sites such as Facebook, while allowing the users the ability to tailor the look and feel of their own site and inviting others to share information they load for reference.

Inclusion of short video footage featuring students from a range of countries and in different languages is aimed at making new users feel comfort through viewing familiar faces and hearing familiar accents. Short titles and easy to access content in pop up boxes is intended to ensure the site facilitates access to information, helps users to find content rapidly, as well as linking to profile pages for on-going reference.

For institutional use, in terms of content, while regular review of the material may be possible the site encourages users to provide feedback and contribute to the updating and correction of the site going forward. Functionality has also been developed to allow for the easy loading and revision of materials by the University Research Students Centre in order to reduce costs going forward as on-going input from the web and design team may be limited.

As noted previously, functionality has also been incorporated that would allow administrators at different universities to include materials exclusive to their students in addition to the more generic information provided. The extent to which this will be required is yet to be considered but adds another dimension for tailoring the site to the needs of specific cohorts.

5. The study

A primary aspect of the Doorway to Research project was the incorporation of empirical assessment of the key design features of the website. To ensure quality assurance in the development process of software and online resources, on-going testing of functionality, design and content was incorporated into the development design. To date, two pilot tests of the site have been done with increasing numbers of stakeholders. This paper reports on second pilot study which occurred in May 2010.

5.1 Purpose

The purpose of the study was to pilot test the Doorway to Research website with the main target usergroups including graduate students and academic faculty members. The focus of the data collection was on user perceptions of three main features of the website: design; content and functionality.

5.2 Participants

Participants in the focus group included 75% (n=9) international post-graduate students (5 males, 4 females), and 25% (n=3) male academic faculty members, for a total of 12 participants. They included representatives from the faculties of Health (25%, n=3), Built Environment and Engineering (25%, n=3), Science and Technology (33%, n=4), Creative Industries (8%, n=1), and Education (8%, n=1). All participants responded to an email sent to graduate students and faculty at the university asking for volunteers to trial the Doorway to Research website.

5.3 Methodology

Data was collected in two ways. First, participants were asked to do specific tasks individually on the website during a session in a computer lab at the university with DR development and research team present to answer questions. These tasks targeted key aspects of design, content or functionality. Participants were asked to record their impressions or comments on a handout as they completed each task.

Second, the whole group participated in an oral question and answer session, in which questions of their general perceptions of the website (similar to Tasks 13-15) were asked, with responses to questions recorded by a member of the research team.

Participant responses were compiled and anonymized by assigning an identification letter to each participant. Responses were analysed in terms of the individual tasks (i.e., responses to the specific tasks and/or questions), as well as general trends related to the three key issues (e.g., design, content, functionality). Only comments which appeared unambiguously positive (e.g. "good", "I like it") or negative ("I didn't like it", "it didn't work") were labelled and reported in these categories.

5.4 Results and Discussion

Responses to each task are analysed and discussed individually in the next section. First, responses to the task questionnaires are presented, followed by results of the group discussion. Responses are analysed in terms of the individual tasks, as well as overall perceptions of the three key issues (e.g., design, content, functionality), and illustrated by participant comments as relevant.

5.4.1 The Task Questionnaire

First, the data from the task-questionnaires will be explored. Participants were asked to individually complete a number of tasks related to content, design or function of the DR website, then provide written feedback to specific questions. Respondents were assigned a letter as identification.

Task 1: What are your first impressions of the website (e.g., design, layout, content, ease of use)? Any suggestions for changes?

According to participants, their first impressions of the website appear favourable, with the majority citing the design as "Easy" (58%, n=7), the layout as "Good" (42%, n=5) and the content as "Good" (17%, n=2). Some comments included:

"The design and layout is attractive and easy to use" [B]

"I had a very good first impression" [I]

"I could spend hours on this, there is a lot of very useful information". [I]

Some suggestions for modifications included in terms of layout:

"Too white a middle frame and can be a little dark like the home page in the other page" [A]

In terms of content and design, two participants had concerns about wording:

"The content structure is unclear. E.g. should "Field of Research" be under "Research in Australia"?" [C]

"I would call it Doorway to Research in Australia or Australia's Doorway to Research". [J]

Another pointed out that *"Flash won't work on iPad"*. [M]

Task 2: Watch one of the videos on the front page. Which video did you watch? Did you find it helpful or interesting? Was there anything you like/disliked about it? Why?

Participants looked at a number of different videos. Most of the video clips are of current international graduate students introducing themselves (usually in both English and their mother tongues), and explaining briefly about their research projects. Reception of the videos appears to be mixed, with some participants (33%, n=4) indicating they liked the videos, while an equal number (33%, n=4) disliking them, or making negative comments.

Positive comments cited the cultural and linguistic diversity of the speakers:

"Sri Lankan speaker (Mr Semasinghe); It's very nice to find a video segment in Sinhala. Balance of male and female. May be two (a girl and a boy) from each language." [B]

However, there was some concern about the content of the videos.

For example, [D] says

"I didn't think the videos would be helpful for the incoming students, because they are mostly the general introduction about their circumstances and the advantages of studying in QUT."

Similarly, [H] indicates the videos *"(didn't) have so much information"*.

Task 3: Using the Doorway to Research site, can you find information about visa conditions related to "Working in Australia"? Did you find the information? How easy was the navigation? If you had difficulties, what were they? Is there any information you would like to see added?

The majority of participants found the navigation "Easy and clear" (66%, n=8). Some comments included "Yes, very easy" and "Easy and clear". However, a minority (33%, n=4) found it difficult due to the multiclick requirements.

For example, [A] notes

"It is too complicated to access. I need to go Life-In_Australia > Working > Then I get the screen. It is too complicated. I need to click too many steps."

Some suggestions for modifications included multilingual information (25%, n=3), and the inclusion of testimonies from other experienced international graduates with tips for success in Australia (or in their specific field) (17%, n=2).

Task 4: Using the Doorway to Research site, can you find out the number of universities in the state of Queensland? How well did the navigation and search functions work? Were you able to find the information? Any suggestions or comments?

The majority indicated that the navigation was "Easy" or "Worked well" (58%, n=7). Some comments included *"Clear instruction and navigation"* [C]. There were no specifically negative comments, although some suggestions for modifications included

"Scholarship information is missing. I think a lot of students will be interested in it" [C]

"the university list should be more readily available (without having to go to many links)." [B]

Therefore, while participants appear to feel positively about the navigation and search functions (e.g., the design and functionality), they have some suggestions about the type and focus of future additions for the content. These suggestions illustrate their interest in more academic and research focussed content, rather than linguistic/cultural information, which is arguably consistent with their status as postgraduate research students, who have already been accepted to study in an English medium institution.

Task 5: Log in to the Doorway to Research site (you will have received your login password in your email this morning). Was the logon process easy? If not, what difficulties did you experience? Any suggestions for making logon better?

The majority of participants said they found the logon process easy (75%, n=9), with no specifically negative comments.

Task 6: Go into your PROFILE and edit and update it. Add tags that represent you and your work. Edit the country of origin so that it is correct. Was the editing process easy? If not, what difficulties did you experience? Any suggestions for making the process better?

The majority of participants indicated they found editing and updating the profile easy (75%, n=9), while only 25% (n=3) found it difficult.

As [H] notes:

"Yes, it was (easy). If they know how to work with this social network, it would be easy for them to manage it."

Some suggestions for modifications included

"Why not using various colours for different countries? Grouping similar interest tags into a common panel?" [C].

One particular bug was also identified in terms of editing the country of origin, which was not working during the trial. It has since been addressed.

His comment is also interesting, as it specifically identifies the issue of prior experience with social networking as critical in ease of use of these functions. Although it was not specifically asked in this study, it became clear during the session that some of the participants were very 'tech-savvy' (e.g., including a couple who worked and/or researched in IT), and some had very little experience. Although the sample size in this study is too small to investigate this link, it raises some interesting questions.

Task 7: Join the "Testing Doorway" Group. Was the joining process easy? If not, what difficulties did you experience? Any suggestions for making it better

While 58% (n=7) found this task difficult, 42% (n=5) found it easy. Some of the difficulties or issues raised by participants related to issues such as the purpose of the group, and privacy issues:

"I don't know what is the purpose of the group. I need to understand when I am going to join" [A]

There was also some confusion regarding the use and definition of the term 'tag'

"Difficult to find the right tag. Many tags have the similar context (e.g. many are about "Groups". I thus was confused with which one of them I should have gone with" [C]

"No. I don't know what you mean by TAG. Give an example and explanation in the TAG part. What is the purpose? Where should we find the TAG in the page?" [J].

One suggestion for modifications included *"Colouring the tags for different categories" [C]*

The user feedback suggests that designers need to always remember the diversity of backgrounds of the users, in terms of language, cultural and/or experience with technology. The instructions and help sections need to be improved to provide clear information, taking into consideration possible language issues, as well as influences of differences in user experience and/or expertise with social networking functionality.

Task 8: Can you locate another user? Have a look at their profile and select "Follow this user". Was the process easy? If not, what difficulties did you experience? Any suggestions for making it better?

Locating another user appeared to be "Easy" for the majority of participants (75%, n=9), with one commenting *"Keep this function, it is excellent" [A].*

Only 17% (n=2) participants indicated difficulty or other concerns. For example, although [A] likes the function, he also commented that *"There is no privacy at all. I look like I am naked to everyone."*

Some suggestions for modifications included

"Research related information on the profiles following. After all, this is a site for ECRs [Early Career Researchers]." [C]

"Can you search for a user without having to scroll through names; This might be easier if the site grows." [M]

Therefore, it appears that most participants had a favourable response to this function. Also, as [M] notes, using social networking becomes more interesting and useful only when there becomes a 'threshold' of active users. [For example, it took Facebook several years before it reached a 'tipping point' in use].

Task 9: Locate the Grammar Safari site in the Writing Skills area. Rate it (good or bad). Bookmark it. Was the website easy to find? If not, what difficulties did you experience? What did you think about the site itself? Why? Did you rate it?

While 58% found finding and rating the site "Easy" (n=7), some concerns were raised about difficulty in finding specific information. For example,

"Many tags have overlapping contents. If I have a grammatical problem, I may not know exactly where I should go." [C]

So, while the navigation was easy, and the content was considered relevant, clarification of search functions appear to be a concern.

There was also discussion about the area in which this site was found, which was called "Research Training".

"How should I have known that Research training take us to all these skills." [J]

It is interesting to note that this section was originally named "Language Skills", based on the hypothesis that users would want or need to develop their English language skills, because they were from NESB backgrounds. However, a key finding of the first pilot study, which involved five international graduate students, was a strong negative reaction to the idea that their language skills specifically (e.g., in English) warranted a special category. They felt that language skill development would be most useful if contextualized within a more general research skills development program, especially one that focused on specific language skills, relative to (1) their advanced level of study (e.g., masters or PhD in research), and (2) their discipline-specific language use needs (e.g., reading and writing journal articles, presenting conference papers, etc. in IT, Biochemistry, Education, etc.).

Task 10: Locate your Field of Research? Was the process easy and intuitive? If not, what difficulties did you experience? What sort of material would you expect to find here as a new international research student?

Locating their own Field of Research was found to be easy by the majority (58%, n=7), with only 17% (n=2) indicating difficulty. However, the lack of information remaining in some specialist areas was noted (33%, n=4).

Suggestions included:

"Could put some information about each area" [F]

"It can put some information about person which has important publications or finding area." [F]

"I would suggest you to put an option "search" and students can type in their research area. It would be much easier and saving of their time." [H]

This issue is acknowledged by the development team in the Group discussion. Because of the early stage of development of the site, the expectation is that in the future representatives of each of the Fields of Research (e.g., from various faculties, and possibly additional universities) would provide support for identifying relevant and specialist resources for students in these often very specific areas.

Task 11: Locate an image on the web and upload it (as content). Was that process easy and intuitive? If not, what difficulties did you experience?

50% of participants found this task easy (n=6), and there were no specifically negative comments. Positive comments included "Very easy & intuitive" [K] and "So easy" [H].

Again, these comments appear to support the decisions of the development team to base the design and functionality on processes familiar to most computer users.

Task 12: In your profile, go to Latest Content and select "Add New". Can you start a blog? Was that process easy and intuitive? If not, what difficulties did you experience?

Most found this function "Easy" (42%, n=5), although couple commented on the time taken to upload.

Task 13: How satisfied are you with the experience of using this website? Would you use it again? If yes, how often and for what purpose(s)? If no, why not? Would you recommend it to your friends/colleagues? Why or why not?

The majority of participants (58%, n=7) were satisfied with the experience of using the website. Some comments included:

"Yes I would use it again." [B]

"Yes, will definitely use it again. Has lots of information that I did not know of and would like to browse further." [I]

"I like the general look and feel of the site; Yes I would encourage incoming students to use the site. I think it would prepare them or alert them to the expectations in the research training domain" [L]

Even those who were not as favourable indicated they would probably use it or refer others to it:

*"Average, I may say or under average (**Satisfied**). Maybe, it didn't leave me a strong image (Would you use it again?) **Yes, I would**. Such a website is what people really need. It'll have significant contribution but it just needs some more polish"* [C]

Another participant [A] also likes the site in general, but suggests a "need to modify and need more testing".

It would appear that in general reaction to the Doorway to Research site was quite positive. In fact, the only negative comments could be considered more recognition of the early stage of development of the site, then overall criticism. The latter comments tend to focus more on minor function or content issues, than larger questions of purpose.

It could also be noted that some of the differences in responses to this kind of question may be related to the relative expertise of the participants: both [A] and [C] have extensive backgrounds in ICT or IT, including web design. As noted earlier, due to the small sample size, it is impossible to investigate this possible factor further in this study.

Task 14: Was that similar to experiences with other sites? How was it different? Have you used any similar websites (e.g., university info sites, Facebook or other social networking sites)? How does this site compare (e.g. better, worse, the same)?

The most participants who had experience with social networking found the site "good" (42%, n=5). Some comments included

"It is good that we can know before I am coming to Australia" [A]

"A good social networking website for academic purposes." [B]

[C] compares the Doorway to Research to another website (e.g., <http://academia.edu>), commenting:

They serve different purposes and user groups. However, as both are sites for researchers, I think academia site has better design for research information. Of course, Doorway has more social information."

Similarly, [I] notes *"It is better and more informative than university websites."*

It is also useful to note that not all participants had experience with social networking (17%, n=2). As noted earlier, the implication for designers of such websites is to ensure

clear instructions on use, including perhaps notes on why using social networking could be of advantage to users.

Task 15: Was there anything about the website that made it easier to do your tasks? Which features of the site did you like the best? Why? Which features were the easiest to use?

The simplicity of the design and functionality, and breadth of content of the Doorway to Research were cited as the best features of the website.

"I liked the website overall. Very useful and full of information." [I]

"Easy to browse" [I]

"I like its simplicity and plainness" [L]

"Simple to use" [L]

"Well done to the people who thought of the idea and those that have implemented it" [L]

These comments appear to support the design decisions made by the development team in the initial stages of the Project, including the belief it would be of use to the target usergroups.

Task 16: Was there anything about the website that made it especially difficult to do your tasks? Were there features you disliked? Why? Were there any features you would not use? Why?

Key features of concerns also included those identified previously: amount of information and search features, both of which could influence ease of finding specific information.

"Too much information and hard to find required information" [A]

"Navigation problems because many contents are overlapping" [C]

These suggestions are related to content and search functions, and are not uncommon in the design of sites. However, they do suggest areas for future development for the design team.

Task 17: Are there any suggestions for features or applications which could be changed to make the site more useful (examples) and/or user-friendly (examples)?

There were a number of suggestions for additions including the need to add mobile sites by [A], a preference for avoiding directing to users to external websites from [B], a suggestion for links to social communities, such as the Taiwan Student Association from [C], and a request for the use of more pictures in more sections from [I].

5.4.2 Group discussion

After completing the individual tasks and questionnaires, participants took part in a group discussion, led by a member of the Development team. Discussions were open-ended, with prompts such as those questions used in in Tasks 15, 16 and 17. The prompts included questions such as "What did you like/dislike about the website, and any suggestions for changes or modifications". Responses were written down. However, the specific speakers were not identified.

Content

There were six (6) suggestions related to the content of the site, and two (2) which could be considered content/design. Similarly to the individual questionnaires, the majority of participants were pleased with the content currently on the site.

Some additional suggestions included adding a section on writing the thesis and other similar documents; as well as adding more sections explaining and exploring cross-cultural differences in terms of relationships such as Student / Student and Student / Supervisor. There were also requests for information being made available in languages other than English, and also inclusion of more informational videos.

Design

There were seven (7) comments related to design issues. Suggestions included the inclusion of more pictures on the site to illustrate and make it more visually interesting; the need to clarify pathways to information; and the suggestion of a name change to "Doorway to Research **in Australia**".

Functionality

There were five (5) comments or suggestions related to functionality, and one (1) to design/functionality. As noted previously, the multiclick issue was identified (e.g., having to click through too many pages to get to specific information) as an area for further refining. Similarly, it was suggested that the search function could be developed.

Issues of privacy, and the ability to control or know who visits a profile page, also generated discussion. It was suggested that a clear privacy statement be included on the site, to indicate what information is private or public. Similarly, it was proposed that functions be developed to differentiate links that are internal or external, and to allow users to control this flow – including the ability to see who visited their pages.

Therefore, in general, the comments and suggestions in the Group session paralleled those found in the individual questionnaires. The majority liked the Doorway to Research website, with 83% (n=10) indicating the the website should be retained and made available to the university community.

6. Conclusions

This paper described results of a study evaluating the content, functionality and design features of an innovative online website called the Doorway to Research, which was developed to support international graduate students studying at universities in Australia.

The results of a pilot study involving 12 students and faculty members who tested key aspects of the design, content and functionality of the website and provided written and oral feedback base on task-based questions and focus group discussions indicated general student satisfaction with the website and it's design, content and functionality, providing support for most of the original design decisions made by the development team with a few specific areas identified for further development.

In terms of content, the overall response was very positive, with most participants appreciating the focus and scope of the content provided in the site. They applauded the inclusion of information on both life issues (e.g., life in Australia) and academic issues (e.g., research skills development, fields of research), and most participant suggestions concerned areas for further development (or addition information) within the areas identified by the designers.

The approach to design and functionality, which emphasized simplicity and clarity to address the issues of NESB students, also appeared to be positively received by the participants. The implication for designers of such websites is to ensure clear instructions on use, including perhaps notes on why specific functions such as social networking could be of advantage to users.

For example, for international students, it could be suggested that they could use social networking to (1) meet others of their cultural and/or linguistic backgrounds to develop social networks in the same geographic area or same institution; (2) meet others who share their research interests in the same and/or different institutions; (3) use their profile to set up a virtual research portfolio (e.g. with examples of their research, CV, etc.) for developing collaborations and possible job search during and after completion of their degrees, etc.

7. Future development

Future development is expected in the key topic areas. For example, in the "Fields of Research", researchers will be encouraged to contribute stories or materials that provide advice and information that help the students to situate themselves in this discipline specifically. Over time we may invite some video case studies from experienced researchers concerning: how they got their start in research; what the average day for

a senior researcher is like; key factors for research career success; advice for new researchers; and common challenges faced by new researchers. In addition, key researchers and professional staff as well as students from within the discipline will be approached and encouraged to contribute to this by providing advice on useful resources they may have identified.

Ideally, each Discipline area will incorporate some introductory comments on the Research environment as it exists in this particular discipline. This may include any guides to writing within the discipline available from faculties. In addition, they will provide a catalogue of resources providing examples of written and spoken work in the discipline area (e.g., links to Australasian Digital Thesis Database, ePrints, milestone exemplars for QUT, podcast lectures). With current functionality, and these additions, site users should be able to do a range of things including: joining a discussion on the topic of the case study; saving resources as favourites in their profile; joining a group that has an on-going interest in the topic; rating the case study and providing comment on it for others to view; sending invitations to suggest other case study topics; and using links to email experts for further advice on specific issues.

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Article:

e-PBL: your tablet for effective Medical Spanish learning

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Abstract

This paper aims to describe some issues surrounding the development of a VLE for the blended teaching of medical Spanish via a problem-based learning (PBL) methodology which has its foundations on constructivism, self-directed learning and collaboration. Firstly, the main purpose, features and stages of this instructional method are discussed together with some recommendations for its implementation in the specialist language class. Then some examples of useful e-tools and resources for blended PBL and/or e-PBL are presented. Finally, the components of the medical Spanish VLE are described in a flexible framework that integrates language and content based knowledge with a view to support and complement face-to-face tuition and provide multiple opportunities for interactive practice and feedback in preparation for effective target language communication in the students' professional future.

Keywords: Problem-based learning, blended-learning, specialist language.

1. PBL and specialist language learning

One of the main challenges when learning specialist languages such as Medical Spanish is to prepare the students to solve authentic real-world problems that currently occur in diverse communicative contexts. For this purpose mirroring real-world case scenarios when designing the language curricula becomes paramount. One of the most effective ways of doing so is adopting the problem-based learning (PBL) instructional method, which has its foundations on constructivism (1). PBL was suggested by Barrows (1986) as an alternative to prepare medical students for real-world problems. Rather than attending traditional lectures teaching medicine out of context the students attended tutorials where they practised on solving authentic carefully constructed clinical problems based on conceptualised real life cases. This way students have to think and act like they would in the real world.

According to Barrows and Tamblyn (1980) some of the main features of the PBL model are the following:

- Complex, real-world situations that have no 'right' answer are the organizing focus for learning
- Students work in teams to confront the problem, to identify learning gaps and to develop viable solutions
- Students gain new information through self-directed learning
- Tutors act as facilitators
- Problems lead to the development of clinical problem-solving capabilities

Medical schools all over the world have made use of PBL to address many of the perceived problems in traditional medical curricula. For example, the Manchester undergraduate medical programme was the first in the UK to adopt PBL as its main educational method. Students are presented with clinical scenarios to investigate, explore and propose responses to collaboratively. Some of the advantages of this method over more traditional approaches include its greater relevance to the practice of medicine, its ability to promote retention and application of knowledge, and its

encouragement of self-directed lifelong learning. Among the skills and attitudes involved are teamwork, critical evaluation of literature, self-directed learning and use of resources, and presentation skills.

Some of the disadvantages of PBL are that it is time consuming and that it may be difficult to implement when class sizes are large or if there is a lack of enthusiasm for the idea.

When thinking on implementing PBL in the specialist language class it is important to present the students with relevant carefully selected scenarios that are meaningful to them and allow them to combine subject and language practice, to ensure the tutor or facilitator serves as guidance throughout the entire process and provides many opportunities for feedback, and to develop skills for effective work production that will be useful to students in their professional future.

One of the key stages when thinking about implementing the PBL methodology on a specialist language course curriculum would be to find an appropriate way to match language and subject-specific contents (e.g. clinical cases that are relevant to students like the ones shown in figure 1) in such a way that it is flexible (i.e. not restricting itself to discussing PBL scenarios exclusively but using them as input to introduce other grammatical, cultural or sociolinguistic issues) and meaningful to students (i.e. appropriate to their stage in the medical curriculum and their level of understanding). Another crucial factor is that each PBL case is designed with specific and clear learning objectives in mind, for example if a clinical case is about asthma, this may stimulate students to learn about the structure and function of the respiratory system. It is equally important that the learning objectives are of appropriate scope to be addressed in the time available prior to class and in class. The language tutor may decide to focus on a small number of learning objectives (clinical and linguistic) for each session, design specific cues to stimulate discussion in the TL, and encourage students to seek definitions and explanations for some of the key terms.

SOME PBL CASES PER YEAR		
YEAR 1	Life cycle, Cardio respiratory fitness	Normal pregnancy and delivery, disorders in pregnancy and delivery, cystic fibrosis, short stature, HIV, osteoporosis, asthma
YEAR 2	Mind and movement (I), Nutrition and metabolism	Back pain, squint, visual impairment, degenerative CNS disease, depression
YEAR 3	Nutrition, Metabolism and excretion, Heart, lungs and blood	Peptic ulcer, dysphagia, carcinoma of the colon/rectum, inflammatory bowel disease, chronic liver disease, thyroid disorders, adrenal excess, diabetes, urinary incontinence
YEAR 4	Families and children, Mind and movement (II)	Sexually transmitted diseases, carcinoma of the breast, meningitis, testicular swelling, gastroenteritis, cerebral palsy, carcinoma of the uterus, suicide and self-harm

Figure 1. Some clinical PBL case topics per year, MBChB Medicine, University of Manchester.

A typical PBL session usually involves a small number of students and is guided by a facilitator who encourages self-directed learning without contributing directly to the solution of the problem. He/she makes sure students stay on track and find the resources they need. The role of the students is to identify their own learning objectives and collaborate to gather resources and pose questions that help them develop a solution to the problem.

In terms of organising the sequencing of each PBL session into the course we take into consideration the various PBL process stages. Savin-Baden (2007:22) presents the

Maastrich approach to PBL as a model process that is tightly structured and includes the following stages: (1) clarification and agreement of working definitions, unclear terms and concepts, (2) definition of the problem and agreement on which phenomena require explanation, (3) analysis of the problem, (4) arrangement of explanations into a tentative solution, (5) generation and prioritisation of learning objectives, (6) research of the objectives through private study, (7) reporting back, synthesis of explanations and application of new information to the original problems. This process was one of the first ones implemented for PBL medical teaching at the University of Limburg in the Netherlands. Capturing the essence of the PBL philosophy and stages we adopted our own version of it for our medical Spanish language courses. This is illustrated in figure 2 below.

1. case presentation
2. identifying key information
3. generating and ranking hypotheses and/or methods to approach the problem.
4. generating an enquiry strategy or deciding on tasks and responsibilities for each team member to tackle the problem and choose resources
5. defining learning objectives
6. reporting back

Figure 2. Suggested PBL stages for a medical language course.

1. case presentation: the tutor presents the class with clinical information about a real or hypothetical patient. This information can be quite versatile and take various formats (text based clinical scenarios like the one illustrated in figure 3, experimental or clinical laboratory data, photographs, video clips, newspaper articles, articles from scientific journals, etc.). The students had read this case previously at home in preparation for the class and, ideally, have discussed a similar case or sometimes exactly the same case in her PBL medical tutorials. This usually gives them more confidence to justify and defend their hypothesis in the target language.

KAREN

Tópico: Enfermedades de transmisión sexual (ETS)

Karen estuvo tomando *Logynon* por 18 meses pero se le olvidó tomar esta píldora de forma continuada y se quedó embarazada. Siguió adelante con el embarazo y ahora vive con su hija Laura de dos años en un piso alquilado. Kevin es camionero de larga distancia y va a Amsterdam cada semana pero se queda con Karen casi todos los fines de semana.

Es viernes por la tarde y Karen ha pedido una cita urgente en su clínica. Le duele el estómago y quiere hacerse una revisión de su DIU (dispositivo intra uterino). Su último periodo fue hace dos semanas y desde entonces tiene una secreción desagradable y maloliente. En los últimos días no se encontraba nada bien. Ha desarrollado dolor en la parte baja del abdomen y sus heces son más bien líquidas.

Su fosa ilíaca derecha resulta suave a la palpación. El DIU está ahí. La paciente muestra una marcada suavidad en el fórnix derecho, hay excitación cervical y una secreción de color verde. Se deben hacer cultivos para analizarla. ¿Necesita una prueba de embarazo? ¿Por qué estas cosas siempre pasan los viernes a las seis de la tarde?

Figure 3: Extract from a text-based clinical case for one of the PBL tutorials.

2. identifying key information: this involves discussing, extracting, identifying and, most importantly, summarising information.
3. generating and ranking hypotheses and/or methods to approach the problem. This involves some brainstorming from the students as organised in groups.
4. deciding on tasks and responsibilities for each team member to tackle the problem and deciding on the choice of resources
5. defining learning objectives: For this part of the learning process they should be able to assess what they know, what they do not know and what they need to know to be able to understand the underlying mechanisms and their ability to solve the clinical problem. The language tutor can take advantage of this stage by encouraging students to do some definitions or short explanations of terms or procedures such as the process and complications of inserting an intrauterine device in this particular case.

6. reporting back: in this last stage students report on their assumptions and share new knowledge with other classmates who may dispute or agree with them. This can take the form of a PowerPoint presentation. The students' contribution to this stage is beneficial to the whole class for every student has a unique perspective to share and their collaboration is essential to knowledge building and language practice alike. Moreover, their exchange and debate of ideas promotes consolidation of knowledge and understanding of clinical mechanisms/procedures.

In terms of assessment, one of the key characteristics of any PBL course is the change in focus from tutor assessment of outcomes of learning to student self and peer assessment (Boud, 1985). This promotes independent learning, acknowledges process as well as product/content evaluation and involves a great deal of teamwork. In PBL assessment, apart from language-based and content-based criteria, parameters such as critical thinking, problem-solving skills, communicative and collaborative skills should be considered. Some forms of evaluation include group presentations, reflective essays and role-plays.

2. e-PBL

The term "blended PBL", was coined by Graham (2004) to reflect the idea that students learn through the combination of online and face-to-face instruction. PBL can be designed to complement lectures or traditional classes and computer-assisted learning. E-PBL or the combination of PBL and e-learning provides an effective platform to integrate electronic learning resources such as interviews with patients, scanned images of medical histories, prescriptions or access to a wide variety of web-based resources, including podcasts, and video documentaries, interviews and clinical cases. Such resources can facilitate independent learning and foster reflection raising students' awareness and problem solving skills in specialist language courses.

Savin-Baden (2007:17-19) provides the following reasons for combining PBL and online PBL: it offers more flexibility for students; it is an innovative approach for using in the context of distance learning; blended PBL learning would enhance both the pedagogical and technological experience of students; it works well for interprofessional learning; online facilitation can be more effective than face-to-face facilitation; provides a means of integrating diverse learning resources through one teaching approach; promotes and enhances collaborative learning beyond the classroom experience; reduces students' isolation and provides more support; offers the students more choices about what, when and how they learn; and is a way of engaging students in learning tasks to fit with their social networking practices, particularly those such as 3D virtual worlds, mobile learning and social networking tools. Of all these reasons the diversification of resources, the practice online collaboration and the direct link of online PBL with mobile learning technologies constitute three innovative ideas for implementation in any specialist language VLE. In particular the exploitation of virtual worlds such as *SecondLife* brings endless opportunities for contextualised specialist language practice in ever growing islands such as replicas of hospitals and conference centres where students can interact with specialists and professionals in the TL.

E-PBL allows the combination of a wide variety of online tools that can help boost the specialist language learning experience. Some examples of e-tools that can support blended problem-based learning activities are the following:

- webpages, wikis or blogs to present complex problems and to evaluate solutions
- online calendars to indicate deadlines if the problem is to be solved throughout various sessions
- online discussions forums for negotiations during and after the research process
- shared whiteboards for brainstorming and negotiating
- e-mail or chat tools to reflect on action to be taken
- videoconferencing to report back
- tools for submission of group work

- assessment tools such as computer marked tests, e-portfolios, online journals, blogs or team wikis
- content tools such as syllabi, learning modules, course notes or handouts
- administrative tools to do selective release of content, divide the students into groups or track their participation online

All these e-tools can support the communication and collaboration necessary for effective problem-solving in blended and distance learning scenarios.

3. The Medical Spanish VLE

In the design of any online PBL course Savin-Baden (2007:131) recommends focusing on what we want students to learn, plan the module/programme well and in good time and ensure the problem scenarios are well designed and tested before implementation.

The Medical Spanish VLE (see figure 4) was born as a supporting blended learning platform for Medical students of Spanish, as part of the European Option Programme. The European Option of the MBChB offers Medical students the opportunity to study a language alongside their medical studies. They attend four years of language tuition and then carry out a clinical placement in one of our partner universities in Spain (currently Universidad Autónoma de Madrid, Universidad Complutense de Madrid and Universidad de Granada). The language classes focus on the development of the general language skills required to communicate, provide an essential introduction to Medical terminology and phraseology, and also include the discussion of various clinical cases from various medical specialties. In order to progress in their language skills students take part in various formative and summative assessment tasks. Some of these are orientated towards obtaining a recognised language certificate in Medical Spanish issued by the Cámara of Madrid: *Certificado Básico de Español para las Ciencias de la Salud* (level B2 after year 2) and *Certificado Superior de Español para las Ciencias de la Salud* (level C1 after year 4). One of the downsides of the programme is that students only have two hours of face-to-face language tuition a week. In order to compensate for this we adopted a blended e-PBL learning approach heavily based on e-resources developed via the University Blackboard website. One of the main purposes of the VLE was to complement lectures and help students prepare for their internal and external examinations. The site also proved to be beneficial for intercalating students who, for various reasons, decide to postpone their clinical placements in Spain and need to keep updated with their language skills during intercalation and, eventually, during their year abroad.

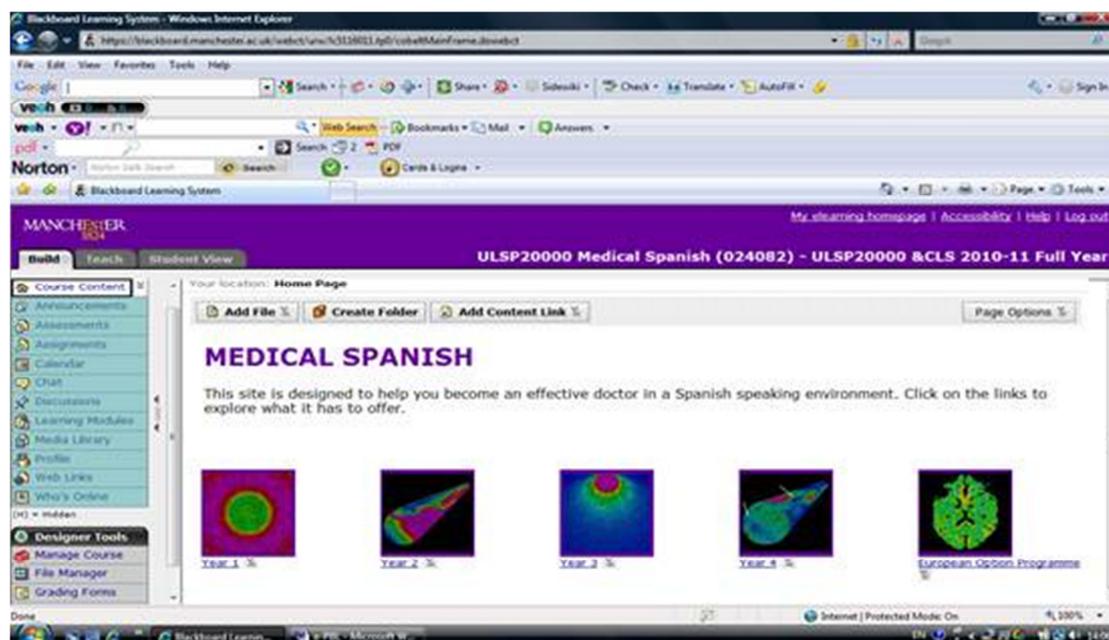


Figure 4: Snapshot of the main site of the Medical Spanish VLE.

In the design of the website we took into consideration various aspects:

- the four year division and, consequently, the different target groups and their needs
- the differing language levels
- the main purpose of the site
- the learning outcomes and learning objectives of each session
- the delivery mode, i.e. blended teaching
- the PBL methodology and its key stages
- the combined language and content-based curriculum
- the immediate need for independent learning assessment, immediate feedback, follow-up activities and online discussions after the class to encourage collaborative interactive participation
- the need for a repository of relevant information about the four years in general and about the resources needed for each of them

Our ultimate goal was to provide an effective VLE to support the independent learning of medical Spanish. In the last few years there has been much criticism about interactive online environments not providing effective learning platforms (Oliver and Herrington 2003) and providing a mere transformation of course content into interactive format. To try and compensate for this Oliver and Herrington (2003:15) suggest a more flexible approach:

In learning environments that support knowledge construction learners need to be exposed to a variety of resources and to have choices in the resources that they use and how they use them.

This summarises our main philosophy in the design of the Medical Spanish VLE where we adopted a hybrid approach to PBL that combines traditional language classes with PBL tutorials and a wide range of e-tools to help students discuss specific clinical scenarios and engage in various language practice activities.

As integrated in Blackboard, our VLE consists of a wide range of e-tools to support teaching and learning. These include:

- course content tools: course syllabus (good layout of class by class contents divided per language skill with homework / follow-up activities for extra practice and preparation for the following class, to make learning easier), clinical cases embedded in the course syllabus, informative sites about the European Option programme (e.g. handbook, partner universities), students' reports on their clinical placements abroad, grammar tools (clear grammatical explanations with external links for further practice), podcasts and videos on various clinical procedures, anecdotes, culture-related sites and extracts from masterclasses conducted by medical specialists.
- communication tools: for asynchronous interaction such as discussion fora (with relevant topics from the course syllabus for discussion outside class) and email; and for synchronous interaction i.e. as chats, videoconferencing facilities (*Wimba Classroom*) that promote social engagement and collaboration
- formative assessment tools (such as interactive quizzes, self-tests, practice tests like the one depicted in figure 5, *Voiceboard*), which provide varied feedback of relevant course and external examination contents to encourage students' motivation and progression

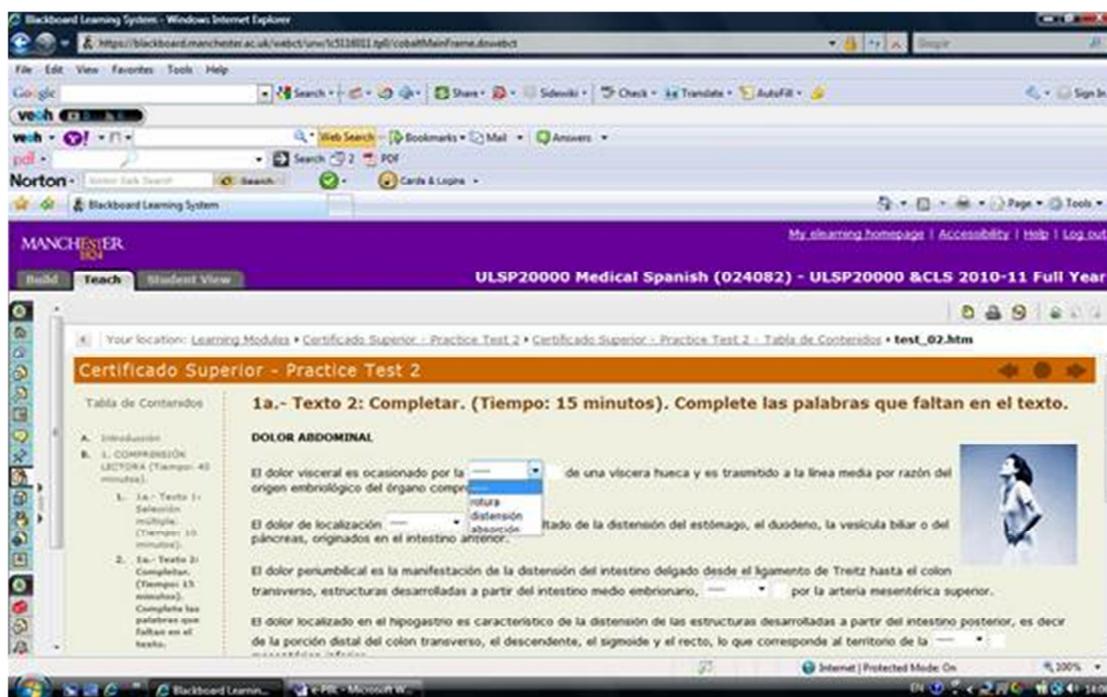


Figure 5: Snapshot of one of the Medical Spanish practice tests.

- administrative tools such as records of past performance, assignment submission drop boxes, contact information, *GradeMark*, *Turnitin*, students tracking tools etc.
- extra resources: indexed list of useful online resources for the students, glossary of medical terms, media library with rich audio and video links, terminology and phraseology flash-cards.

Looking on to the limitations of any virtual learning platform, we are aware that the use of technology per se does not guarantee neither the integration of an e-learning component into a language programme nor the development of autonomous learning opportunities unless we plan various means to provide guidance, feedback and support throughout the PBL process. Other important factors to consider are the relevance of the activities to the students' goals, their learning styles and language level among others.

4. Summary

This paper described the development of a blended VLE for the teaching of medical Spanish via PBL. This platform, which has been in use for over five years now, has been welcome by students as an effective way of complementing face-to-face tuition and getting support for the preparation of their internal and external examinations. Various aspects that contributed to the successful implementation of this model in a blended learning platform were described with particular emphasis on the following: its constructivist foundations that facilitate the integration of content-based knowledge and social interaction by means of specialist language use, the adoption of a PBL process-based layout to structure many of the sessions, the incorporation of clinical cases that are relevant to the students and appropriate to their level of understanding, the use of clearly defined learning objectives and appropriate scope for the class time and level, the nature of PBL that is meant to mirror the complexity of real-life problems, the collaborative interaction and negotiation practice throughout the process together with multiple opportunities for feedback, the variety of e-tools embedded in the VLE with resources such as interactive self-tests and quizzes, podcasts, videos, discussion fora, etc. that provide an engaging platform for independent language learning. Last but not least, this VLE is flexible and versatile in nature and can be adapted for other languages and/or levels of competence.

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Notes

- (1) According to Brooks and Brooks (1993) learning is the process of constructing knowledge in social environments. For this purpose learning tasks should be embedded in the target context and should mirror scenarios that appear in real life.

[Top](#)

Article

Effectiveness of CALL in Teaching Modern Greek as a Second or Foreign Language in Higher Education

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Abstract

The need for teaching foreign languages has led to the emergence of a new interdisciplinary field named CALL (Computer-Assisted Language Learning) in the 1980s. In the 1990s teaching the Modern Greek language as a second or foreign language (L2) has followed the wide-spread use of Information and Communication Technologies. CALL courseware started to play a significant role in the Modern Greek teaching university environment of the last decade, and especially in the effectiveness of learning processes and the increasing interest of the learners. The effectiveness of this software in the learning environment is difficult to measure because there are concerns about the technical support and the training of the language instructors in computer use and the CALL courseware implementation. Nevertheless the progress of the learners can be estimated although it is difficult to conclude if this progress is due to a good teaching method or a good CALL courseware or is a measure of both.

Key words: teaching Modern Greek language, Computer-Assisted-Language-Learning development, effectiveness, technology, higher education.

1. Introduction

Since the 1980s the integration of technologies in second language learning (L2) has led to the emergence of a new interdisciplinary field named Computer-Assisted Language Learning (CALL). In this field, Second Language Acquisition, Pedagogy, Computer Science and Human-Computer Interaction coexist and cooperate. CALL software consists of programs designed for Computer Assisted Language Learning. The rapid evolution of this field is interlinked with important advances in Information and Communication Technologies (ICT) because these technologies can provide the tools and assistance of teaching a second or foreign language. Such CALL software is useful especially when this language is Modern Greek which belongs to the category of languages that are less often spoken and taught. Since the 1990s in Greece the advantages of using ICT have increasingly been recognized and CALL been applied in the educational environment.

In the early 1990s, the establishment of the first Software Institute production of educational software for Modern Greek language teaching/learning led to the reality. Some Greek universities as well as universities in North America and Europe started to produce educational software for assisting in teaching Modern Greek as second or foreign language in the last decade. Some of the Greek universities contributed particularly to the secondary education level. Despite the novelty of the field, an array of Greek language learning applications is now available and they are designed mostly by companies. Teaching Greek as a *second* language means teaching those people who are of Greek origin but were born and raised in other countries and want to learn the language of their parents or ancestors to preserve their Greek identity and heritage. Teaching Modern Greek as a *foreign* language means teaching those who are foreigners, live in Greece or outside the country and want to learn the Modern Greek language.

In recent years, studies have not been published on topics such as the integration and the effectiveness of CALL Greek material for the higher levels of education because they

are still at the beginning of using it. What is missing are studies and research on the evaluation and the effectiveness of the implementation of Information and Communication Technologies for teaching Modern Greek as a foreign language in higher education. Before examining the effectiveness of CALL courseware in learning Modern Greek, it is necessary to define what effectiveness means in this context. According to the definition provided by the Webster Dictionary, effectiveness is the power to produce effects or intended results. This suggests a strong relationship between the use of a particular technology in a learning situation and a discernible change in the learning process, the learning environment or the learning achievement (Felix 2008:143). The change of the learning process primarily depends on the language instructors and their computer skills as well as their training in CALL courseware. The instructors play an important role to the learning process and their awareness is necessary because they have applied their knowledge of using computers and CALL material to their students. The instructors' awareness has made a significant contribution to the (L2) Modern Greek language learning environment.

2. Instructor's awareness

Teaching foreign languages in the classroom has raised some arguments about the limitation of the development of communication skills. Applied linguists have found that foreign language learning is promoted effectively in a non-naturalistic environment like the classroom (Lightbown & Spada 1989). Other linguists point out that classroom language learning cannot easily overcome limitations such as the lack of authenticity that affects learners' motivation to interact and practice language in the same environment as in natural settings (Krashen 1982 & Charalambopoulos 1997). Some learners meet many difficulties when they have to produce written speech or learn the vocabulary or interact in the classroom.

Applied linguists argue that the description of the (L2) learner's profile should be taken into account because the syllabus design and the development will be better tailored to the needs identified (Yalden 1987). In addition, there is an argument based on the point that the design and development of CALL courseware has to meet the needs of the (L2) language learner's profile (Hubbard 1992). According to the above arguments, this research focuses on the instructor awareness about the advantages of CALL courseware, the (L2) Modern Greek language learner's needs and profile as well as the effectiveness of CALL in the classroom or lab environment. On the basis of the instructor's performance in the classroom, this research aims to identify the needs of the learners and evaluate the effectiveness of CALL courseware. The objectives of this research are the following:

- To introduce the advantages of CALL courseware when it is applied in the classroom environment;
- To describe the (L2) Modern Greek learner's profile
- To present the level of effectiveness of CALL courseware when teaching Modern Greek to foreigners.

The traditional teaching method, which includes presentation, practice and production, may need to be modified to develop greater awareness of the nature spoken and written discourse (Tsombani & Hamel 2003:97). Some linguists propose the following sequence: illustration, interaction and induction (McCarthy & Carter 1995:207-218).

The definitions of the above terms are determined as follow:

- *Illustration* in the classroom means the use of real data wherever is possible to provide the learners with different choices of language context and use.
- *Interaction* in the learning environment means group of activities focused on the use of language and negotiation of meanings, designed to raise learners' conscious awareness of critical language features through observation and class discussion.
- *Induction* in the classroom means the cultivation of the ability of learners to notice critical form features and to draw conclusions about their functions in different lexico-grammatical contexts.

Language researchers (Hyland 2002) and Systemic Functional linguists (Halliday 1994; Martin 1987; Cope & Calantzis 1993) argue that learners often fail to produce effective writing mainly because they do not know or do not consider the demands and constraints of the contexts. The learners need to be familiar with the different genres and text types in order to structure their writing experience. The instructors need to be aware of the individual differences that learners face, and provide them with the appropriate assistance and learning strategies that help them to use the language efficiently.

The instructors also need to learn more about the use of new technologies in teaching foreign languages and recognize the benefits of CALL courseware. Some of the most important benefits that instructors have learned when starting to use technology or before using it in their classrooms are the following:

- CALL courseware is motivating for learners and instructors because it makes the teaching method more enjoyable for both.
- It also offers a wide range of multimedia resources enabling text, images, audio and video that can stimulate the teaching and learning process.
- CALL material also offers access to a rich resource of authentic materials on the Internet.
- Finally, it provides students with access to a wide range of authentic materials on CD-ROM and DVD.

With the appropriate training the instructor will find that CALL courseware offers a new approach of teaching and learning strategies.

3. CALL and its advantages

In the last years CALL has played a significant role in the teaching environment at all levels of education. The main objectives for introducing a CALL system in teaching the Modern Greek language in higher education institutes are as follows:

- To develop new tools in teaching process based on technology and recognized it as a tool that can enrich the existing practices and present a new step in linguistic information.
- To promote a self-determined learning tool that can be used by groups of learners or individuals.
- To increase the motivation of the learners by supporting a problem solving procedure.
- To promote an intercultural dimension in education.
- To have an effect on the cognitive level through a multi-task learning and practicing environment.
- To assist the learners and provide them with information on basic features of information technology.
- To provide learners with a new holistic approach of learning Modern Greek through the use of new technologies such as power point presentations, DVD and CD use, presentation of images, on line classrooms for assisting the language environment, e-games, e-exercises on grammar and syntax, and many more applications.

The use of technology in the classroom is a pleasant activity for the learners. Teaching process becomes more attractive and increases their interest. Technology creates a fertile learning environment especially for the mastering of reading and writing skills (Paleologou 2003:4).

The main idea of integrating CALL courseware in the classrooms of the higher education institutes was developed because of the needs of the learners in today high developed technological world. (L2) Learners who have achieved higher scores on tasks have strong second language aptitude skills. Females have performed better than males in syntax and semantics (G. Andreou; Vlachos & E. Andreou 2005:429).

In addition, the design, development, implementation, evaluation and effectiveness of a CALL courseware are necessary to meet the needs of today's Modern Greek language (L2) learners. The aim of the development of a CALL Greek courseware is teaching Modern Greek to university students and adults as a foreign language in an appropriate

and effective way. In the international literature there is a variety of studies on the principles of teaching foreign languages and particularly the evaluation and effectiveness of CALL courseware in teaching a great number of foreign languages except Modern Greek in high education. According to these principles, a framework for teaching the Modern Greek language was created (Paleologou 2003:4). The principles are based on the development of software, e-dictionaries, appropriate for teaching Modern Greek, selected textbooks, and a methodology of teaching Greek through online courses.

The evaluation of CALL Greek courseware and its effectiveness have been based on the implementation of the above principles. These principles are as follows (Tzevelekou; Chondroyanni & Paschalis 2001:5):

- Greek should be taught as a foreign language without prerequisite of previous knowledge.
- Language literacy should be viewed within the technological environment provided by the computer.
- The CALL system should be autonomous and contain the required information for dealing with the linguistic material.
- It should provide evaluation procedures such as feedback and tools showing the level of coverage and the performance of the learners (Stubbs 1992:203-222).
- It should be pleasant and rewarding.
- It should avoid cultural stereotypes, often observed in methods of foreign language teaching.

All these principles play an important role in the development of the CALL courseware. The effectiveness of this courseware depends partially on the awareness of the instructors. Language instructors need training in developing a positive attitude towards technology and the use of CALL courseware in an effective way assisting the teaching environment and the learning process of their students.

CALL material should be a pleasant process for the learners because the course becomes more attractive and attendance is increased. It also has positive results in the promotion of cooperative learning and plays a significant role in combating racism in education. Finally, it opens the class to issues of the society (Cummins 1998:1-13 and Paleologou 2003:4).

The use of CALL courseware has raised objections and acceptance, both by a large number of language researchers and instructors. Some of those who do not support this teaching method have viewed it as a threat to the relationship between the instructor and the learners. Although, this argument points to a number of possible negative aspects concerning computer use, the instructors should be aware of the advantages of the use of CALL courseware in their class. According to the supporters, educational point of view, it is clear that computers promote a student-centred way of learning (Drenoyianni & Selwood 1998: 87-99 and Tzevelekou; Chondroyanni & Paschalis 2001:7).

Overall, the advantages of computers for learners exceed the disadvantages, and can be summarized as follows:

- "The computer is capable of greater communicative interchange than is possible with any other educational medium" (Stevens 1992:32).
- "The new technology (micro-computing in foreign language learning) offers unprecedented exposure to authentic samples of other cultures, integrating sound, symbol and image in ways that appeal to a broad range of learners" (Stevens 1992:15).
- The technology also offers access to natural language resources by taking account of the learner's needs, interests, etc. "The potential for personalized instruction" (Ahmad 1985:6) promotes individualization in language learning.
- Computers create a learning environment where social conflicts are neutralized or they are temporarily suspended (Tzevelekou; Chondroyanni & Paschalis 2001:7).
- Through CALL courseware learner's energy is focused on learning process.

- Technology also provides learners with the option of working in their own pace; organize their learning approach in order to meet their needs and interests.
- An additional advantage of the use of CALL courseware is the evaluation procedure such as the feedback which assists the learner's access to their performance. It also assists the instructors to improve their performance in the teaching process.

Moreover, the use of computers offers advantages to language instructors because they allow them to process and present authentic materials with high flexibility (Tsompani & Hamel 2003:98). Instructors can store large databases containing natural language documents on computers. CALL courseware can remedy the learner's lack of motivation to produce communicative speech. The main reason is the implementation of different methods, media and tools used in teaching foreign languages. "Diversity is an important teaching prerequisite which affects the learner's motivation" (Hamel 2001). This motivation is increased through CALL because "learning with computers is highly rated by students" (Ahmad 1985:6).

Particularly, CALL material is a program designed to educate effectively. This kind of software should function as a mind tool for assisting learners to think, interpret, organize and construct their knowledge. It should also provide the students with support and guidance they need (Kavathatzopoulos 2004:73-76). As a mind tool, CALL software should engage learners in critical thinking. In addition, a mind tool requires students to activate previous knowledge and construct any new project and extend their intellectual horizons (Kalimikeraki & Kavathatzopoulos 2005:74-95).

The use of CALL courseware in teaching Modern Greek as a foreign language is more effective when an appropriate educational courseware is developed (Paleologou 2003:11). Also, the mother tongue of the learners should be used as a medium of communication. The appropriate courseware consists of an integrated language learning system. That means autonomous use of the system and a set of linguistic information (Tzeveleki; Chondroyanni & Paschalis 2001:8).

4. L2 Learner's modern Greek profile

There is quite a large number of people in all over the world today who are interested in learning Modern Greek language. The universities are a good learning source for those who would like to learn a foreign language less spoken than other languages. In the following, the (L2) learner's Modern Greek profile is described in detail.

The learner group consists of young students who are between 18 and 22 years old or adults, male and female, in a university environment. They typically do not have any knowledge of Modern Greek language and no childhood experience with Greek culture. Their motivation is the willingness of learning a foreign language different from any other language as well as a language recognized through its history. These students like the challenges and the language learning experience. They have selected to study Modern Greek as a foreign language for a variety of academic, professional or personal reasons. The learners use the same textbook and CALL courseware recommended by the university instructors.

They have started to learn the language through a diverse teaching environment which uses different techniques in approaching a foreign language. CALL courseware should be designed in an appropriate way to meet the needs of today's people of any age or social background. Some of these learners have a strong knowledge in using computers, exploring the software and improving their foreign language skills through a specific CALL material. This material has provided the students with the opportunity to practice through different types of exercises and cultural activities. The exercises are based on comprehension, exploitation, manipulation and creation activities. They offer a variety of teaching-learning processes with a rewarding system, and the students can learn to produce spoken or written speech in a positive and rewarding environment. CALL courseware is the main source of learning in a free-time environment where the students can be provided with self-paced instructions.

The (L2) Modern Greek learner's profile presents a person with the willingness or ability to learn through technology. This person is also trained to interact and complete the feedback at the end of a task, and he/she has learned to absorb the knowledge through an enjoyable way of approaching a foreign language.

This learner does not always produce effective and appropriate oral or written speech. One of the reasons is that the types of exercises provided by the CALL material do not always cover all the grammar, syntax and vocabulary information and activities

5. Effectiveness of CALL courseware in learning modern Greek in higher education

Since the 1990s, progress has occurred in the (L2) Greek language learning environment through technology. Principally, what has changed is the general point of view in approaching knowledge. According to the new approach, learners are guided to explore and integrate by themselves newly acquired facts with the knowledge they possess. The new approach has sometimes been called "education" while the previous approach has been called "instruction" in the sense that learners were given massive amounts of data (Kahn, 1991:1144).

The new approach is based on the CALL lessons because of the high impact of technologies on the students' life today. There is a number of CALL courseware in learning (L2) Modern Greek language designed and applied by universities in North America and Europe. In the last years some universities have developed projects for designing and implementing new Greek material for CALL providing the university students and the adults. The main goal is the achievement of a high level of learning environment provided to the students in higher education institutes. The effectiveness of CALL material is defined through technology as a medium, the previous experience of learners in computer-assisted learning environment, the methodology of teaching-learning style, the types of exercises, the main goal, the (L2) learners profile and the level of achievement.

The effectiveness of CALL courseware in the Modern Greek learning environment of higher education, has not discussed extensively through today because it is still a new field for research. This effectiveness is described better through a holistic approach which is reported above. The holistic approach of CALL evaluation and its level of effectiveness are based on facts described as follows:

- Medium used to enrich the (L2) Modern Greek learning environment. This medium is the computer and its assistance to the learners.
- The previous experience of (L2) Modern Greek learners in Computer-assisted learning environment plays a significant role in the effectiveness of the CALL courseware.
- The variety of methodology applied by the language instructors to improve the learning process (Kahn, 1991:1147).
- The variety of language exercises has determined the level of effectiveness of CALL material. The language learning is more productive when material is presented in context and attention is focused on meaning and solution of problems. It's also more effective when the courseware is amusing or emotionally stimulating.
- The main goals of the language instructors in teaching process play an important role in the effectiveness of CALL software. The first goal is to guide learners in order to learn how to use the computer support -including complex help/information files such as electronic dictionaries, linguistic explanations and exercises, links to relevant web pages and feedback. The second goal is to offer an insight view of the real language based on contemporary and historical variety of contexts. The third goal is to offer an autonomous learning environment combined with the classroom teaching process.
- The (L2) Modern Greek learner's profile is defined by his/her ability and capacity to determine the objectives of the learning process, to define the contents, select the methods and the resources, monitor the progress and evaluate the outcomes (Dickinson; 1987 & Esch1994).

- The level of achievement is based on the feedback and the evaluation of CALL courseware. The evaluation suggests that the provided exercises are effective when they have achieved two main pedagogical objectives. The first objective is to provide learners with a self-access listening, reading and writing practice. The second objective is to provide students with on line choices that allow learners the flexibility to decide by themselves in working through CALL material (Harben 1999:32).

The computer-assisted language learning environment has advantages compared to a textbook- based learning environment (Kahn 1991:1145). The main advantages are the following:

- CALL material can be integrated with class work.
- Computers provide language instructors with the option of revising the material rapidly and extensively.
- Because of the type of CALL courseware, the learners can work through the exercises by themselves.
- Through CALL material the students can be provided with explanations and help-screens.
- Technologies can accept more than one correct answer for a question.
- The learners' work can be highly interactive and guided.
- CALL courseware provides the students with self-paced instruction.
- Computers can enrich the classroom activities.
- Through computers the learners can use of the Web as a resource of online interactive quizzes, encyclopedias, grammar materials as well as search engines for finding information on specific grammar rules or exercises.
- Finally, CALL material offer learners the engagement in high level of cognitive processes such as analysis, synthesis and evaluation and the main result is the expansion of learning process (Cummins 2000).

According to the above facts that play a significant role in the evaluation and effectiveness of CALL material, there are also major linguistic areas that contribute to the evaluation and the improvement of the computer-assisted Modern Greek learning environment. These areas are the linguistic infrastructure, the syllabus structure, the grammar and the vocabulary provided by CALL material (Tzevelekou; Chondroyanni & Paschalis 2001:8). This material is effective when it is well designed and includes feedback that guides learners to the correct answers. It is also effective when it is based on methodologies appropriate to improve specific language skills such as listening, speaking, reading and writing.

Particularly, the linguistic infrastructure consists of a syllabus that establishes a sequential learning of linguistic phenomena. Every linguistic item is defined by means of the support language or a statement of its meaning or essential properties. The syllabus structure also plays a role in the effectiveness of CALL material and especially the structure of the native language that interferes with learning Modern Greek as a foreign language. The main reasons are as follows: the idiosyncratic features of Greek grammar, the linguistic deviations (phonetic, grammatical, syntactic or lexical) and the established syllabus (Tzevelekou; Chondroyanni & Paschalis 2001:9). The results of the exercises provided by the syllabus and the feedback can lead to the evaluation of CALL courseware which consists of the measurement of the technical and linguistic support. This CALL material is also measured through the CALL software evaluation form. The effectiveness cannot be easily quantified because it is based on diverse factors including ranging from the technical infrastructure as well as to the awareness and continuing education-training of the Modern Greek language instructors.

6. Conclusions

In the decade of the 2000s, some project proposals of CALL courseware were designed by Greek universities to assist the (L2) Modern Greek language learning environment especially in Greek middle and high schools. This courseware includes a variety of practical activities such as phonetic, lexical, grammatical, semantic, and word formation exercises. On the other hand, there is a lack of a large number of CALL lessons

designed and provided by these institutes to assist university students and adults who want to learn Modern Greek as a foreign language.

In North America in the decade of 2000s, there have been universities that have already designed and implemented CALL material to address their students as well as students of other universities in all over the world and adults. The design of this courseware aims at the improvement of very specific skills of the (L2) learners such as reading, writing and communication skills and the enrichment of their vocabulary. Some of this CALL material consists of electronic dictionaries, electronic pictorial, electronic vocabulary lists of the most frequently used words in Modern Greek and multimedia courseware for learning Modern Greek as a foreign language.

The use of CALL courseware in (L2) Modern Greek university learner's environment is still at the beginning of its implementation, and the effectiveness of this use is difficult to be determined. There are strong indications of a positive association between learning Modern Greek through CALL material and the effectiveness of this courseware. There is also a substantial body of data that indicates that the student perception of CALL is positive and the provided technologies are stable and well supported (Felix 2008:156).

The effectiveness of the CALL material in learning Modern Greek as a foreign language at the universities should be based on adequate educational software, and the mother tongue of the learners should be used by means of a dictionary. The training of the instructors on the use of CALL courseware is an essential pedagogical tool (Paleologou 2003:9). When a CALL courseware is being implemented, it is followed by an evaluation. This evaluation indicates the technical and linguistic assessment and it is not an indication of the effectiveness of the CALL material. There are still concerns about the technical difficulties that interfere with the learning process (Felix 2008:156).

One more concern is the computer literacy and computer use by older learners who are not comfortable with these technologies. In addition, young learners do not possess the appropriate skills for coping effectively with this challenging environment.

Finally, the effectiveness can be estimated through two preliminary conditions that need to be established: a) a stable technical support for computer hardware and software and b) the education and training of the instructors in computer use and the CALL courseware implementation (Tzeveleku; Chondroyanni & Paschalis 2001:17). Integration and implementation of any CALL material as an educational innovation depend mostly on the instructors (Fullan & Stiegelbauer 1991 and Tzeveleku; Chondroyanni & Paschalis 2001:17).

Many more studies and research need to take place in universities and other higher education institutes where young learners and adults are learning Modern Greek as a foreign language through CALL courseware, and a large number of subjects will be needed for future research.

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Article

Localisation Education Activity Programme (LEAP)

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Abstract

This paper presents a new initiative called the Localisation Education Activity Programme (LEAP). It has been set up within the Localisation Research Centre (1) (LRC) at the University of Limerick, under the auspices of Centre for Next Generation Localisation (2) (CNGL), a government sponsored Centre for Science, Engineering and Technology in Ireland.

Localisation is the adaptation of digital content to a combination of language and culture, called *locale*. In this article we describe the two main pillars of LEAP which are i) courses run in conjunction with the Irish Centre for Talented Youth (CTYI) (3) and ii) the Primary School Localisation Toolkit, consisting of a toolkit which offers a suite of educational activities and a teacher assistance toolkit. The main goal of LEAP is to use localisation related concepts at primary schools (ages 7 – 12) in order to help students and teachers overcome obstacles resulting from cultural diversity.

Keywords: Education, games, Japanese language, localisation, primary level, teaching.

1. Introduction

Localisation is regarded as the adaptation of content to different target locales. A target locale refers to a country/region which is characterised by a language or language variant and a specific culture. In different locales there are linguistic, cultural, and technical differences. A linguistic locale difference is a spelling variation, e.g. US vs. UK English. An example of a technical locale difference is the various computer keyboard layouts used around the world. Colours, gestures, and their different meanings fall under cultural differences (see Schäler, 2002). Collins (2002) states that cultural preferences can be influenced by cultural experience. In this paper, we focus more on the cultural differences rather than the linguistic and technical differences of a locale, as the former appeal most to young students.

LEAP is a new initiative that is being undertaken by the LRC under the umbrella of the CNGL; our selection of the name LEAP envisages assisting young students take their first "leap" at primary school stage by giving them a head-start in global cultural awareness. In LEAP we combine language education with computer learning, making computer-assisted language learning, also at young age, possible and effective. Students are prepared for both the digital world, and the linguistic and cultural diversity which we are experiencing.

2. The concept of localisation

As for a definition of 'translation' and any cultural considerations that it requires, Esselink (2000: 4) states the following:

"Translation is the process of converting written text or spoken words, to another language. It requires that the full meaning of the source material be accurately rendered into the target language with special attention paid to cultural nuance and style." (Esselink, 2000: 4)

Localisation, apart from the linguistic transfer from source to target language, also includes the adaptation of cultural idiosyncrasies (4) which are unique to the target locale, e.g. gestures and icons. People get accustomed to international contents and become multilingual or culturally heterogeneous through experiences such as education, work, leisure, and media.

Initially, knowledge of English was a prerequisite in order to utilise specific products and technologies; however, this has changed in the last ten years, as Kuroda (2009) states:

Up until about 10 years ago it was commonplace to assume that one needed to understand English in order to experience new products and technologies (...) More and more countries and regions are making it legally mandatory to communicate information in the country's official language. The traditional approach of focusing only on (...) localisation based primarily on English is starting to become inadequate for product information and manuals. Kuroda (2009: 16-17)

Summarising the above statement, although ten years ago it may have been commonplace for products, their associated texts, and their technologies to be in English, today they are localised in many languages. Moreover, in some countries it is mandatory to supply information in the country's official language (s). Even in the USA, where it is taken that English is the lingua franca, there is no official language at federal level and so citizens have the right to require information in their own mother tongue. Localisation is moving beyond a privilege, as access to information is a fundamental right (5).

3. Centre for Next Generation Localisation and Localisation Research Centre

The Centre for Next Generation Localisation (CNGL) is an Irish state funded Centre for Science, Engineering and Technology (CSET). Founded in 2008, it has more than 100 researchers working on state-of-the-art technologies in four streams: Integrated Language Technologies, Digital Content Management, Localisation, and System Framework.

The Localisation Research Centre (LRC) coordinates CNGL research at the University of Limerick. The LRC's key activities include research, development, and evaluation of localisation tools, consultancy services, education and training, publication of a regular Journal, organisation of an annual academic competition and a localisation conference.

3.1 Education and outreach

The CNGL features an Education and Outreach (E & O) programme (6). This programme focuses on primary, secondary, and tertiary level education as well as on public outreach, commercialisation, and inreach programmes to provide training and education for researchers working within the CNGL.

The Primary School Toolkit and the CTYI courses that we mentioned earlier in the paper comprise the primary level of the E & O programme. Thus LEAP focuses on this level and aims to design as suitable toolkit composed of both educational games and a teaching aid. We will look at this in depth in section 5.

At secondary level the All Ireland Linguistics Olympiad (7) (AILO) is an important initiative for the CNGL. AILOs are face-to-face competition events where 5th- and 6th-year students in Ireland and Northern Ireland, with an interest in languages, could increase their knowledge of linguistics and use their ingenuity, creativity, and skills to solve language-related problems. The winners of the AILO are then given the opportunity to represent Ireland in the International Linguistics Olympiad (ILO).

At the tertiary/professional level the annual Internationalisation and Localisation Summer School organised by the LRC is an important event. The 2009 LRC Internationalisation and Localisation Summer School (8) took place in Limerick from 2 – 5 June and offered attendees the chance to attend 3 days of hands-on training courses and a half day of presentation and lecture on industry-standard localisation technologies delivered by the experts – the developers themselves.

CNGL Tutorials, Seminar Series, and Thesis Awards are parts of the E & O inreach programme. The CNGL regularly runs free tutorials and workshops, where researchers in the relevant areas are invited to attend. Also, Dublin Computational Linguistic Research Seminars (DCLRS) are aimed at CNGL, National Centre for Language Technology (NCLT), and other researchers and developers interested in language technologies.

In the area of public outreach, there is a "DCU in the Community" outreach centre in Ballymun, a socially disadvantaged area in Dublin which the CNGL participates in. This gives disadvantaged individuals in Ballymun the chance to re-enter education by introducing them to some courses taught at university.

Another feature of the CNGL E & O programme is "CNGL Public Days", where CNGL activities and up-to-date research outcomes are presented to the public.

After having seen some of the activities of E & O programme of CNGL, including inreach and outreach tutorials and workshops, thesis awards, summer school, and briefly the LEAP (see section 5), we focus on localisation education in the next section 4.

4. Localisation education

Typically, localisation education is provided at university level; students are trained to be localisation professionals having often the end goal of later employment in the localisation industry. However, while there are many translation and language technology courses available to students, there are few courses dedicated exclusively to localisation. The first institution to establish such a course was the University of Limerick. In 1997 they launched the first dedicated postgraduate localisation programme, the Graduate Diploma in Software Localisation. Over the next 12 years the course would evolve alongside the localisation industry and today it has become the Masters of Science in Global Computing and Localisation (9). There are also courses, such as the Bachelors (10) and Masters (11) courses in software localisation that are provided at the University of Anhalt in Germany.

In addition to these academic educational programmes there are industrial courses, such as those offered by the Institute of Localisation Professionals (12) (TILP), a non-profit organisation that aims to develop professional practices in localisation globally. TILP offers extensive localisation training for individuals via their Certified Localisation Professional (CLP) training programme. Also, The Localization Institute (13) organises training, consulting, conferences, seminars, and roundtable events to address company-specific localisation requirements as well as a Localisation Certification Program and Localisation Project Management Certification Program with California State University, Chico.

4.1 Localisation Education for the Young

Localisation education at universities and industry level is essential for a multicultural and multilingual society. However, considering the changing circumstances of linguistic and cultural requirements in computing, along with advanced information communication technology (ICT), localisation education may begin at an earlier age and warrants new research there. When speaking about localisation education for young students at primary schools, we refer to localisation in a very broad sense. Young students are not expected to translate from a foreign language to their mother tongue or deal with technical aspects, such as to resize dialogue boxes by using software localisation tools. However, they are able to learn about basic cultural and linguistic differences, especially if comparisons are made to their native cultures.

Children, as young as six or seven years old, are already being exposed to cultural differences appearing in their everyday lives, including gestures, and colours. A hand gesture can be friendly in one locale, while offending in another. Gestures do not imply

the same meaning in all parts of the world and even variations of the same gesture might have different meaning. While thumbs up means 'that's good' and is a positive gesture, in Brazil any kind of thumbs up gesture is considered vulgar (14). As far as colours is concerned, McCandless (2010) provides illustrations, among others, about what meanings colours have in different cultures (15).

Apart from cultural differences, some linguistic differences are also 'catchy' and appealing to young students. Colloquial expressions, such as idioms and metaphors, are good examples. Camp & Reimer (2006) provide the following definition of metaphor: "Metaphor is a figure of speech in which one thing is represented (or spoken of) as something else" (Camp & Reimer (2006: 845). An example of an idiom follows:

- en: carry coals to Newcastle
- de: Eulen nach Athen tragen

There are some cultural considerations behind the linguistic expression. It is widely known that Newcastle's development as a major city was attributed to its plentiful coal exports. Thus, its idiomatic meaning can be stipulated by its literal meaning. Similarly, there were many owls in Athens, as owl was a symbol of the goddess 'Athene', the savior of the city. Exercises and quiz with filling gaps can make young students easily learn and remember idioms.

Another example for localisation education for the young is homonyms and false friends (*faux amis*), as they capture the attention of the young students. A homonym example is the word "sayonara" which in Japanese means "farewell" and in Greek (σαγιονάρα) "flip flop shoe"! A false friend example is the word "gift" which in English means "present" and in German "poison". There are many such examples across languages and these examples engage young students much more than learning stiff foreign language texts.

4.2 Current language education situation

In this section we focus on foreign language education situation, first at a Japanese university and then in European primary schools. Currently many young students have the opportunity to learn more than one foreign language. The reasons for this are that language education has become more affordable, more teachers are available, and language lessons are very well incorporated into curriculums.

With regard to English teaching at a Japanese University, Martin (2004) refers to a lack of motivation due to there being few lab facilities available and also the approval of inappropriate texts by the Ministry of Education:

The large crowded university and high school classes coupled with dull and lifeless English-language texts discourage both students and teachers alike. Listening lab facilities are rarely used, and the texts approved by the Ministry of Education are broken down on a word-for-word basis, with all the instructions, definitions, and explanations in Japanese, leaving little challenge or inspiration for a motivated student. (Martin, 2004: 52)

Regarding the European primary schools, in 2006 the European Commission demonstrated a desire to improve young Europeans' grasp of foreign languages and stated that "Every citizen should have a good command of two foreign languages together with their mother tongue". However, EU member states find it difficult to implement concrete measures to achieve this goal. Binder (2006) highlights the education systems in Germany, France, Spain, Czech Republic, and Denmark. In summary, she stated that in Denmark young students are very good at learning foreign languages, as learning starts at an early stage and students spend a school year in an English or French speaking country. In Spain, language classes make up a mere 10% of teaching time and teachers are not required to have studied abroad. As for Germany, France, and Czech Republic, particularly languages of neighbouring countries tend to be taught at school.

Up-to-date information, analyses, and studies on European education systems and policies in 31 countries participating in the EU Lifelong Learning programme can be found on the Eurydice Network (16). This Network supports and facilitates European cooperation in the field of lifelong learning. Descriptions and overviews of national

education systems are in the so-called Eurybase (17), while reference material, such as the European glossary and school calendars can be found under Eurydice Tools (18).

Regarding the primary education level in Ireland, it is stated in Eurybase that the curriculum for primary schools has undergone a major revision through the 1990s, where a sophisticated system of teacher in-service education and of school support has been put in place. The National Council for Curriculum and Assessment (NCCA) and the Department of Education and Science designed and implemented the curriculum which designates "the European and global dimension of modern living". It is also mentioned that because Irish and English are official languages, they have dominated the language provision in primary schools. The government seeks to give special attention to Irish, which is specified in the Constitution as the first official language, but is less commonly used than English. Thus learning a third language in the primary school in Ireland is not common; only some parents in wealthy suburbs of cities have financed the provision of more formal foreign language (mainly French) teaching outside school hours.

In our opinion, learning languages without cultural information leads to phrase memorisation and real knowledge is not gained. As societies become increasingly multinational, we should provide the younger generations with cultural knowledge in tandem with language knowledge. We attempt this with the initiative LEAP and our activities which are discussed in the next section 5.

5. LEAP Activities

LEAP focuses on primary level education and is built around two main areas: CTYI courses (see 5.1) and the Primary School Toolkit (5.2). These areas overlap in that the latter absorbs the feedback of the former. The technology behind the Primary School Toolkit is based on research undertaken by the third author during his final year of undergraduate education and his MSc studies; the connection with CTYI came about following a course that the first two authors ran in July 2009 for CTYI called "Japanese Language & Culturally Localising Web Pages".

In a multilingual and multicultural society, LEAP concerns language and cultural education. The main goal of LEAP is to teach both linguistic and cultural lessons in an interesting, "fun", and interactive way at primary schools. LEAP is envisioned to encourage children to appreciate the cultural and linguistic diversity of our society.

In this way, within LEAP, we aim to negate some of the negative aspects of multiculturalism, e.g. anxiety or dislike stemming from ignorance and lack of cultural understanding, such as that noted by Martin (2004):

Lack of substantial engagement with other cultures on a personal and social level has resulted in minimal diversity in the classroom or the wider community, creating a general state of anxiety for many Japanese when dealing with foreigners. (Martin, 2004: 51)

5.1 The Irish Centre for Talented Youth

The Irish Centre for Talented Youth (CTYI), established at Dublin City University (DCU) in 1992, works with young students of exceptional academic ability and fosters the development of independence and creativity of these highly able students. CTYI undertakes annual talent searches (19) and provides services for these students, including Saturday classes and summer programmes.

One test that the students can take is the so-called "Preliminary Scholastic Aptitude Test " (PSAT) which is an indicator of mathematical and verbal reasoning ability at a young age.

In July 2009 the first two of this paper's authors ran a primary course called "Japanese Language & Culturally Localising Web Pages" in DCU. In July 2010 all three authors run a course entitled "Japanese Language, Webpage Creation and Localisation, Machine Translation, and Educational Games (20)" at the University of Limerick.

5.1.1 Sample Courses at the Irish Centre for Talented Youth

In the terms of our organised CTYI courses, Naoto Nishio, a Japanese native speaker, focused on teaching the Japanese language and introduction to localisation, while

Dimitra Anastasiou taught the basic principles of webpage creation localisation and Machine Translation (MT). We integrated students' feedback from the 1st course in 2009 into the Primary School Toolkit, which was tested and evaluated by the students in the 2nd course in 2010 (see 5.2.2).

As an overview of the most recent course (in 2010), the 25 students were between 7 and 13 years old, and had no previous experience with learning Japanese. Over the course of five days we had one ninety minute session per day. During the first two days we focused on the recognition, identification, and typing of Japanese characters. The remaining two days were dedicated to webpage creation, localisation, and MT. On the last day the students played and evaluated the educational games.

The list below shows the basic outline of the lesson plan:

1. Identify Katakana characters;
2. Acquire the sound of Katakana using a Katakana CD;
3. Learn how to type Katakana characters phonetically;
4. Compare the Japanese and English versions of Nintendo's Super Mario Bros website;
5. Create a webpage in English;
6. Localise the webpage into Japanese;
7. Drawing exercise;
8. Educational games.

As detailed above, the first two and a half days covered points 1 to 3 and the remaining days 4 to 6 points. Point 7 was a wind-down session where some minutes were used to relax the children and give them a light example of cultural diversity through a drawing exercise where they were asked to draw a bus and a beach (see 5.1.1.3). Point 8 refers to the Primary School Toolkit with the framework of the educational games (see 5.2).

In general, this course aimed to make students become familiar with Japanese language and culture, and then to introduce them to webpage localisation. The course material was divided into three parts: preparation, creation, and application. In the following subsections we examine the three main parts of the course, namely Japanese language education (5.1.1.1), webpage creation and localisation (5.1.1.2), and cultural education (5.1.1.3).

5.1.1.1 Japanese Language Education

During the preparation stage, we introduced the students to all of the Japanese character sets (Katakana, Hiragana, Kanji, and Romaji) before concentrating on the Katakana character set. The reason for concentrating on the Katakana was to provide the learners with a sense of familiarity with the Japanese language based on Katakana's usage to represent foreign objects (21). For example, the word 'software' is written as ソフトウェア /sofutowea/; thus learners can make a qualified guess about what the word is once the sounds of the Katakana characters have been identified.

The students were asked to recognise Katakana on a number of different websites that they were directed to; for example, the website of the Imperial House in Japan (22) and the Nintendo website (23). The purpose was to highlight the differences of traditional vs. modern content representation. The Nintendo website as a modern commercial site uses Katakana set more often than the website of the Imperial House which was more Kanji character oriented. Furthermore, the Nintendo site featured more graphics and images, and not too much text. According to Wilson (1988), "highly visual menus and icons appear to be appealing to children and easy for them to understand and use". Two screenshots depicting, from one side, the predominance of text at the Imperial House's website and from the other side, the predominance of images at Nintendo's website follow below (Figure 1).



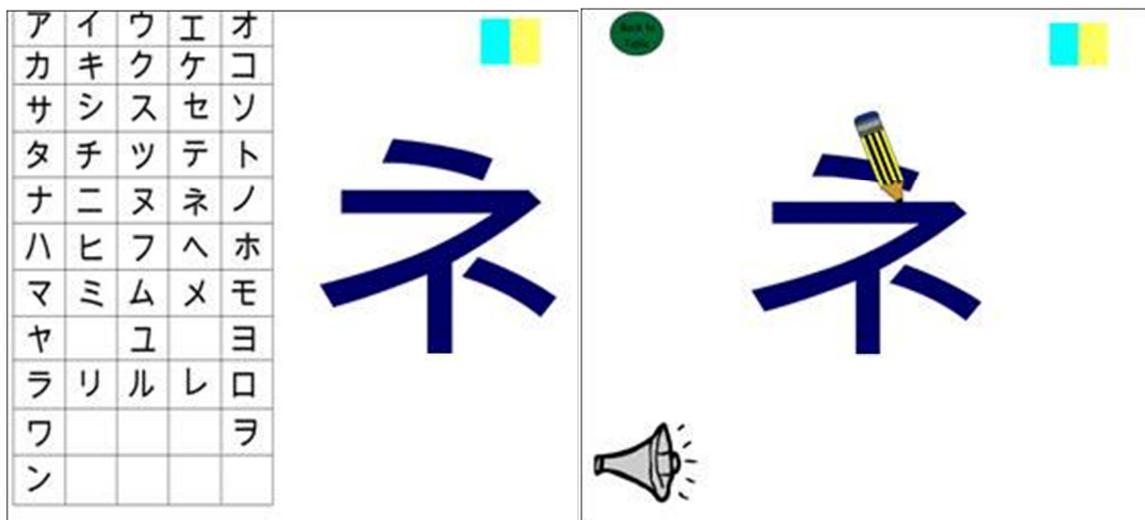
Imperial house in Japan

Nintendo

Figure 1. Distinction between Japanese websites.

The exercise, apart from differentiating two Japanese websites, included circling with different colour pens the different Japanese characters. Students were able to distinguish between the different character sets by observing the differences in shape. For example, Hiragana was described by the students as round, Katakana as straight, and Kanji as complex and detailed.

The next exercise was concerned with learning to type the Katakana characters. To aid with this, a sheet, extracted from Zimmermann's book (2003: front page) depicting the Katakana characters with alphabetical headings and also a CD with an application that demonstrated the sounds of each character were used. The CD avoids the use of Roman characters representing the sound of Japanese to acquire the native sound of Japanese, reflecting their successful application of colour codes for the abstract representation of character. This application is developed by the Japanese Language unit in Department of Languages & Cultural Studies in the University of UL (Geraghty and Marcus Quinn 2009). Some screenshots of the application follow:



Katakana characters available on the CD

Way of writing the character / ne /

Figure 2. Katakana CD application.

On the left side we see all the characters available on the CD. In the first horizontal line, it reads: /a/, /i/, /u/, /e/, /o/, in the second /ka/, /ki/, /ku/, /ke/, /ko/ and all next lines have an according vowel-consonant combination. Each symbol is associated with a colour; in our example /n/ is turquoise and /e/ yellow. By clicking on a character, the application brings up another page (right picture), where the user sees the writing

stroke of the character. Also, by clicking on the megaphone on the bottom left, the user can hear the relevant sound.

We noticed that the learners found difficulties in recognising characters. This was caused by subtle differences between the details of the glyph on printed character table by Zimmermann (2003), our handwritten characters, and on characters used on the CD. Also learners sometimes acquired the wrong sound for a character. This was due to a combination of a shortness of the recorded sound, the similarity with their native English sound, and the unfamiliarity with the sound of Japanese language of the learners.

It should be noted that some students had difficulties in distinguishing between two different characters because of their similar shapes in Katakana. Examples of similar characters follow:

ヌ / nu/ – ス / su/
ツ / tu/ – シ / si/
ソ / so/ – ン / n/

Example 1. Similar characters in Katakana.

At this stage, the students were able to identify, acquire the sound of, and pronounce Katakana characters. The use of an Input Method (IM) and also the change between Katakana and Hiragana were explained. The native English students were sensitive to /l/ and /r/ sounds, while Japanese language does not have an /r/ sound. As these are common letters in the English alphabet, when the students were asked to type their names in Japanese, there were many inconsistencies. For example, Mario was represented incorrectly as マイオ /Malio/ instead of the correct マリオ /Mario/.

After the students have learned to read and type words in Katakana, the following read and match exercise (Figure 3) was given to them. The students were divided into four groups and each group had to match the Japanese words with the corresponding pictures. Then they were asked to pronounce the words and also write them on the whiteboard.

Read and Match

Form 4 groups of 2 and read as a team the following Katakana by using the CD.

- ▶ Group 1 カメラ フィルム (フィルム)
- ▶ Group 2 テニス ボール
- ▶ Group 3 スキー ブーツ
- ▶ Group 4 マリオ ルイージ

Read and Match



Figure 3. 'Read and match' exercise.

5.1.1.2 Website Creation and Localisation

Today many websites are available in many languages. Website localisation does not include translation of text only, but also transformation of graphics. Moreover, different colours and layouts at localised websites are very common.

We taught the students how to create their own webpages in the simple editor *Notepad*. Basic HyperText Markup Language (HTML) tags and functionality were described. Students were shown how to format text on webpages, create headings, change the background colour for both whole pages and specific elements, create hyperlinks and so forth.

We provided the students with an HTML template (see Table 1, first column) and *Microsoft Word* files with various tags (Table 1, second column). The students then had to copy and paste the corresponding tags in the right order into *Notepad*, namely between the <body> opening and closing tags, save their .html template (and image files in the right folders) and open the .html file in a browser.

HTML template	Commands
<html>	1.
<head>	This is my first website!
</head>	2. I like the colour of my webpage!
<body style="background:#CB2E43">	3. Date: 21/07/10
Here is the text you see on the screen!!	4. Time: 11:00
</body>	5. Location: LRC, Limerick
</html>	6. <!-- This is a comment. I can write anything and this will not appear on my webpage!! -->
	7. Hello!! How are you? I am fine, thank you!!
	8. <h1> My name is X.</h1>
	9. <BLINK> I am taking part at the CTYI course!! </BLINK>
	10. <MARQUEE BEHAVIOR="scroll" DIRECTION ="left"> I learned Japanese!! I can type my name in Japanese! </MARQUEE>
	11. You can find a picture of harry potter here .
	12. Here is another picture of harry potter, now shown on the website!:
	13. Here are the slides of the CTYI course.
	14. Here is a table I designed!: <TABLE ALIGN="left" border=1 cols=5 width=20 cellpadding=5><tr><td> I like summer! </td></tr></TABLE>
	15. You can see a funny video of Mr. Bean here!
	16. Here is a Japanese song! It is about cherry blossom, sakura, Japan's unofficial national flower! More information can be found here.
	17. This is an article from Wikipedia encyclopedia about Japan

Table 1. Webpage creation.

Then we gave to the students some smaller tasks, for example to replace 'X' with their name in command 7 and replace the article in *Wikipedia* about Japan with an article about Ireland in command 16. Furthermore, changing pictures and videos (commands 11 and 14) and generally personalising the webpage according to own preferences particularly attracted the attention of the students.

The next day, we instructed them to manually write those tags and not copy-paste them from a given file. Some students performed this task successfully, while others made errors such as forgetting to close the tag or placing it at a wrong position. Similarly to the English webpage creation process, HTML tags with Japanese text (translations of the English text) were prepared and provided to the students. At the end of the exercise we provided them with a tag which they added to their webpages to enable switching between the original (English) and the localised (Japanese) version.

5.1.1.3 Cultural Education

Cultural education consists of showing cultural differences between different countries. We asked the students to nominate one Super Mario game character per group and read the corresponding Japanese name of the game character. It was a surprise for the students to realise the differences in names between the game characters in English and Japanese. This shows that different cultures use different names to address one common item.

Apart from the differences of Super Mario game characters' names, we also showed differences in units of weight and measurement and gave to the students simple exercises of converting their weight from pounds into kilos, and so on.

Moreover, on the final day we asked the students to draw a bus with the goal of teaching them cultural differences both worldwide and in the same country. Most students came from Dublin and thus they drew a double decker bus as is commonly found in Dublin, while a girl from Galway drew a coach, the common bus type in Galway and other Irish towns. Some of them did not know that apart from the UK, Ireland, Cyprus, and Malta, in Europe there is right-hand traffic. As mentioned in the introduction, locale has technical/physical differences, and the driving system belongs to them.

We also asked the students to draw a beach; most students drew the sun yellow, while in Japan, the sun is likely to be drawn in red colour. We picked these two elements (bus and beach), as we can see many different visualisations and distinctive cultural characteristics according to the "locale" of the people. All the above shows that there is a fun and interesting way for the students to learn about cultural differences; they were highly motivated and competitive.

5.1.2 Evaluation

On the final day of our course we handed out a survey that we created in order to get feedback from the students about the course. Although we had prepared the course as well as we could, the most important thing was that the students were satisfied with it. We also use the feedback to improve the course for next year.

As for the results, 100% of the students surveyed found the course interesting in general and 71% expressed a desire to continue learning Japanese and about localisation. Regarding the question, "how did you find the part of the course about the Japanese Language (first 2 days)", the distribution of the answers is shown below:

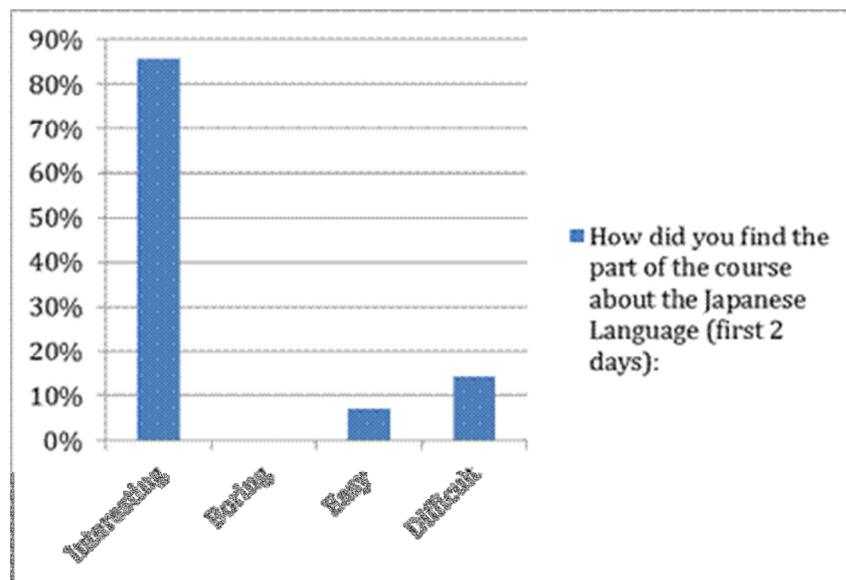


Diagram 1. Evaluation of language learning.

Moreover, 68% of the students stated that they feel familiar with Katakana set.

In addition, the part of webpage localisation was regarded as interesting by most of the students, as it shown in the following diagram 2.

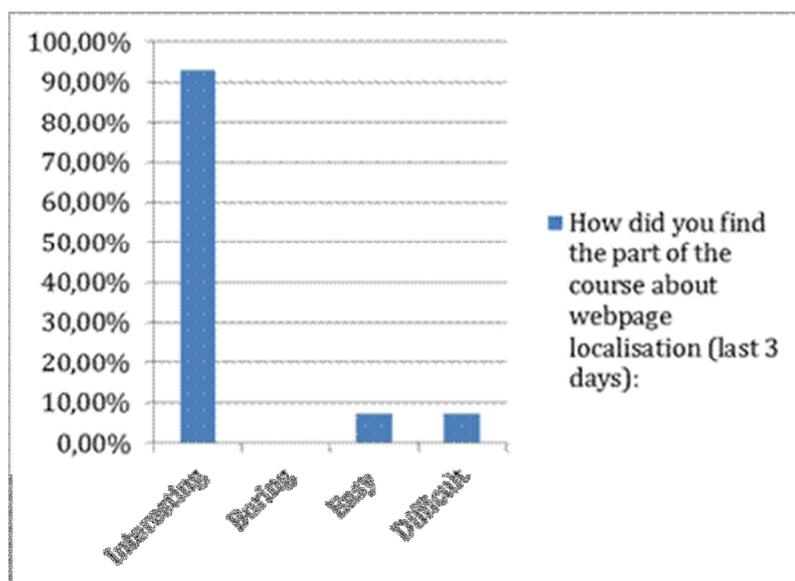


Diagram 2. Evaluation of webpage localisation.

As for the question "which other language would you like to learn at the same or a similar course", French was the highest rated.

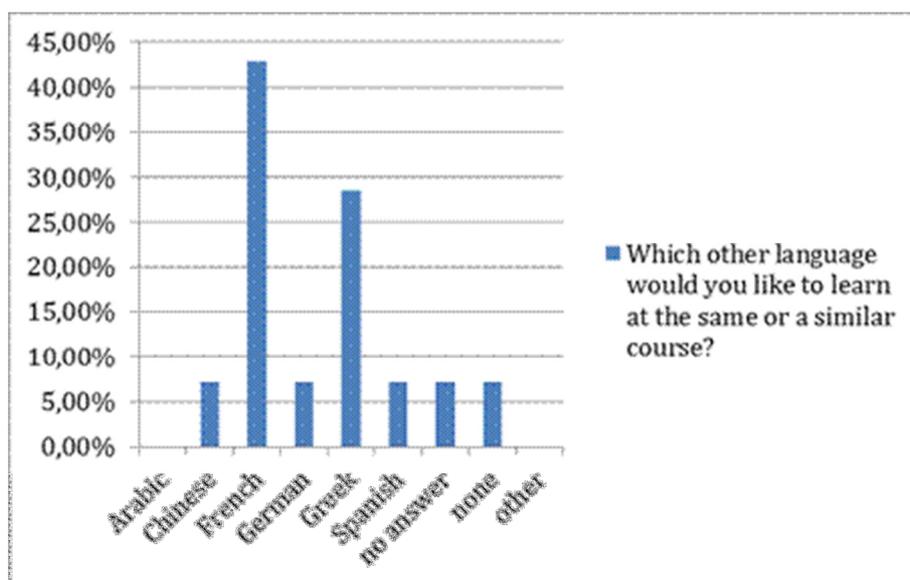


Diagram 3. Language interest.

As far as the evaluation of the educational games is concerned, see subsection 'User Acceptance Testing' (5.2.2). Generally, the feedback from the students was very positive: they all liked the games and the achievements, and they stated that they would play these games often at home. As for the recommendation for future games, they wish for more videos.

5.2 Primary school toolkit

The Primary School Toolkit is composed of two elements that are designed to be used in partnership: i) an educational games framework and ii) a teaching aid. The design and development of the framework was initially undertaken as a final year project and Master thesis by Enda Quigley, the third author. It soon became apparent that the Primary School Toolkit and LEAP shared some goals and aspirations and that it would be both beneficial and complimentary to work together.

The educational games are based on a web-aware desktop application with a plugin architecture that allows new modules to be added as the platform matures, while the teaching aid is toolkit to be used as classroom tool for teachers. The goal of the

collaboration was to encapsulate the lessons taught at the CTYI, along with other topics relevant to the NCCA primary school curriculum, into a variety of educational games.

Before we focus on the games, the following captures show how the initial Graphical User Interface (GUI) is. Users create a profile with metadata about age, gender, nationality, and can also add information in a buffer text about themselves (see Figure 4).

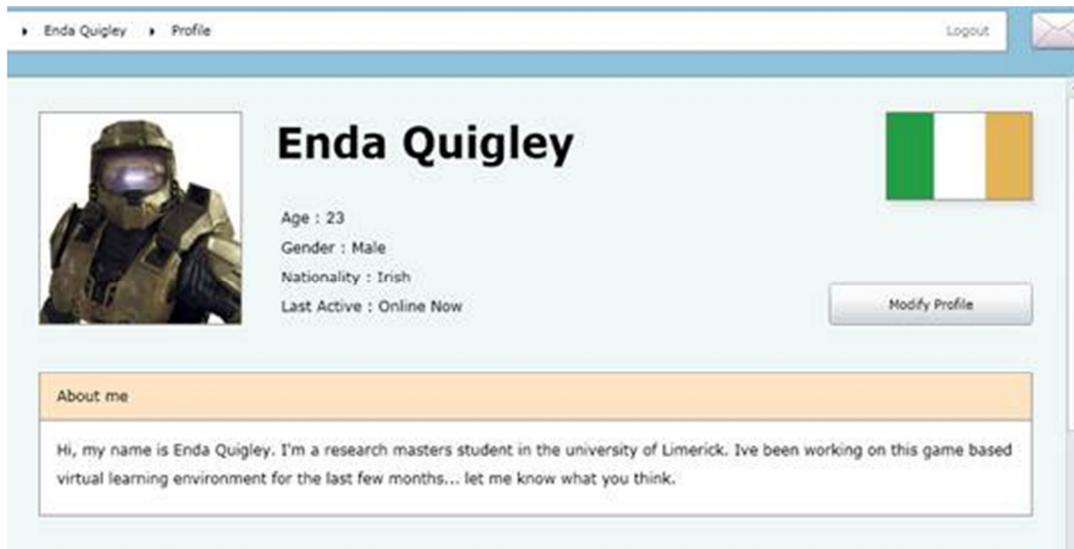


Figure 4. User profile.

The young users can also change their avatar/profile picture. Existing pictures (Figure 5) are available on the platform ready to be selected for each user.

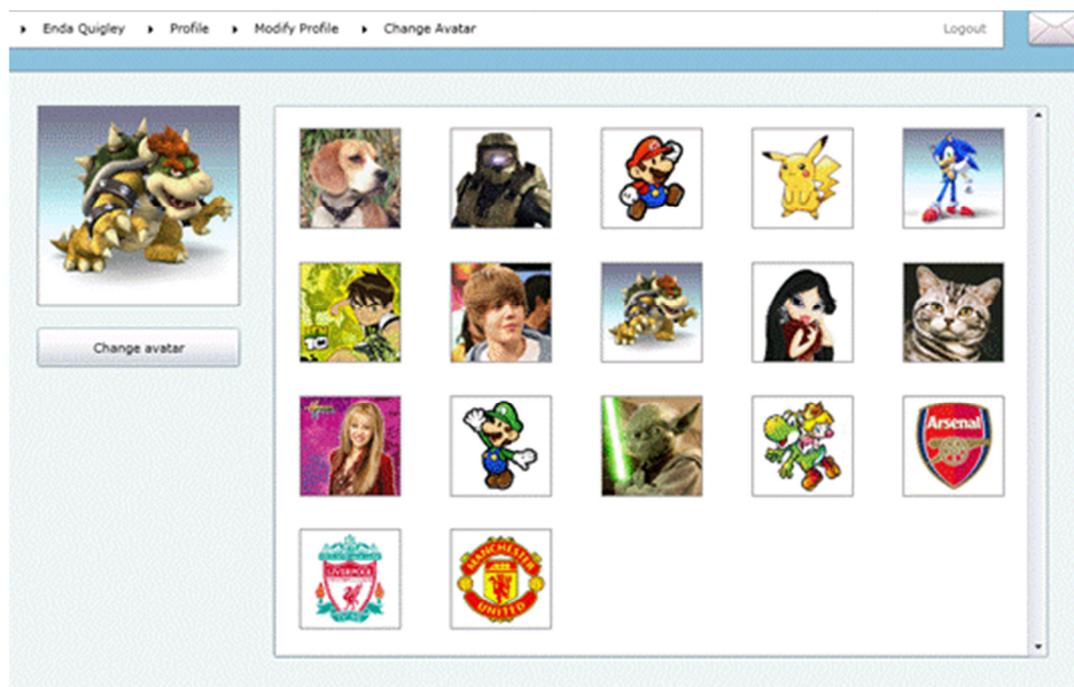


Figure 5. Change Avatar.

After users have created and modified their profile, they can play one of the following available games (24):

1. **Europe Explorer** (Figure 6); here a country's name is provided and the user tries to find the right country by hovering the mouse over it.

2. **Japanese Typing Practice** (Figure 7); here the user types the Japanese word representing the picture (and label) – here 'Ireland' – and clicks on *Check* button to validate their input.
3. **Pokemon Translation/Transliteration** (Figure 8); here the user is given a Pokemon character name and selects the syllables on the right side to create the Japanese word. Noteworthy is that by hovering the mouse over the syllables, the user can hear the sound as well.

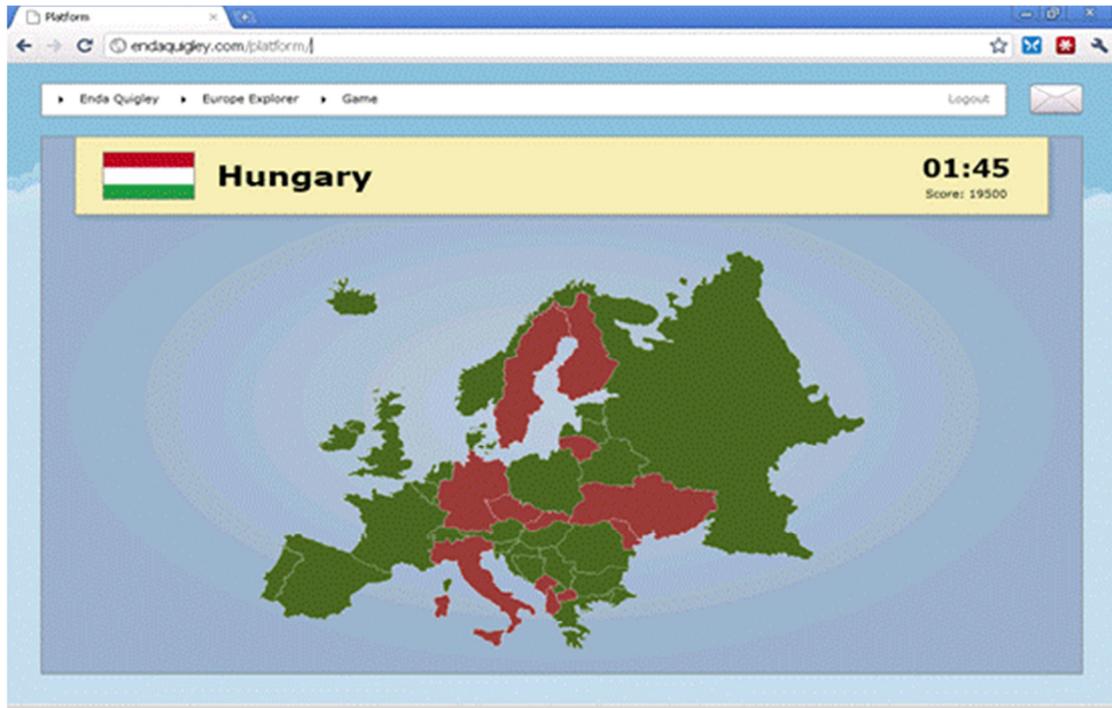


Figure 6. Europe Explorer.

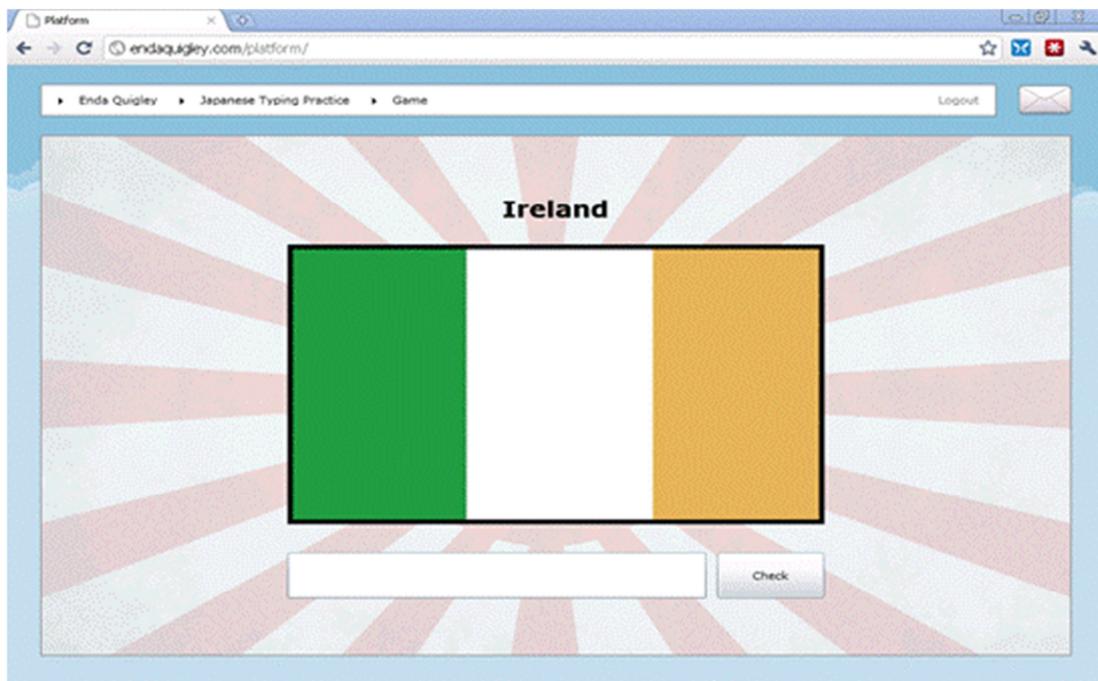


Figure 7. Japanese Typing Practice.

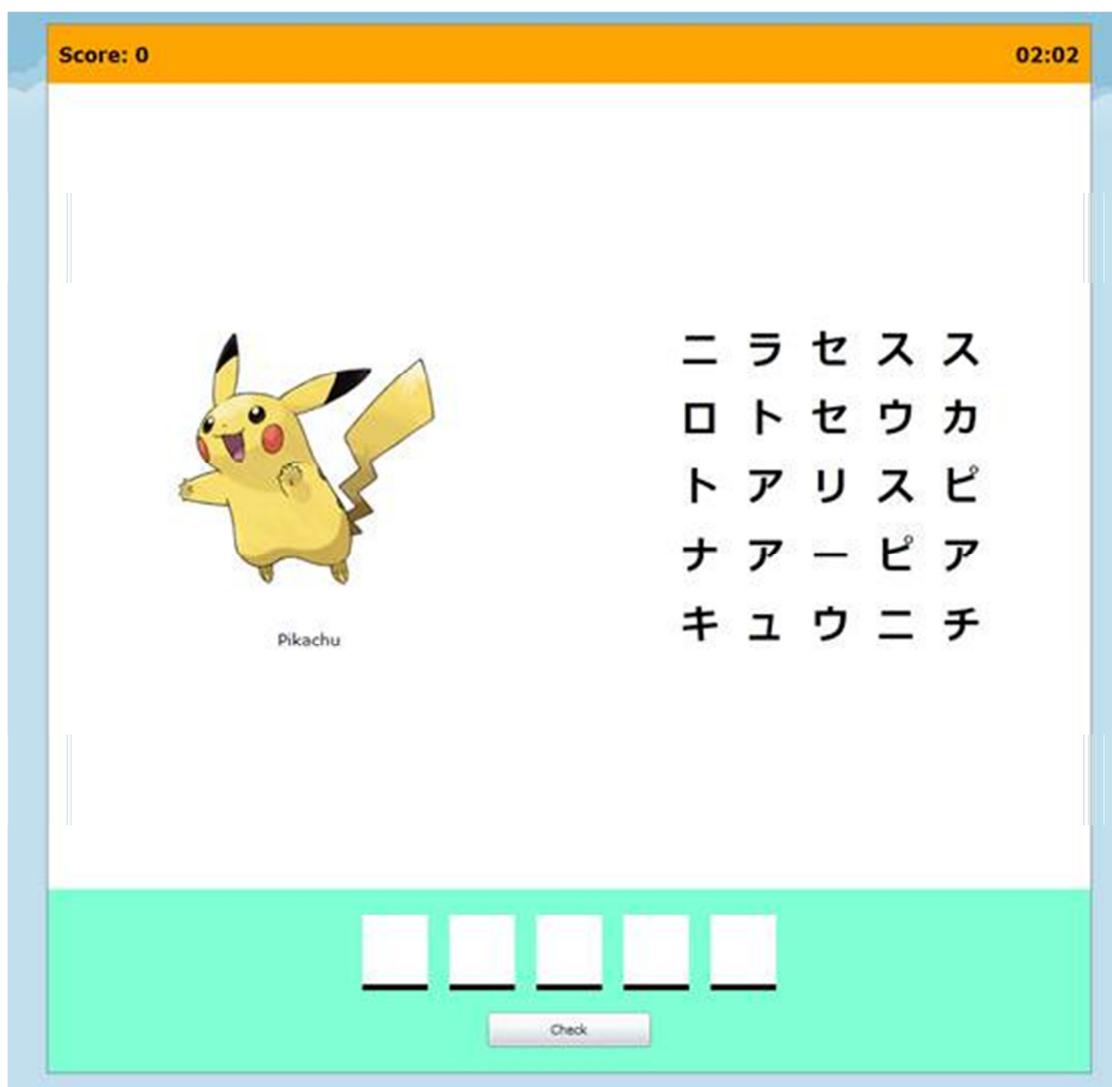


Figure 8. Pokemon Translation.

Apart from the games as such, in the Primary School Toolkit there are motivational techniques, such as achievements (see Figure 9) and global high score lists . They promote friendly competition amongst the students and encourage them to continue playing the games (Quigley, 2010). According to Selvon (2006), "a trophy presentation is not only a great idea, but it will motivate the receiver to do more, to do better." Each plugin in the Primary School Toolkit has the ability to award achievements for completing certain set goals. The title, description and accompanying value of each achievement is assigned by the plugin developer and stored in the platform database.

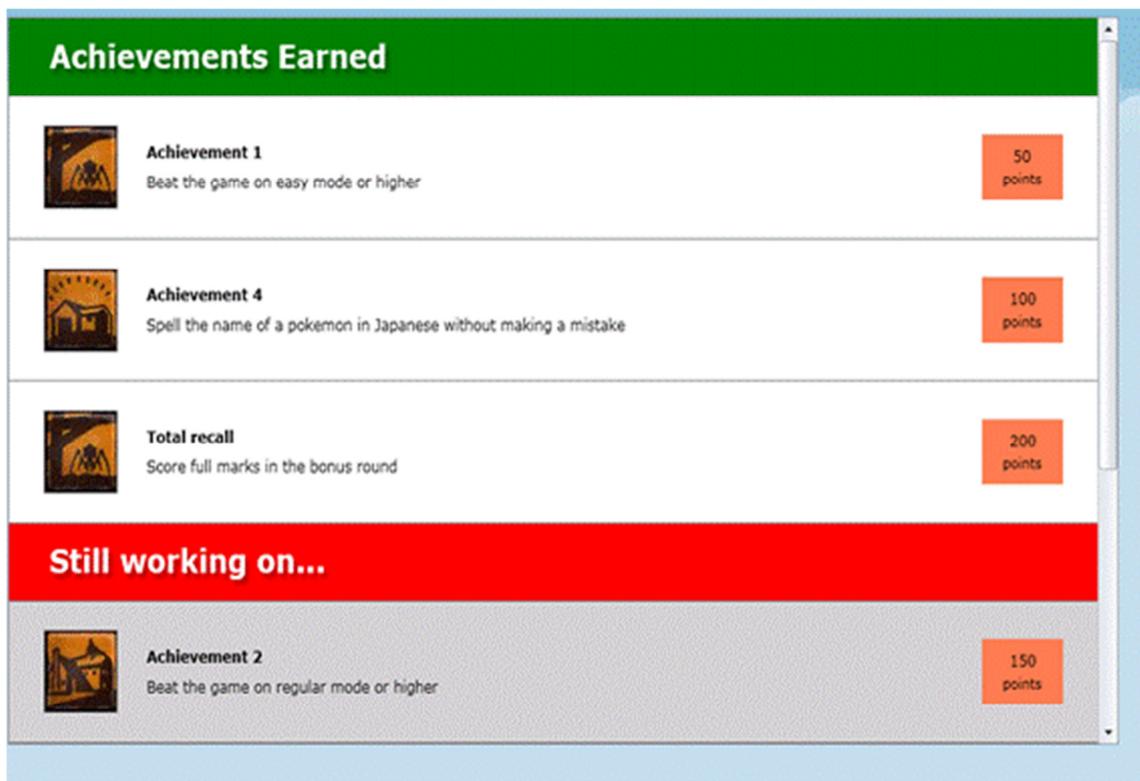


Figure 9. Achievements.

Last but not least, there is the possibility of students to communicate with each other by sending messages (see Figure 10). For security reasons, messages can be sent only between accepted friends (through an invitation).

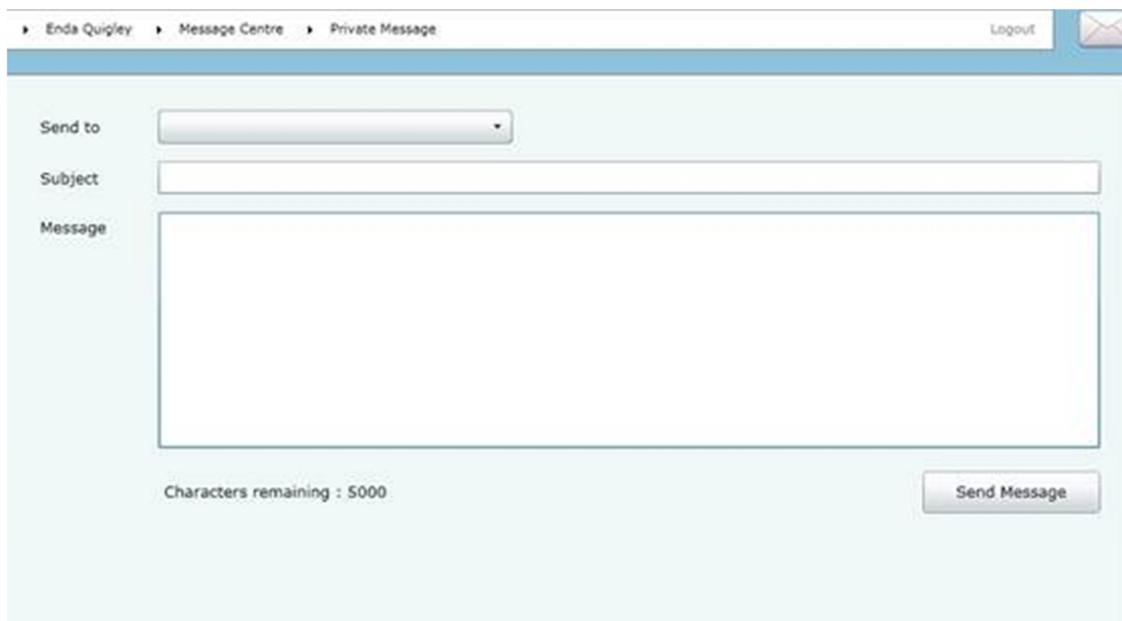


Figure 10. Messages centre.

We envision the toolkit to, initially, be useful for native Irish students and students who have migrated to Ireland from other countries. The LRC has been conducting research into intercultural education in primary schools and has been in discussion with members of the Curriculum Design Unit (CDU) at Mary Immaculate College (MIC) in Limerick in order to ensure that the toolkit complements the current primary school curriculum. After paying a visit at a primary school in Limerick, teachers are more willing to try the end product rather than test it for a while and make recommendations for future

improvement. It is envisaged that the toolkit will fit in with Chapter 7 of the National Council for Curriculum and Assessment's guidelines for "intercultural education in the primary school" and will also integrate Content and Language Integrated Learning (CLIL).

Also, in order to allow for a safe and "controlled" use of the Internet, each teacher will be given the role of administrator within the game framework and will be responsible for creating student accounts, setting up class lists, and selecting the educational games which the students can access. This enables teachers to control exactly what material the students have access to rather than loading all of the plugin games available for the educational learning platform. This teachers' 'control' ensures that the students online identity is accurate, prevents the signup of malicious users' masquerading as young children, and provides a solid hierarchical responsibility link (Quigley, 2010: 34-35).

It should be pointed out that in April 2010, the Child exploitation and Online Protection (CEOP) proposed the idea of a panic button to be installed on all popular social networking sites, such as *Facebook* and *MySpace* to protect children from cyber bullying, hacking, viruses, distressing material and inappropriate sexual behaviour" (Hogan, 2009). Although in Facebook there is no panic button, they have adapted their solution (25) to integrate with the external application facility provided by the Facebook SDK (Software Development Kit).

5.2.1 Implementation

The educational games framework is designed to run on Microsoft Windows operating systems. It is written in C# and requires the latest version of the .Net framework to be installed to run. Schools interested in participating in the LEAP programme will be provided login credentials and a number of student licenses. The school will then be able to create an account for each teacher in the school using the online web interface and activate the software for each machine that will host the toolkit.

Each teacher can then create a class, assign the plugin modules they wish to teach and generate a class enrolment key. Once the students have access to an enrolment key, they are allowed to create an account and access the toolkit content. For security purposes, this toolkit will only be accessible on authenticated school machines.

Each student will be allowed to create a detailed profile page, search for other students with similar interests, and get in contact with them. Each plugin module will also have the ability to compile a global high score list and to award trophies for completing certain tasks. These are motivational factors (26) used to encourage the students to play the games again and to unlock the difficult trophies.

As all students are organised into logical class groups during initial enrolment, it is easy for teachers to monitor and control the activities of each student in their class. The toolkit provides an API through which all plugin modules must be implemented. This API allows each plugin to create a report logging suspicious and anti-social behaviour. These reports are stored in our online database and contain the student's details along with the current time and date, severity level of the incident, and a detailed description of the events that took place. For example, if a student attempts to bypass the bad language filter, the teacher would be alerted of the student's actions and could discipline them appropriately.

5.2.2 User acceptance testing

User acceptance testing is performed to get instant feedback from the end-users and it may highlight hidden bugs during the process (Quigley, 2010: 51-52). The Primary School toolkit, as mentioned before, was demonstrated and tested on the last day of our 2010 CTYI course.

A number of the students were impatient and quick to ask questions, but given enough time or help from classmates they eventually solved their own problems. None of the students seemed to have any difficulty using the platform. They were aware of the concepts applied throughout the platform such as the breadcrumb navigation bar, profile pages, friend invites, and in-game achievements.

A questionnaire was handed out at the end of class. It comprised of nine short questions for the purpose of gathering anonymous information from the students. Overall it appeared that they enjoyed the platform experience. When asked if they would rather learn through the use of interactive games, one student wrote "Yes, bored to read and listen, like to do stuff". The next question asked them if they were motivated by the high score lists. They all agreed that the high score list motivated them to play the games again. As one student put it, he wants to "get more than his friends". When asked what they liked about the system, a lot of students said that "it was fun". Others said that they liked the games and the ability to "have friends" and "talk to people". The final question asked the students to list a number of features that that would like to see implemented in the next version of our platform. While many of the students left this section blank, online videos, multiplayer and more games were the main features requested.

6. Conclusion

As localisation, multilingualism, and multiculturalism gain ever more ground nowadays, localisation education should start from a younger age. LEAP has potential to create a combined approach of language, culture, and computer education. The students that participate in the LEAP programme learn about the concept of localisation and how what is standard for them is not necessarily the same for their counterparts in other countries and regions (locales). Learning about culture and language with localisation resources will help create fun and interesting environment for learners and motivate them more. Also, by introducing the theme 'localisation' at schools, it will reach a wider public audience as well.

Our experience with CTYI supported our plans towards LEAP. The surprise of the students when they found out that the names of the Super Mario characters in English were different to the original Japanese names inspired us to continue teaching the concept of localisation to the young students who will lead us in future. Our CTYI experience also supports the statement made by Martin (2004) that regardless of the amount of effort, costs, and learners' willingness, it is important to revise the method and environment in the compulsory education curriculum.

To conclude, learning language- and culture-related appreciation is essential for this society. The interactive Primary School Toolkit presented in our course is an example of the education with localisation concept for future generations of our society. Today, academic bodies with localisation streams provide education and training for the next generation localisation workforces, so that in the future they contribute to open, globalised, and multilingual markets. Localisers must be trained both culturally and linguistically in terms of localisation and it is clear that if localisation education begins at a young age, the next generation will be better prepared for the gap in multilingual and multinational environment which localisation aims to bridge over to start with.

7. Future Prospects

The development of the toolkit has started in 2009 and was tested in the 2010 course. With regard to the teaching toolkit, we already have localisation-related content for primary schools. We intend to provide the course not only with regard to Japanese language, but also Greek and German. We absorb the feedback of students from the questionnaires and try to meet their expectations in the next course. The games framework can be enhanced by means of more games, more plugins with open-source translation tools, and rich multimedia, as students prefer (see 5.2.2). Also the improvement of the teachers' administration control is one of our primary future goals.

A next important step is to introduce this concept of localisation education and game-based learning to teachers as one of their training programme. When teachers are willing to use the free Primary School Toolkit for their courses, the content will be then further extended and adapted to each school's technical requirements, preferences, and dedicated levels.

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Article

Enhancing ESL students' vocabulary acquisition through a meaningful filmmaking project

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Abstract

This paper examines the impact on English learning, and in particular on vocabulary acquisition, through engaging ESL students in the filmmaking lifecycle. Twenty-three undergraduate ESL students with linguistically and culturally diverse backgrounds in a large Canadian university participated in this project. Participants from 15 majors were randomly divided into five drama groups, and contributed to screenwriting, acting, production and postproduction of the film.

The project outcomes show that filmmaking is a meaningful task which captivates students' imagination, enhances their motivation, and facilitates their interaction through compelling multi-media . They further indicate that the filmmaking based on carefully written scripts, while at the same time allowing for personal interpretation of characters, is effective in creating an optimal learning environment for students' English acquisition, particularly vocabulary.

Keywords: Academic English language, vocabulary acquisition, filmmaking, ESL undergraduate students.

1. Introduction

Literature in both first language (L1) and second language (L2) research has mostly attributed the challenges that students encounter in learning English and academic performance to their failure in acquiring sufficient vocabulary (August & Shanahan, 2006; Stahl & Nagy, 2006; Stanovich, 1986). According to corpus research, knowledge of approximately 3000 high frequency words significantly influences students' reading comprehension (Nation, 2001). This includes 2000 high frequency words in the General Service List (West, 1953) that account for 87% of a non-academic text and 78.1% of an academic text Adding 570 academic word families from Coxhead's (2000) Academic Word List (AWL) increases the coverage of academic texts to 86.1% (Nation, 2001). Other proper nouns, technical vocabulary and other low frequency words account for 13% of a non-academic text and 13.9% of an academic text. It has been widely recommended that students reach the critical level of 95% vocabulary coverage for reading comprehension (Nation, 2001).

In line with corpus research mentioned above, many studies and interventions have been conducted and developed to enhance elementary and secondary school students' English vocabulary acquisition thus to improve their reading comprehension (e.g., Biemiller, 2008; Carlo, August, & Snow, 2005; Coxhead & Nation, 2001; Lively, Snow, & August, 2003; Nagy & Anderson, 1984). Scant literature and resources, however, are available that address ESL university students' English vocabulary learning, particularly, within the content-based classroom context. By engaging undergraduate ELLs in the filmmaking project in a humanities course, this paper discusses our instructional experience in implementing a task-based language intervention that aimed at supporting ELLs' collaborative learning of English vocabulary when reading Canadian literature.

2. Literature Review

The use and production of videos by students has increasingly gained recognition for providing university and K-12 students with motivating and authentic learning experiences across disciplines (e.g., Gross, 1998; Rubin, Bresnahan & Ducas, 1996; Triggs & John, 2004). Several studies have shown that in science and mathematics classrooms, students benefited from using and generating videos as such activities enabled them to efficiently make observations, conduct research, collect data and deliver presentations (e.g., Gross, 1998; Rubin, et al., 1996). For example, Rubin and his colleagues studied how students used self-made videos to analyze the motion sequence of their own body movement.

A number of articles have pointed out the promising potential in using videos for second and foreign language learning and instruction, particularly, online video clips as the increasing capacity of the Internet provides learners with enriched and authentic language resources (Hanson-Smith, 2004). Video has become a popular medium for language teaching and learning, as well as a self-assessment tool (Gardner, 1994). Language institutions, such as the National Association of Self-Instructional Language Programs, have increased their Internet-delivered courseware incorporating both audio and video components (Dunkel, Brill, & Kohl, 2002).

Some empirical evidence also has emerged from several studies showing that the digital video production in language classrooms can engage students in open-ended explorations in an authentic learning environment. It increases students' learning opportunities, supports their learning autonomy, and most importantly, creates a contextual situation to help students develop cultural awareness. For example, Levy and Kennedy (2004) found that video recordings of the behavior of students who learned Italian as a foreign language during their audio conferencing was effective in assisting them to visualize and subsequently correct their errors. Through teaching a Multimedia English class to Japanese university English language learners, Gromik (2008) observed that video production supported by viable video editing software provided his students with multiple opportunities to view and reflect upon their use of the target language.

Research in vocabulary acquisition also has shown that use and production of videos is more effective than other scaffolding means to support students' word retention. For example, Al-Seghayer's study showed that

a video clip is more effective in teaching unknown vocabulary words than a still picture. Among the suggested factors that explain such a result are that video better builds a mental image, better creates curiosity leading to increased concentration, and embodies an advantageous combination of modalities (vivid or dynamic image, sound, and printed text). (Al-Seghayer, 2001, p. 202.)

Katchen, Morris and Savova (2005) also found that video production activities allowed students to produce videos focusing on specific morphological and phonological forms of vocabulary items and enabled students to achieve better retention of these words.

To summarize, the literature in the field provides significant insights into the implication of video use and production in language classrooms. However limited evidence is available to support its pedagogical benefits for L2 learners in acquiring vocabulary. Further studies and intervention are needed to investigate and facilitate the application of video, digital media and its learning outcomes, particularly, in content-based language classrooms. In response to such inquires, this present project invited students to take ownership of the entire video production process (Gromik, 2009), in an attempt to enhance their learning experiences and their learning of vocabulary knowledge.

3. The Filmmaking Project

3.1 Context and participants

This filmmaking project took place in the first author's classroom at a Canadian University among 23 undergraduate ESL students from 15 majors with linguistically and culturally diverse backgrounds. The participants were all registered in Introduction to Canadian Language and Culture, a nine-credit content-based course designed for both international and Canadian ESL students to allow them to fulfil their writing-intensive Humanities requirement in an ESL/EAP productive learning environment. This course

focuses on fostering students' academic English skills and promoting students' awareness of multiple aspects of Canadian society and culture. It has evolved from being largely literature-based into one with articles focused on Canadian issues; however the requirement of reading a novel remains as a key component of the course.

The Edible Woman by Margaret Atwood, the world-renowned Canadian author, was chosen for its several features. First, the novel offers cultural content in an entertaining form. In a course focused largely on multicultural "new-Canadian" viewpoints and experiences, this short novel exploring the tensions within consumer culture, personal relationships, and individual choice and responsibility provides students an "old-Canadian" perspective, embodied in the characters of Marian and the supporting cast. It describes the historic downtown core in Toronto, its epicenter at Avenue Road and Bloor, where students can actually trace the paths that the characters take around landmarks such as the Park Plaza bar and Queen's Park Circle. Published in 1967, this novel is also a document of proto-feminism, raising in an almost cartoon-like version issues that feminists still struggle with. Most importantly, the book's action arises from universal questions that young people face when entering the adult world: what will I do for a living? Whom will I live with? Will I have children? What is worth doing and not doing?

These themes and settings help students engage in the novel with their immediacy. However, during class discussions, it was noted that many of these students had difficulty in comprehending the novel and lacked English vocabulary, including the first 3000 words in General Service List (West, 1953). For example, in one of the paragraphs of the novel, Lang (1) said that out of 72 words there were nine words (i.e., 12.5%) that he didn't know (see the bold unknown words in Figure 1).

"Oh, one of those," Ainsley said, "They're such a **bore** (2)." She stubbed out her cigarette in the grass.

"You know, I got the feeling that's why he's back," Clara said, with something like **vivacity**. "Some kind of a mess with a girl; like the one that made him go over in the first place."

"Ah," I said, not surprised.

Ainsley gave a little cry and **deposited** the baby on the lawn, "It's wet on my dress," she said **accusingly**.

"Well, they do, you know," said Clara. The baby began to howl, and I picked her up **gingerly** and handed her over to Clara. I was prepared to be helpful, but only up to a point.

Clara **joggled** the baby." Well, you **goddamned fire-hydrant**," she said **soothingly**. "You spouted on mummy's friend, didn't you? It'll wash out, Ainsley. But we didn't want to put rubber pants on you in all this heat, did we, you **stinking** little **geyser**? Never believe what they tell you about maternal **instinct**," she added **grimly** to us. "I don't see how anyone can love their children till they start to be human beings."

Figure 1. Sample of unknown words in an excerpt of *The Edible Woman*.

3.2. Project phases

The project comprises two lines of tasks: drama activities and film production activities. Hence, two categories of groups were formed: the drama groups (five groups) and the production groups (two groups). Participation in the drama activities was compulsory, as it counted for 15% of the final mark of the course. The students were randomly assigned to five drama groups to work collaboratively on the joint tasks. This included reading and discussing the novel together, conducting research about its author and historical and cultural background of the novel, making decisions on selecting plots and cast, and negotiating different perspectives in interpreting characters. One of the major challenging pre-production tasks was script-writing, as they needed to adapt the novel into different scenes of plays with conversations that were informative, contextually

appropriate and interesting to the target audience, given their language proficiency constraints and the limited number of students/cast in each group.

The other category of groups, production groups (including production and postproduction groups), were formed at the same time. Participants were recruited on a volunteer basis, and they were informed that their contribution in assisting production would not be counted for their course credits. Twenty positions for students were initially posted in the class and 17 students actively participated in the production group. Three more positions were added upon the requests of students during the production and postproduction. The first author of this article as the course instructor took roles as a director and producer, providing students with guidance and coordinating activities at the critical stages. The second author provided literary consultation for each drama group (see Table 1).

Table 1. Positions for the filmmaking production groups.

Preproduction and production		Postproduction
*Director (1)	*Literary consultant (1)	*Producer (1)
Assistant director (1)	Assistant director (1)	Assistant producer (1)
Stage managers (2)	Stage coordinator (1)	Post-production editors (stop motion pictures) (4)
Master cinematographer (1)	Photographers (2)	Post-production editors (video clips) (3)
Cinematographer (3)	Costume coordinator (1)	*Post-production technical expert (2)
Makeup artists (2)	Stage technical expert (1)	*CD package designer (1)

Note: * indicates that positions taken by the instructors and external experts.

3.2. Equipment access

Due to the very limited access (e.g., time constraints) to the university equipment, students and the instructor used their own equipment for the production. These included one analog video camera, two digital video cameras, three digital photo cameras, a tripod and seven laptop computers. Students felt that using their own equipment allowed them more flexibility during the production as they were familiar with their own equipment. Even if there were any technical problems, they could always have the equipment with them and work on it at home or ask for help during the team meetings after class.

For the stage design and props, the students and instructor also brought their own clothes, dolls, table clothes, telephones, candles, fresh cut flowers, empty beer bottles, glasses, bottles of water, and dish trays. Due to the limited memory capacity of two digital video cameras, most videos were recorded with the analog videotape camera. This, however, caused a labor intensive task for the postproduction team to convert the analog video tapes to digital MPEG2 format and Windows Media Video (WMV) format that are compatible with iMovie program. During the process, the team worked with an external technical expert in conducting research and experimenting with four different software programs.

4. The Project Outcomes (3)

4.1. Project structures for optimal motivation and efficient collaboration

The project was divided into three phases, which involved "complex, multi-faceted" activities (Levy & Kennedy, 2004). Its two dimensional organization structures allowed students to have optimal opportunities to contribute to the project, and interact with each other. Twenty out of 23 students (87%) in the class had one or two roles in both groups. For example, Carol played Marian in the play with her drama teammates, and she also worked in the video camera crew as a postproduction editor. As the drama and

production activities progressed in parallel, the project called for a wide range of skills and talents. Almost every student found their own niche in this production in addition to their roles in the play. Even recently-arrived international ESL students who were initially quiet and hesitant to speak up in class became forthcoming and articulate in the early stages of the production.

This project not only opened up multiple opportunities for students' active participation, but also encouraged the students to form close bonds quickly to support intense coordination and interaction. For example, to achieve a thorough comprehension of the novel, they adopted jigsaw reading strategies to help each other cope with difficult words and unfamiliar expressions. They conducted library and online research to understand and establish essential personality traits of characters involved in their scenes. Each drama group self-organized after-class group meetings, and also engaged in discussions via instant messaging, email and telephone among themselves and with the instructor. The film project transformed a daunting reading task into fun learning activities which enhance students' motivation, creativity, peer support and critical thinking. This is vividly displayed in Carol's words as follows:

Instructor: I know our course was very intense. Within one term, we had to finish a nine-credit full year course. There were a lot of readings and assignments. I'd like to know how you felt about the drama activities and film production.

Carol: To be honest, I didn't finish this book. But I... because of the drama, because we had the scenes like "in the bar, in Clara's house", I had to read more carefully and more specifically to know who the main characters are...

Instructor: So -- (4)

Carol: So I got to know more. Because acting the characters in the book, I had to know the specific(s) about a character. I was acting as Marian, so I had to know more about her.

Instructor: You had to introduce --

Carol: I had to introduce my interpretation of Marian to all the people. I just watched the stop-motion pictures, and knowing the background music, like, make me really missing those moments (laughing).

Instructor: Missing those moments of the performances (laughing)?

Carol: Not only that day (we performed) because we have met like three times for this drama, it was really fun to discuss with them, to have the group work.

Instructor: How did you feel about reading the novel?

Carol: I really didn't finish. I cannot really... I didn't really know how to understand the characters before. I didn't know why she is doing this? Why she is doing that? It is really, the character is [///] (5). I couldn't understand the characters. It always... turned out to be boring after the middle part.

Instructor: So...

Carol: Yeah, because of the drama we had our focuses. During the practice, I was acting Marian like this. Jeena said "no, Marian should be like this", and Elizabeth said "no, Marian should be like this". You can see everybody has different ideas about Marian.

Instructor: Finally we agreed with each other. Finally you agreed with one interpretation about Marian.

Carol: The group work also made us close.

To conclude, this project afforded students the opportunity to express themselves through the voices of the characters, and through their digital, video and computer skills that were much needed for the production. They demonstrated unprecedented motivation in reading, discussing and script writing. The assignment required a minimum of one scene, but five drama groups voluntarily wrote two to seven scenes. The authors regard this innovative instructional method as a promising alternative approach to teaching advanced reading of Canadian literature to university ESL students. Drama-based filmmaking is profoundly different from the traditional instructional mode as it integrates ESL students with different levels of language skills in creating an on-going, interactive and reflective learning environment.

4.2. Vocabulary acquisition through productive activities

The student feedback on the project confirmed the authors' observation: many undergraduate ESL students had difficulties in reading comprehension of *The Edible Woman* due to the figurative language and words in specific cultural contexts. In the following conversation, Kang indicated that he recognized less than 90% of the words in

the novel. This is much lower than a minimum of 95% coverage of known words, a threshold for the reading comprehension in a given text suggested by Laufer and Nation (1999).

Instructor: How many words do you not know in the novel?

Kang: At least 10% of the words I don't know

Instructor: You mean 10%?

Kang: Yes, over 10%.

Instructor: So it is a little bit too much (to comprehend the reading with such a high percentage of unknown words).

Kang: And I found there are a lot words (in the novel, which) we don't really use in our conversation.

Instructor: Any other reasons...

Kang: Yes, yes, some words I know their meanings, but they seem to mean something else in the novel. I believe, about this point, ah (sighing) this is because of the culture, the cultural differences. You cannot even explain some words in Chinese. You must..., the meaning is different... even different... They carry different meanings in different period of time.

Instructor: Yeah.

Kang: So it is hard to understand.

Script writing in groups seemed effective to help students develop in-depth understanding of the register of characters' utterance and word meanings in contexts. By working with their peers, students wrote up the dialogues that were coherent with the scene themes. They also provided clear stage direction for the cues for movement, and scene-setting elements. It was observed that during the performance, a few students were able to improvise the dialogues appropriately without the benefit of scripts. This process stimulated the ESL students' language productivity, and affirmed Swain's (1985) theory that comprehensible output was critical for their acquisition of new language forms. Swain indicated that when meaningful and purposeful activities require L2 learners to communicate a message to someone, they often make several attempts to achieve the goal by constantly reflecting and modifying their utterance, including pronunciation, use of words and grammatical forms. This significantly facilitates their learning in ways that not only differ from but also complement receptive language learning activities.

Through the corpus analysis of students' scripts using Cobb's (2006) Classic Vocabulary Profile version 3 (please see <http://www.lex Tutor.ca/vp/eng/>), the authors examined the vocabulary coverage of the students' scripts. The results showed the students' scripts, as in the original novel, were non-academic texts, because there were low percentages of academic word coverage (0.71% - 1.84%), far below 10% coverage in an academic text (Nation, 2001). However, the results indicated that students used more complex vocabulary than an average non-academic English text. With an exception of the scripts written by drama group five, the first 2000 high frequency words accounted for only 80.32% to 82.8% scripts, and low frequency/difficult words (and few proper nouns) accounted for 17.83% to 15.93% scripts (see Table 2). With less than 87% first 2000 high frequency words and more than 13% low frequency words appearing in students' scripts, their scripts were more sophisticated than an average non-academic text (Nation, 2001). Given the evaluation of their performance where the students were acting out appropriately to their characters, and fluent in their dialogues, and accurate in their word pronunciations, it is reasonable to conclude that students in the project had sufficient comprehension of vocabulary in the scripts.

Table 2. Vocabulary coverage of screen plays by five drama groups

Drama Groups	1-1000 words	1001-2000 words	Academic words	Off-list (6) words	Total words
1	73.71%	6.61%	1.84%	17.83%	1301
2	77.37%	5.63%	1.07%	15.93%	1971
3	75.49%	6.53%	0.73%	17.21%	2313
4	76.17%	6.63%	0.69%	16.51%	2895
5	84.42%	6.66%	0.71%	8.22%	1983

The feedback from the students about this project was positive. They said it was the project that nurtured their interest in reading *The Edible Woman*, which they initially found “difficult”, having “nothing to do with their life”, and “boring”. The drama and filmmaking activities have helped them put their learning into a real-life context, providing them with many collective and reflective learning opportunities. As a result, they indicated that they were confident discussing the novel and sharing their own perspectives about its themes, plots and characters with their peers. Overall, the students felt that they have made great progress in their reading comprehension and vocabulary knowledge.

5. Conclusion and Implications

This filmmaking project embraced the broad concept of task-based language learning that focused on “task authenticity, globality and integration of language and contents and involvement of all the aspects of the individual's personality” (Ribé & Vidal, 1993, p. 3). It enabled students to establish a cohesive interaction structure within a meaningful context that captivates students’ imagination and enhances their motivation through compelling multi-media (Hanson-Smith, 2007; Gromik, 2008, 2009). The outcomes indicated filmmaking activities based on carefully written scripts allowing personal interpretation of characters and dramatization of certain themes permeated with cultural content were effective in creating an optimal environment for students’ English learning. As a result, it seemed that students were able to develop an in-depth understanding of the novel and acquired vocabulary that was difficult for them to comprehend through traditional lecturers, reading and regular classroom activities. The project showed a great potential using digital video media and drama to facilitate students’ English acquisition.

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(1) All the names are pseudonyms.

(2) Bold fonts indicate the words that Lang didn't know.

(3) Twenty-two students signed consent letters, giving permission to use their images in the non-commercial CD production and upload the film on the university website upon the invitation by the program coordinator at the department (URL: <http://www.yorku.ca/laps/dlll/esl/index.html>).

(4) Indicates utterance interrupted

(5) Indecipherable utterance

(6) Off-list words include technical words, proper nouns, and low frequency words.

Top

Article

Managing the monolingual mindset. SWANS: an authoring system for raising awareness of L2 lexical stress patterns and for inhibiting mother-tongue interference

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Abstract

Until the end of the 20th century many EFL or ESL students were victims of what has been called "the literary tradition". After 12 years of school and university language study, they would finish their academic careers with a 'reasonable' level in reading and an 'unreasonably' lower level in listening and speaking. Recent pressures of globalisation have lifted some of the psychological barriers to speaking: European students are now far readier to abandon the cocoon-like, tribal security of their mother-tongue and L2 oral fluency has undoubtedly improved. Accuracy in spoken form, however, has made considerably less progress. The intrusive and distracting presence of foreign lexical stress patterns can and often does lead to communication breakdown. In the field of pragmatics such problems are under-researched perhaps because tolerance thresholds are based on diverse linguistic experience and highly individualized perceptual acuity making generalisation difficult. Similarities between arbitrary and irrational racial intolerance and arbitrary and irrational linguistic intolerance are striking. In the following article we lay the blame squarely with the real culprits in the European tradition - neural commitment towards mother tongue sounds and a vastly underestimated, not to say dangerous, man-made cultural artefact: the Latin alphabet itself. In an attempt to escape from the contradictions of using a standardised alphabet for symbolising languages with highly different lexical stress patterns, a team of 12 researchers from 4 laboratories in Toulouse have developed a new CNRS-funded authoring system called SWANS (Synchronised Web Authoring Notation System) which is currently undergoing testing in several European countries via language centres associated with CERCLES. SWANS manipulates the physical and cognitive nature of the reading experience itself not in order to improve reading skills but in order to improve L2 speech perception and ultimately speech production itself. Synchronised Multimedia Integration Language (SMIL 2.1, W3C, 2006) is used in SWANS to generate web pages, allowing novice teachers to synchronise text and sound and to annotate text typographically in order to raise awareness of lexical stress patterns. Working with a sample of over 250 students, recent studies (Stenton et al, 2005) have shown that computer-based dual coding (Pavio) of animated text improved listening perception and also led to more comprehensible L2 oral production in controlled conditions. This article presents the ideas underlying the development and analyses feedback from an international network of field experiments on the pedagogical aspects of learning through on screen reading of annotated sound synchronised texts. Improving L2 oral perception and production also implies appealing to EUROCALL partners to help improve teacher education and better manage the widespread problem of the monolingual mindset.

Keywords: Speech perception, syllable perception, oral production, SMIL, synchronisation, reading techniques, mother-tongue interference, teacher education.

1. Defining the monolingual mindset

One of the striking paradoxes of modern language learning and teaching is that it is often undertaken from a fundamentally monolingual perspective. Foreign language communication needs are not ignored but are considered of secondary importance besides the academic respectability offered by valuable intellectual exercises which actually reinforce the position and prestige of the community's dominant language. While demonstrating the capacity of educated L1 speakers to absorb, pillage and otherwise profit usefully from the study of the target foreign language, many language teachers convey a conscious or unconscious bias towards their own civilisation or culture and its 'natural' superiority over others. Attitudes may vary from puerile one-upmanship to outright aggressive scorn but such a monolingual mentality is clearly more akin to linguistic imperialism than to linguistic democracy and cooperation, the enlightened and shared examination of communication techniques for mutual benefit and heightened self-awareness. It is perhaps no accident that such attitudes are most frequently encountered in countries with a pronounced imperial past such as England, France, Germany, Spain, Portugal or Italy and are virtually invisible in smaller, more peacefully inclined countries such as Finland or Denmark. Such conservative and protective ethnocentrism is regularly denounced as a pathology, a blight upon the multilingual landscape. Modernised teacher education could improve matters but in those countries where knowledge of literature and grammar/translation are the essential keys to successful training for both specialist and non-specialist teachers and where studies of perception and pronunciation remain neglected poor cousins, the problem prevails rather like those eternally obsolete school history books which extol the benefits of 'enlightened' colonialism. The monolingual language teacher is not only ethnocentric, he or she is usually deeply concerned with and conditioned by written forms of language. The wish of most present day cultures to preserve the culture and language which produced them is at the heart of most writing systems.

1.1. Problems engendered by the excessive attention given to written forms in language study

The extent to which ethnocentrism is reinforced and compounded by a preference for written forms of language -the "grammar school" tradition - is another neglected field of research. Many teachers seem blithely unaware that they teach spoken forms by and through fundamentally confusing written forms. What works in an L1 context is often disastrous for an L2. The photocopied static Gutenberg page of text is the starting point of most oral activities and the idea that by using the same Latin alphabet for symbolising radically different lexical stress patterns they are also creating havoc with sound perception is too often ignored. The Latin alphabet may be an indispensable tool for communication but for foreign or second language teaching and learning of sound perception it's quasi universal character is a tragi-comic case of almost a whole continent shooting itself in the collective linguistic foot. In 1886 Paul Passy and his team of far-sighted pioneering Anglo-French linguists attempted to save the continent from rife confusion with the invention of the international phonetic alphabet (IPA) and its 102 letters, 52 diacritics and 4 prosody marks, but as they preferred a large number of abstract and non-intuitive phonemes as their fundamental units of analysis rather than a suitably limited number of more easily recognized syllables, their efforts at a practical level were unfortunately condemned to a relative failure in the non-specialist language classrooms, a failure which even today is still rarely admitted. Professionals, whether today's ingenious financial traders who for a time believed that all risk could be eliminated, or those devoted and erudite European and Arab doctors who accidentally killed millions of patients by blood letting for 2,500 years, usually have a rare gift for sweeping failures, accidents or intractable problems, under the carpet. The expression 'professional failure' is curiously taboo. 'The page has now turned' is the traditional explanation and Obama-like apologies for the mistakes of the past are an exception rather than a rule. Indeed some mistakes appear well-nigh impossible to eradicate. Removing IPA training from the notoriously limited pronunciation training generally offered young non-specialist language teachers is like removing QWERTY from our obsolete keyboards. When logic and credibility have disappeared, inertia and conservatism remain.

1.2. The need for new techniques for visualising sound

If blind people can learn to read with their fingers thanks to Louis Braille then sighted people with listening problems should be able to find more accurate techniques for visualising sound on the computer screen. It is fundamentally a design question. The interminable failure of language engineers in this field is perhaps the greatest problem in modern language learning. Descriptions of mother tongue interference in L2 oral perception and production are far from being generally available, easily comprehensible or easily shareable. This is not of course a utopian attempt to mimic the philosopher's search for a 'perfect language', a visual symbolic equivalent of God's communication with Adam, rather a more modest attempt to represent sound patterns visually with a simple and easily memorised system and thereby improve oral perception and production. The use of the computer in this field has been unimaginative. Programmes such as 'Praat', 'Winpitch' and others may have contributed to a better appreciation of acoustic phenomena, particularly pitch, but as sound is a pluriparametric phenomenon of great complexity (measured simultaneously as height, length, quality and intensity) few of such tools have found their way into the language classroom. The information gathered is slow to generate, often ambiguous and requires expert knowledge to interpret. Commercially inspired efforts ('Tell me More', 'Rosetta Stone') to allow students to imitate native speaker waveforms have also done much to undermine the credibility of such studies owing to the great variety of potentially acceptable utterances. Waveforms displaying volume or intensity are often used as sales gadgets and are known for their undeniable 'placebo' effect on students. Such visualisation techniques also suffer from confusions over the definitions of the acoustic phenomena which need to be analysed. Should students be studying "pitch accent" - as in Scandinavian languages, "stress accents"- as in English or Spanish, or "tone variations" - as in Chinese, and what exactly is the difference? Should teachers in a multilingual world have ear training in all such phenomena or merely some?

A recent and convincing answer, at least for the English language, has recently been provided by research based on syllabic perception. Despite long-standing controversies over segmentation and the relative importance of phonemes and syllables (Cutler,1986; Cutler&Norris,1988; Fear, et al.,1995), cognitive neuroscience is providing a growing body of evidence which underlines the fundamental importance of the syllabic unit during speech processing. The psycholinguistic reality of the syllable appears evident. Jakobson (1969) affirms that the first phonemic sequences which appear in child production (Ingram1978; Allen 1981; Locke 1983) and the last which resist aphasia are based on the CV structure which corresponds to the syllable found in most of the world's languages. Kuhl demonstrates a significant improvement in the recognition of native contrasts in babies between 6 months and 12 months and a decline in nonnative perception over the same time period (Kuhl et al 2005). Chait argues that the short input sound streams (~30 ms) and longer input streams (~300 ms) are processed simultaneously and separately before being bound together in a stable representation called a syllable (Chait M. et al 2005). Working on syllabic recognition offers economies of scale. It does not negate the need to study pronunciation in all its aspects but it does suggest that improvements in oral perception and production are perhaps most measurably improved by concentration on lexical stress of primary and secondary stressed syllables and also on reduced, or 'neutralized' vowels which serve to highlight the stressed forms. Such studies provide a skeleton structure for lexical items making accurate perception more robust and facilitating heightened intelligibility in oral production.

1.3. The emergence of International English

In the context of the emergence of English as an International Language (EIL) the ethnocentric mentality is also sometimes confusingly combined with the legitimate claims of non-native speakers for more tolerance in the English speaking world. When non-native speakers are in the majority, they are entitled to ask Anglophone listeners to be more indulgent, to stop the excessive stigmatization of obtrusive foreign lexical stress patterns. In a word, to make more efforts to understand and accept as legitimate the spoken production of foreigners. It is here that many language teachers and researchers are clearly 'out of their depth', capable of noticing that the language is

evolving fast but incapable of defining precisely what is going on because their very object of study is changing before their eyes, just as our inner cities are changing under the pressure of immigration. The multiracial mix of European cities and universities has many connected parallels in the controversial multiple lexical stress patterns now commonly heard among non-native English speakers. Tolerating foreigners also means being more tolerant towards the way they speak. When the French Minister for Foreign Affairs announces that "the fa **mine** in af **ri c a** is te **rri** ble" with excessively lengthened syllables and misplaced stress, he is immediately understood by millions of English-speaking French and European citizens and yet misunderstood by millions of other fluent speakers of English less well acquainted with the French lexical stress patterns and incapable of backtracking rapidly to change "fa **mine** " with its weak first syllable (like the word "machine") into a more familiar " **fa** mine" with its strongly stressed first syllable. Considered in isolation such problems may appear minor but in the context of a rapid speech where the minister goes on to other matters leaving no time for reflection or catching up, the problem is in fact a disturbing one, provoking frustration because the listener cannot backtrack to the problem and listen to continuous speech simultaneously. Such lexical stress errors regularly lead to communication breakdown and in a rapidly changing multilingual world such problems now deserve far more attention than they have received hitherto.

2. SWANS: an authoring programme for improving oral perception and production

Our basic hypotheses are that the plasticity of the computer environment can effectively mirror the plasticity of the human brain and that visualising sound is the most effective way to improve fossilized auditory perception problems linked to mother tongue interference. The authoring system SWANS 1.1 (Synchronised Web Authoring Notation System) developed by a group of 12 researchers working in four research laboratories in Toulouse, attempts to use synchronisation and enhanced typography to transform the experience of reading and listening. New exercises developed with SWANS tap into the brain's adaptive capacities. The use of visual stimuli as a potential remedy for negligent auditory perception is possible because all the brain's intelligences are connected. Consequently, the use of dynamic synchronised audiovisual events, may have implications for oral perception, memorisation, and oral production. This ambitious challenge needs an adapted new technology to allow teachers not only to enhance the learning of pronunciation but also to allow teachers to practice new methods for visualising pronunciation to enhance teaching. The implementation of synchronisation and annotation technologies within an authoring system is the basis of the SWANS, which generates web page documents and integrates audio and video materials synchronised with XML-based SMIL tags.

SWANS uses typographical annotation and sound to raise awareness of lexical stress patterns. The focal point of explicit learning, the place of the primary, secondary accents and weak vowels, was encoded twice: visually and aurally. According to the theories of Paivio (1986), Mayer (2001) and Sweller (1999) such dual coding should lead to better learning for novice learners and have no effect or even a negative effect (called 'expert reversal effect') on learners who already know the place of these accents.

2.1. Colour and text size in SWANS

Annotations used in SWANS 1.1 are generated first in Microsoft Word (using macros for greater speed) and rely on a combination of 4 colours and 4 sizes. The objective is to offer memorable annotations (simulating acoustic contours: movements in syllable volume, height, quality and duration) without causing cognitive overload due to an excessive increase in visual information.

- ordinary text: black, size 18
- primary accents: blue, size 22
- secondary accents: red or brown, size 20
- vowel reduction (the 'schwa'): orange, size 14

Texts sizes are sufficiently close to the original size of 18 (+4 / -4) to allow instant word recognition and colour changes are limited.

2.2. Architecture

SWANS is composed of five modules presented in Figure 1. These modules involve the following functions:

- Importing text and media (video or audio) into the working environment.
- Segmenting the text into 'tone units' and tagging with XML codes. It should be noted that this stage is semi-automatic in order to leave the user free to choose appropriate units.
- Synchronising the text and sound. The freeware programme Magpie is currently used for this stage. After synchronising the programme checks the output code for coherence and puts the code into SWANS format, that is to say a the script associated with each tone unit together with the start time and end time which is necessary for the precision of the synchronisation (an animated band of blue which moves behind each line of text in time with the sound).
- Annotating. Annotating is carried out in Word using macros before being imported in SWANS. Development underway of an expert system (based on Deschamps and Guierre) and a dictionary data base should accelerate the process by offering automatic or semi-automatic annotations which the user can validate or modify.
- Generating ready to use web pages in XHTML+SMIL (W3C) This functionality, which provides the most dramatic increase in development speed, allows the user to visualise the document as it can be seen in Figure 2.

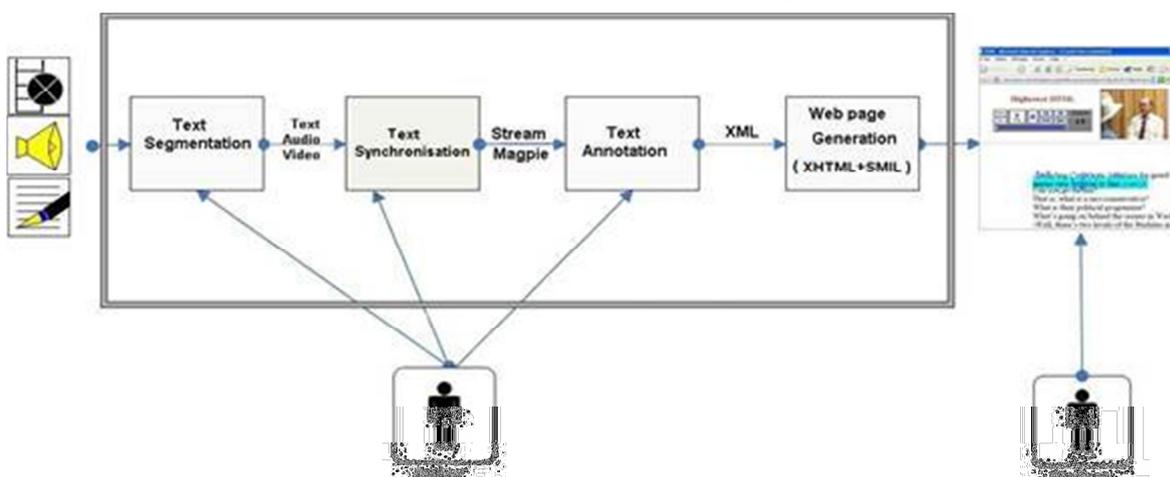


Figure 1. Showing the stages in the generation of a synchronised, annotated web page with SWANS. With practise, it takes 10 minutes to produce a finished web page of 20 lines of annotated, synchronised text.

2.3. Animation for improved memorisation

SWANS uses one principal animation technique: animation line by line. A blue band, visible behind the text, is perfectly synchronised with the sound and moves down the text line by line when the user clicks on 'play' (animation generated with the language SMIL and the programme Magpie, see Figure 2). The text also scrolls down automatically to avoid page turning.

2.4. Metaguiding: a new reading technique

Line by line animation engenders a new reading technique which, we argue, represents a progress in terms of ocular comfort when compared to reading karaoke texts. It is combined with automatic scrolling techniques now also integrated cleverly and smoothly on the somewhat tiny screen of iPhones. Reading karaoke style text is particularly difficult in a foreign language as the speed of reading is imposed by the animation and the speed of sound. The reader has no choice, he must slow down his normal reading speed and submit to the distracting hop from letter to letter or from word to word. The advantage of line by line synchronisation, however, is the greater freedom given to the eyes which usually scan backwards and forwards along the line of text during sound

playback. In this way the visually distracting, jerky karaoke animation is avoided and replaced by a smoother, slower movement offering a compromise. Naturally, the eye reaches the end of the line before the sound. Average speeds of word recognition for native speakers are calculated at 1/8th of a second for visual recognition and 1/5 th of a second for listening recognition. In terms of brain perception where activities are measured in milliseconds, the difference is enormous. Without a technique for encouraging the eye to linger on a particular line in time with the soundtrack, the divergence between ocular perception and auditory perception is potentially important too.

The compromise solution involved in line by line reading of a synchronised text allows a closer association of visible forms (the text with its annotations showing stress) and the sound of the speaker. Not only are associations made more memorable but the activity of reading itself becomes somewhat easier. The physical effort of focalisation is guided by the animation and student users have described this new process explicitly in terms of reading, or 'ocular', comfort and reduced eye fatigue. The eyes are more relaxed because there is a guide to follow. The process is called metaguiding and we all use it with our index finger or a pen when hunting for information in a directory. The developers of SWANS have simply replaced the cumbersome technique of the pen on the page with a discrete blue band with the added advantage of not masking any of the text. It is because the activity of reading has become easier that the dual decoding of text and sound becomes more acceptable. Laboratory behavioural studies in Toulouse reveal that most readers do indeed scan the line of text backwards and forwards while waiting for the sound to catch up. Visual forms and auditory perception are thus united. The eye tolerates the 'slowness' of auditory perception because ready to participate in a pedagogical experiment, ready to examine the proposition that synchronised text and sound can help inhibit subvocalisation and thereby weaken the role of mother tongue interference in oral production.

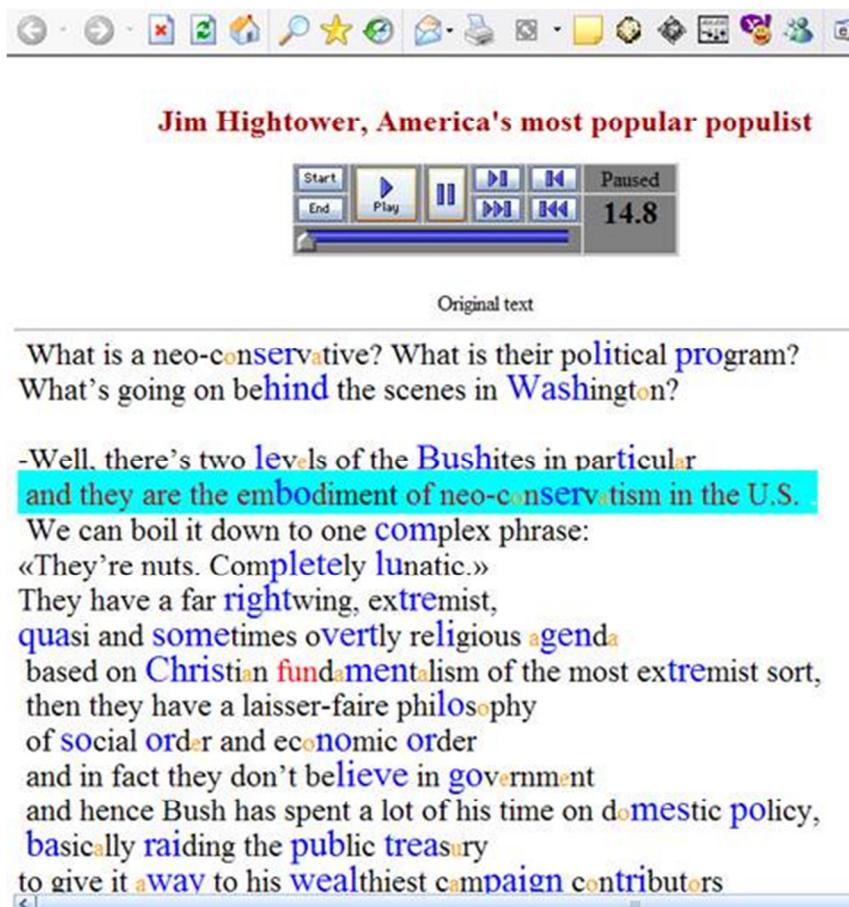


Figure 2: Showing the animation technique employed in a webpage generated by SWANS. The blue band is perfectly synchronised with the sound and the text scrolls up

automatically allowing the reader to concentrate on the complex pattern of English stress. In theory, the presence of the English sound track inhibits or shuts out subvocalisation with its mother-tongue influence which is normally, or always, encountered when reading. The author would like to apologize in advance for the absence of (indispensable) colour on this printed page owing to Gutenberg traditions beyond his control.

3. Teaching and Testing

SWANS has been used for generating synchronised, annotated texts - usually the scripts of video or audio documents lasting 3 to 5 minutes - in several languages, including English, French, German, Spanish, Dutch and Arabic, in European language centres. Feedback from teaching and testing concerns principally English language documents read by European, mainly francophone, students (levels A2 to C1) in language centres in the CERCLES association. Our starting point was the particularly low levels of perception and performance in a sample of over 250 students and school children in Toulouse (Stenton, 2005).

Teaching techniques in the multimedia laboratory involved:

- Manual written annotation of paper-based texts after using SWANS
- Reading aloud in pairs (Student A with an unannotated text and student B listening and correcting from the annotated text.)
- Distance teacher correction of student keyword annotations (20 keywords sent by e-mail) in preparation for 3-minute oral exposés
- 'Carrousel' techniques where a student makes the same short 2-minute oral presentation to five different partners and so progressively spends more time thinking about language form rather than content.

Testing combined two modalities:

- sound synchronised with text (dual coding), or sound without text, or sound heard separately before the text is read
- text with or without annotation.

Perception testing included stress and reduced vowel recognition while reading, recognition while listening, and correct use of stress and reduced vowels in oral production.

3.1. Results

Globally dual coding improves performance. Students exposed to dual coding scored at least 10% higher than the others in the stress recognition reading test. The synchronised experience in SWANS produces higher (+8%) results than the separate experience of listening first to the (lossless) wave file then reading the annotated document in Word. This was a potentially important finding as the multimodal synchronised experience is theoretically more demanding. Annotations appear to improve short-term memorisation in all cases. Unimodal results are inferior to the multimodal results - bare text and bare audio being the lowest. Whilst many students cautiously hesitate before choosing which syllable is stressed they often overlook entirely the presence of reduced vowels suggesting that teachers need to highlight this problem more in their teaching.

Oral testing, based on video recordings of 3-minute talks and analysis by native speaker teachers, suggested significant, and greater than expected, improvement in controlled conditions for certain individual students and a small global improvement after preparation via keyword annotations. On the other hand, the results of oral testing in the context of spontaneous conversation did not confirm the idea of improved oral production. Student feedback suggests that removing fossilized habits in L2 oral production should be a long-term and legitimate ambition.

4. Conclusion: visual memory must help 'negligent' auditory memory

We have suggested that managing the monolingual mind set requires breaking with the Gutenberg obsession with standardized static written forms and its stranglehold on teacher education. It means helping teachers and students with oral perception and production with dynamic synchronised tools. Noticing lexical stress patterns and

heightening awareness of problems of L1 interference in the perception and production of speech are the essential first steps in redressing the balance of education so that the written forms no longer dominate and spoken forms are given equal attention. Correcting the presence of 20th century style linguistic imperialism in 21st century teaching, however, means addressing only a limited set of problems. It will not provide answers to today's very real problems of language identity. Just what is the English language and how are teachers supposed to teach it? Our answer to this question in the European context can only credibly be found in the European democratic tradition. The English language as an international or second language for millions of European citizens is whatever those European citizens make of it. Similarly, language teaching does not require native-speaker priests who guard the sacred flame but experts of diverse origins who can recognise socially produced language norms and explain how they operate. It is in this context that associations like EUROCALL can now make a more decisive contribution. What laboratory observation of Swans and feedback from language teachers in CERCLES is revealing is the need for an even more adaptive approach which takes on board the diversity of interferences which are not necessarily always confined to the mother-tongue. The majority of the world's citizens speak more than one language and yet scientific and didactical literature is centred, for the essential, on the analysis of monolingual communication.

In Europe, the shared annotation of the same L2 documents according to local L1 interference is a way of giving instant feedback into what teachers diagnose as local problems of perception and production. In Czech, Latvian, Hungarian, Swiss German (Bernese dialect), Finnish, and Swahili, stress is always placed on the first syllable. In French, Spanish, Portuguese, Turkish, and Polish stress is rarely placed on the first syllable. Teachers whose annotated texts make no attempt at exhaustively analysing all stressed syllables but which concentrate on the essential problem areas of their own students are thus participating in a networked effort to tailor textual annotation to real needs. The European Socrates EXPLICS project has now placed a large quantity of case studies in 11 languages on line for language learning in universities. Explics case studies and simulations which cover a wide range of levels and which generally conclude with student oral presentations or debates, offer an excellent testing ground for measuring effective communication through the integration of SWANS annotated documents in an environment ideally adapted for blended learning and continuous assessment. Similarly, in the context of the current widespread adoption in European Universities of CLIL (Content and Language Integrated Learning), problems of perception become even more urgent. The expertise for correcting Finnish mother-tongue interference in Spanish oral production is probably easier to decipher with experts from Spanish and Finnish universities, for example, rather than with those in universities in other parts of Europe. A shared and common approach on the networks is clearly needed.

In the field of English language teaching, the collation and distribution of annotated texts is more than just a contribution to widening pedagogical resources, it is also a pan-European dialogue between language teachers on the evolving nature of the English as an international language itself. Textual annotation is one way of making tolerance thresholds visible according to locally perceived needs of communication. It sheds light on what is, and what is not, considered linguistic deviance. The stigmatization of a stress pattern judged unacceptable in one centre may provoke vehement protest in another. As language teachers and their students slowly abandon the monolingual mindsets of the 20th century it is distinctly possible that new mentalities will reflect the multilingual muddle of the 21st. Pupils at White Hart Lane Comprehensive School in London currently share between them over 65 different mother-tongues. Networking and sharing notions of linguistic deviance at a European level is a democratic and intelligent way forward. Pedagogy should be shared and textual annotation can become a sharing mechanism, not to say a teacher training tool, over the internet in the field of perception.

Perhaps the greatest mistake of the 20th century monolingual mindset was to believe that there is no fundamental difference between learning to read in a mother tongue and learning to read a foreign or second language. L1 reading techniques rely on the alphabet or phonemes for initial learning and whole word recognition once the process becomes rapid, automatic and error-free. L2 reading is almost never so rapid, automatic

or error-free but is accompanied by deviant subvocalisation characterised by L1 interference as a permanent, lifelong and often disturbing presence. In fact difficulties are in part related to the degree of morphological proximity, a finding interestingly confirmed by a recent Danish paper (Rikke 2005). English and French, for example, share a common lexis estimated at over 60% if words of Latin origin are included. Their lexical stress systems are completely different. English is generally to the left and irregular, French stressed syllables are usually on the right and more regular. The English use reduced vowel sounds as background to highlight the stressed syllables whereas the French (but not all Francophones) often make an energetic point of preserving syllabic integrity. Stigmatizing francophone stress patterns in English ('doll **AR**' and not 'doll **ar**') often simply means stigmatizing an unusually chequered history of over 9 centuries of continuous linguistic exchange. The French and the English have become morphological friends but acoustic enemies, a fact which should temper unjust and unjustified Europe-wide prejudice. Moving attention away from the familiar decoding of abstract phonemes or whole word units towards the decoding of SWANS-style annotated, intuitively recognised syllables means changing cognitive processes quite radically but not subversively. In SWANS the reassuring and ancient visual shapes of the alphabet letters have been preserved (the letter 'A', for example, is still recognizably the wonderfully familiar inverted head of an ox or *aleph* as the Phoenicians once put it). It means, as suggested in Stenton 2009, adding to often deficient auditory memory a new layer of more accurate syllable-based visual memory which with time and, above all with efficient synchronisation, may begin to destabilize fossilized speaking habits based on years of far too rarely corrected mother-tongue interference.

Managing this monolingual mindset now requires a sustained effort in proportion to the weight of inertia, conservatism and widespread technophobia ranged against teacher education reform and the integration of ICT in each country. The evidence that associations like EUROCALL and CERCLES, (which represents some 290 higher education language centres in Europe) have a role to play in this battle should strengthen existing ties. In our heterogeneous school and university classrooms where the mix of nationalities is steadily on the increase, the monolingual mindset of much language teacher education denies trainee teachers the time to gain precious insights into the source of spoken errors and problems related to listening perception. In a word, language teachers are not properly trained for a multilingual world. EUROCALL partners and langue centres from each European country can help remedy this problem by exchanging and analysing annotated documents which are tailor-made to indicate L1 language-based interference problems when reading or listening to a foreign language document. The Europe-wide collation of Swans-type documents would enable students to choose document presentation style according to their mother-tongue. Predictable, stereotypic perception problems for each mother-tongue, would leap out at students from the screen through automatically generated, highly memorable animation techniques; 21st century techniques which improve upon the static but irreplaceable Latin alphabet typography with colour, dynamic size change, sound synchronisation and superior ocular comfort. Gutenberg will no doubt be revolving in his grave but language teachers, researchers and the CALL community may at last begin to take pride in a joint, cooperative, networked contribution to answering the real multilingual communicative needs of 21st century students.

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Synchronized Multimedia Integration Language (SMIL 3.0):
<http://www.w3.org/TR/SMIL3/>

SMIL is an XML-based language that allows authors to write interactive multimedia presentations. Using SMIL 3.0, an author may describe the temporal behaviour of a

multimedia presentation, associate hyperlinks with media objects and describe the layout of the presentation on a screen.

Explics: <http://www.zess.uni-goettingen.de/explics/>

The aim of the Socrates-financed EXPLICS project is to improve language competence of students by preparing models of best-practice in how to exploit Internet case study and simulation templates and by familiarising language teachers with these models. Participating institutions include universities from 12 European countries. Specialisations include: task-oriented and problem-based learning and teaching; use of global simulations; use of case studies in language teaching; development of language level descriptors and methods of language testing, use of ICT for corpus analysis and concordancing and the use of ICT for language testing.

CERCLES <http://www.cercles.org>

CercleS is a confederation of independent associations from 22 countries in Europe. It brings together some 290 Language Centres, Departments, Institutes, Faculties or Schools in Higher Education whose main responsibility is the teaching of language. Its members have several thousand academic, administrative and technical staff, and some 250, 000 students who learn all the world's main languages.

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Book review

Task-Based Language Learning and Teaching with Technology

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Eds. M. Thomas and H. Reinders

Task-Based Language Learning and Teaching with Technology

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Task-based language learning and teaching with technology is presented as a necessary book that fills a clear gap because of the lack of publications concerning TBLL and TBLT out of the face-to-face (FTF) contexts. The contents included in this compilation are closely related to fields such as Intelligent CALL (ICALL), virtual worlds (VWs), telcollaboration, multimodality (MM), computer-mediated communication (CMC), etc. by paying attention to the role they play in second language acquisition (SLA) as well as to the interactionist theories that surround them. In the very beginning, the Professor Rod Ellis takes into consideration the connection among these fields and bears in mind whether 'negotiation in a CMC context results in the same pattern of interaction as that reported to occur in FTF task-based interactions' (Foreword). Learners are essential actors and the way they react or respond to the new language learning solutions or contexts must be explored in detail within the whole research process. The foreword is also aimed at introducing concepts and ideas related to task-based language learning and teaching, such as design and implementation features, or the impact that they have on language production -fluency, complexity and accuracy.

The book is a compilation of chapters written by some of the most representative and acclaimed authors in the field of CALL. A brief section with specific and outstanding details concerning their careers, curricula and research fields is included, which is a very useful resource to contextualise their contributions. The publication follows the structure of a coherent collection of research articles which is broadly structured in two parts: 'Research on Tasks in CALL' (from chapters 2 to 6) and 'Applying Technology-Mediated Tasks' (from chapters 7 to 11). These parts comprise eleven chapters well integrated within a whole picture depicting a field of study about which "little has been published in technology-mediated contexts" (Foreword). In spite of this, each contribution keeps its particular focus and is well integrated within each part and the whole book.

Thomas and Reinders (p.1) define this book as 'the first collection of international research to consider the synergies between second language (L2) task-based approaches and CALL'. These authors are also the editors of the book and devote their contribution to 'deconstructing' the relation which exists between tasks and technology. Many references to experts on this research field support not only the ideas and aims defined throughout the initial chapter in particular but also the contents of the whole compilation. It is considered as strength for the collection the fact that it includes contributions from researchers and learners from different places in the world, which

provides thus an enriching and inspiring view of the task-based approach when combined with the possibilities offered by CALL. The authors also include a complete definition of basic concepts and data obtained from previous literature and research, i.e. the definition of the participants' roles in the process, the contexts in which practice and learning take place, the introduction of technology to carry out tasks that were previously done in FTF contexts, its influence on methodologies, actual experiences and empirical studies, criticisms and potential dangers, etc.

In chapter 2, Müller-Hartmann and Schocker-v. Ditfurth reflect upon the fact that language learning and teaching have followed 'two different research paradigms, the psycholinguistic approach and the sociocultural approach'. This dichotomy is also mentioned and taken into consideration by other authors along the book. The authors provide the reader with very useful definitions of "task" and also discuss how this research field has been developed during the last few years and how important it is to bear in mind contributions from other related fields and dimensions, such as "general distance learning" (p. 18), the pedagogical perspective, the intercultural communicative competence required by learners who contact other learners worldwide, the texts chosen for practice, sociocultural features and classroom contexts, etc. CMC is thought as "the prevalent concept of technology use in the language classroom today". The authors also alert about the fact that "the computer is not the method, but the tool that needs to be used" (p. 20). The language classroom is seen as a "community of practice" in which there is a negotiation process between the teacher and the student to obtain more satisfactory results. Nonetheless, there has been a recent shift in research from single classrooms to long-distance collaboration, which has expanded the focus of attention. Müller-Hartmann and Schoker-v. Ditfurth provide the theoretical framework of the "Activity System" (p. 22), a system in which "the human activity is the central unit of analysis" (p.22) and alert about the differences existing between the concept of activity and the concept of task. They also offer specific details about all the agents that take part in the system as well as some enlightening research findings concerning the learners' and teachers' roles.

Mark Peterson is the author of chapter 3, in which "the expanding use of tasks in network-based computer assisted language learning" (p. 41) is explored, bearing in mind important and influential features concerning the psycholinguistic and sociocultural interactionist accounts. The author examines the "advantages and limitations of synchronous text-based computer mediated communication (CMC) as an environment for language learning" (p.41). Moreover, Peterson explores some of the potential effects of task characteristics and conditions and includes references to previous findings and studies focused on issues such as interaction, negotiation of meaning, the mental activities developed while interacting and learning, the effects of providing corrective feedback, etc. The chapter comprises sections devoted to exploring features and proposals for TBLT in network-based CALL, always bearing in mind "the nature of online interaction and suitability of current approaches to the use of tasks in online environments" (p. 45). Much attention is paid to the CALL theorists' debate and conclusions on the potential benefits for learners as well as on the hypothesized advantages and limitations of Real-Time Text-Based CMC in the whole process. These advantages and limitations, which occupy very important sections in the chapter, are structured in a very clear, visual and organised way and are also very well supported by a range of solid references on previous research.

Chapter 4 introduces the concept of Intelligent CALL and explores the relationship between this field and task-based language teaching. The first paragraph is devoted to asking several questions in an attempt to answer them along the whole chapter. Mathias Schulze includes a reflection made by Doughty and Long (2003, p. 50) by which they argue that "TBLT constitutes a coherent and theoretically motivated approach to the components of the design, implementation and evaluation of a genuinely task-based teaching program" (p. 63). This author presents and defines the field of ICALL and names the three branches of Artificial Intelligence (AI) which are more relevant for CALL. These are: "(i) natural language processing, (ii) user modelling, (iii) expert systems and (iv) intelligent tutoring systems" (p. 65). Schulze follows a very clear structure and incorporates some principles, characteristics and requirements concerning good task design in ICALL. Moreover, the author provides the reader with real examples

of TBLT in ICALL and presents projects and programmes focused on the development of the communicative competence of language learners. The final sections are organised in such a way that they allow the reader to know about the main features concerning the stages of implementation and real practice through tasks: pre-task activities and during-task and post-task support. ICALL applications in a real language-learning situation are considered to be "slow and sketchy" (p. 79), mainly due to the "immense complexities of the computational processing of human language and of the nature of language itself coupled with the complexity of foreign language learning processes" (p. 79).

Glenn Stockwell is the author of chapter 5. He considers TBLT as a field which includes a varied range of aspects and alerts about the fact that "in recent years, communication tasks have to a large degree become synonymous with computer-mediated communication (CMC)" (p. 83). This chapter is thus presented in an attempt to "give a deeper insight into the multiple modes of CMC-based communication tasks founded on empirical data and to provide a discussion of the effects of these modes" (p.84). This allows the reader to know about "how these modes may be used both independently and in conjunction with one another" (p. 84) during the process of design and implementation of technology-based tasks. Stockwell shows that those tasks which have been "described in CMC research most commonly fit into the category of open tasks", including "discussions of prescribed topics with no fixed outcomes or responses" (p. 88). The chapter comprises a very clarifying and inspirational robust study aimed at providing an example of multimodal CMC "where the language produced by learners during Synchronous and Asynchronous CMC tasks is examined in terms of lexical density, grammatical accuracy and complexity", bearing also in mind "the discourse features used" (p. 90). According to the author, there is a need to keep on investigating "how TBL may be conducted in computer-based environments" and "how the medium has the potential to affect the way in which learners interact, the language they produce and the strategies they use" (p. 102).

The first part finishes with chapter 6, through which Karina Collentine measures the complexity in task-based synchronous computer mediation. She reflects upon the important impact that different task types have on task performance, the kind of language that arise as a result of their use and thus the effect on the whole second-language acquisition (SLA) process. According to this author, task-based researchers are working to develop "design principles" that would help increase "the meaningfulness of language use and the amount of communicative interaction that learners experience" (p. 106). Linguistic complexity is addressed to as the central concept in the chapter, which also includes some of the aspects that may affect it. Collentine includes varied details from recent research concerning the groups of features that contribute towards "operationalizing complexity". The initial ideas are supported by a well-founded study aimed at answering whether "learners produce more displaced discourse and lexicogrammatical complexity in the Interrupted task chatting activity (ITCA) or in the post-task chatting activity" and whether there is "a stronger effect for intermediate or advanced level learners" (p. 112). The study thus was developed in an attempt to know more about language complexity and the effect that different tasks can have on students at different levels of instruction.

Chapter 7 is the first contribution in part 2. Regine Hampel alerts about the fact that "online interaction between learners is becoming easier" (p. 131) and highlights the importance of interaction as a powerful venue for second language acquisition. According to the author, the context of the chapter is a blended language course that combines "more traditional modes of delivery and e-learning" (p. 133) and that takes a "task-based approach to designing activities for a virtual learning environment based on Moodle" (p. 133). Hampel continues to contextualize her study by providing information about two preceding pilot studies, which also help shed light to her well-founded approach to this field. Her study is widely supported by several sections that deal with: design -bearing in mind the need to identify different task features and observe how these were realized in the actual course-, the goal -combining language and content to be taught at a distance and the development of linguistic skills with the construction of knowledge-, tasks types, conditions, procedures -including a wide range of methodological options for implementing the tasks-, the predicted outcomes and the

participants. This is thus a very useful chapter that allows the reader to visualise the way in which three factors –“interaction in language learning, learner support through scaffolding, and mediation by computer”- contribute to “feed into the pedagogical design of online tasks in a blended distance language course” (p. 149). Other aspects such as the importance of tutor support, the environment, the learning goals, the distinct formats, etc. are able to have a noticeable effect on the whole process.

Chapter 8 addresses teacher development, which is identified by several authors as the “lynchpin for progress of the TBLT enterprise” (p. 154) and the “ideal to put the idea of reflective learning into practice” (p. 155). Thomas Raith and Volker Hegelheimer, discuss the role of e-portfolios and the way competencies can be improved by using them when dealing with foreign language teacher education, and also explore what competencies a teacher needs to put TBLT into practice. The authors present a clarifying compilation of the advantages provided by the use of portfolios. For instance, student teachers can “take responsibility for their own learning and share their learning experiences”, they are also allowed to “collect different kinds of artefacts to document their learning process”, they can “connect their portfolios to teacher standards” and even “evaluate their own professional development” (p. 155). The authors thus provide a new view within the whole process, i.e. the role of the teacher while training the skill that would help them to put TBLT into practice, to design tasks that are able to encourage learners in the process, etc. Chapter 8 presents the concepts of “training” and “development” (p. 167) and also includes a very useful list of TBLT standards that would allow teachers reflect upon their own strategies and new ways to improve actual practice. The theory is complemented by data obtained from research on a real teacher training programme conducted in Germany, which makes the chapter be a complete tool for teacher learners who want to spread their knowledge on the topic or who want to reflect on and check if the way in which they actually work fit the adequate standards.

In chapter 9, Kenneth Reeder presents a case study of an intelligent CALL (ICALL) prototype entitled *EduBba*. Research on this prototype has been done in attempt to create and deliver authentic tasks through which learners can receive “authentic content for language learning” (p. 176). The author provides the reader with abundant details concerning *EduBba*: its functions, the participants involved, the tasks carried out, etc. and presents the context in which the first experiences have been developed. This chapter thus represents a starting point to “demonstrate the affordances of virtual worlds (VWs), autonomous exploration and technologically mediated linguistic interaction tools” (p. 184). The authors go beyond by taking into consideration other aspects such as the importance of serving pragmatic functions, the theoretical relationships that emerge among language demands, thinking skills or tasks, etc. The chapter is structured in such a way that the reader is able to witness the whole process. A process aimed at developing learners' writing and reading skills through a programme involving “navigation and interaction” that would of course require “orientation instructions” (p. 188). Writing in *EduBba* is conceived of as a “collaborative process” (p. 190) and the author alerts efficiently about the fact that several authors have demonstrated that “writing is as much a social construction as an isolated intellectual act” (p. 190).

Mirjam Hauck is the author of chapter 10. She starts by remarking the fact that little attention has been paid to the task design and implementation phases concerning task-based language teaching (TBLT) in published research. She approaches TBLT by linking it to telecollaboration in an attempt to explore the different ways in which “decisions about task design for telecollaboration are reached and what happens during the actual implementation of a task” (p. 197). The author presents a four-way telecollaborative encounter between pre- and in-service trainee teachers of English as a Foreign Language from several countries. The backdrop is considered to be the need to know more about the factors which influence “task choice” (p. 197). Mirjam Hauck's contribution is a multi-faceted answer to some of the challenges set out in the introductory lines. The readers are allowed to expand their knowledge on various foci of telecollaboration and on how it effectively contributes towards achieving specific goals concerning language learning. The author also highlights the concept of multimodality (MM) and the need to raise the multimodal awareness among the participants. One of

her aims is to shed light on the “interrelationship between multimodal literacy and online communication” (p. 198). Therefore, this approach to task design is mainly based on the “mediating role of technology” to make meaning and achieve communication (p. 204) and on the way technology also helps “re-mediate existing modes of meaning making and communication” (p. 205).

The last chapter is presented by Gary Motteram and Michael Thomas in an attempt to predict the “future directions for technology-mediated tasks” (p. 218), a field which has not been developed enough yet. This field provides a huge amount of opportunities for learners to engage in authentic task-based activities focused on aspects such as developing “the communicative fluency, accuracy and complexity” (p. 219). The aim of this chapter is not just to try to predict the future of this field but also to provide a general view of the contributions made by all the participants. Therefore, the authors review the contents included throughout the book and try to come to a final conclusion that would also leave some doors open for future research and developments. TBLT is considered to be currently advocated as “the replacement for communicative language teaching” (p. 218). One of the most important aspects concerning the present of the language learning and teaching field is that it may have entered in a phase that has been called the “sociocultural turn” (Johnson, 2006, p. 235). This theory might explain why so much importance is being given to computer-mediated communication (CMC) on these days. One other development in the field is considered to be the “use of case studies” in an attempt of language educators to “theorize from and about their practice” (p. 220). This final chapter also comprises a list of current critiques that have emerged concerning the task-based approach in the last few years. Then, the authors come back to the future and reflect on the “significance of changing pedagogy both within and outside the classrooms”, exploring the challenges and facing resistance and obstacles that might occur.

As a conclusion, *Task-Based Language Learning* presents a very complete and interesting compilation of research chapters that fulfil the aim of expanding research on a field about which little has been published before. The contributions provide the reader with ideas and conclusions from previous research or literature, but also with very clarifying data and results obtained from case studies of varied educational projects in an attempt to answer some of the questions posed both implicitly and explicitly by the book. It covers many areas and takes into account important shifts in the traditional pedagogies, methodologies and roles. Therefore, this is a very recommended book not only to readers who are experts on this field of knowledge or who are interested in going into it in depth, but also to the learners who want to start studying it and who want to have a snapshot of the past, present and future of TBLL and TBLT.

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Book review

Information Technology in Languages for Specific Purposes

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Information Technology in Languages for Specific Purposes

Issues and Prospects

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The efficiency and effectiveness requirements of the communication-based global society we live in has led to the incorporation of Information and Communications Technologies (ICT) into most people's daily lives. In the same way, these technologies have been progressively integrated into the practices of an increasing number of language teachers and researchers who exploit the endless possibilities of different technological tools for teaching and researching. These practitioners also benefit from constant technological advances and by new research findings aimed at improving both teaching and researching through or with the assistance of technologies. Like many other fields, Languages for Specific Purposes (LSP) has been transformed by technologies in such a way that these are no longer considered "an optional resource, something that can be dispensed with, but a reality", as Arnó, Soler and Rueda, the editors of *Information Technology in Languages for Specific Purposes*, point out (p. 3).

This book is the result of a selection of papers and keynote talks presented at the 6th *International Conference on Languages for Specific Purposes (LSP)* held in Vilanova i la Geltrú (Barcelona, Spain) in January 2003. The purpose of this book is to offer an overview of the different ways in which ICT can be applied to LSP, in areas such as: *Corpus-based studies, Computer-mediated communication, Specific technology-based projects in different educational settings, Technology and learner autonomy in higher education, and Terminology and lexis: teaching and translation* . These areas of interest constitute the different sections of the book, each of which is divided into several chapters (15 in total), also including a foreword, the acknowledgements, an introduction, five thematic parts, a conclusion, and a subject index. The book is addressed to LSP teachers and researchers as well as to applied linguists working in other fields. It features both "research studies and educational experiences and proposals, presented from different perspectives and backgrounds (both geographical and cultural), all of which are theoretically grounded and with a clear and sound rationale" (p. 5).

In the foreword, Mark Warschauer reflects on the way ICT has evolved since he first used the Internet, transforming the *context* of language learning in such a way that

English has become the “unofficial lingua franca of the world”; and changing *how* languages are learnt by means of providing both opportunities for an “immersive contact with the target language” and the access to “relevant target language materials, as well as an interactive community to engage with” (XII - XV). This is followed by a one-chapter introduction entitled “The Role of Information Technology in Languages for Specific Purposes: Some Central Issues”. In this introduction, Arnó, Soler and Rueda discuss the role of ICT in LSP or ESP (1), and present a suitable framework and a description of the different articles that make up the volume, as well as its aims, scope, and the way it is organised. They also provide a definition of ESP following Dudley-Evans' & St. John's (1998) comprehensive framework, by means of which they establish the twofold orientation of the volume, which deals with both research and pedagogy. Following this, the editors mention some of the most important research papers and pedagogic resources published in the field of IT for English Language Teaching (ELT) and in the field of LSP.

The first section of the book contains three chapters dealing with the corpus-based studies carried out by Swales, Fortanet and Rizomilioti. In the first chapter of this section, “Corpus Linguistics and English for Academic Purposes”, John M. Swales describes the Michigan Corpus of Academic Spoken English (MICASE) project and his own experience with corpus linguistics. He also discusses the advantages of small specialised corpora for LSP, summarises the present and future of the MICASE project, refers to a paper he published previously (lessening his previous concerns and criticisms on corpus linguistics) and provides examples of how LSP teaching can benefit from the use of corpora. As for the second chapter, “Interaction in Academic Spoken English: The Use of ‘I’ and ‘You’ in the MICASE”, by Inmaculada Fortanet, it presents a study carried out through the MICASE corpus. It consists of quantitative and qualitative research based on the number of occurrences, the referents, and the discourse functions of the personal pronouns ‘I’ and ‘you’ in five American lectures. In this study, she found interesting differences between monologic and dialogic academic language uses to mark closeness or distance between speaker and hearer, or to confirm the speaker's ideas, points of view and attitudes. The results of her research seem to indicate that the monologic use shows a tendency towards a more frequent use of “you” and towards less interactive lectures; while the dialogic use can be associated with a higher frequency of the use of “I” and a higher level of interactivity. Part one concludes with Vassiliki Rizomilioti's paper, entitled “Exploring Epistemic Modality in Academic Discourse Using Corpora”. Rizomilioti looks at epistemic modality (that is, “the speaker's confidence or lack of confidence in the truth of the proposition expressed,” p. 55) in three small, purpose-built corpora made up of articles in Biology, Literary Criticism, and Archaeology. The author deliberately chooses articles from very different disciplines in order to examine differences and similarities in the way certainty and uncertainty (both expressed by means of boosters, downtoners and indicators of certainty) are dealt with across the different disciplines, and the reasons for these differences and similarities. Overall, the researcher found the highest level of certainty in Literary Criticism, which she attributes to the nature of the genre, “which aims to persuade rather than inform” (p. 66). The lowest level of certainty was found in the field of Archaeology, probably due to the fact that “the interpretations of a particular finding and the claims about civilizations of the past can never be certain” (p. 66). Biology remained in the midway, since just some of the claims were expressed with certainty while most of the interpretations were made with caution, in an attempt to accomplish validity. Although the need for further investigation was pointed out by the researcher, this piece of work can be useful as an indicator of the different tendencies of academic writing across different fields, as well as a starting point for future studies on the same topic.

The second part of the volume, Computer-mediated Communication, includes three chapters presenting projects and classroom-based studies which explore the possibilities offered by the use of computers for communication in the LSP classroom. In their article “Finding Common Ground in LSP: A Computer-Mediated Communication Project”, Christine Apple and Roger Gilabert describe part of a three-year project between LSP students in Dublin and Barcelona. The main aim of the project was to compare the impact of two types of e-mail tandem exchanges, one with and one without assigned tasks, on students' written production. To do so, several issues relating to performance

were addressed in the study, such as the amount of interaction, the regularity of the exchange, and the sustainability through time. The researchers concluded that assigning specific tasks to LSP learners taking part in a e-mail exchange tandem results in a higher degree of regularity and homogeneity, allowing teachers to benefit from its flexibility and to cater for different specific needs, while guaranteeing "a better exchange in terms of production and sustainability", since learners "produce more language, more regularly and in a sustained way" (p. 85). In the second chapter of this section, Virginia Hussin presents "Uncovering tasks and texts – teaching ESP through online workshops", an article about two practical applications of IT to ESP teaching in the form of interactive workshops for non-native English speakers, developed at the University of South Australia. One of these deals with the development of cross-cultural communication skills in ESL nursing students, while the other one aims at teaching business students how to write a research conference paper avoiding plagiarism. The researcher discusses the positive aspects of these workshops, as well as the challenges and limitations. Among the shortcomings, Hussin mentions the use of "a written medium to develop oracy in students" (p. 96) and the limited time the students had to receive feedback prior to the assignment deadline. Both aspects have already been taken into consideration or will soon be, in an effort to provide a better "accessible and enduring form of support for learning which gives the students control over the development and management of their communication skills and academic writing" (p. 103). As for the third chapter, "The SMAIL Project: A Dialogic Approach to Computer-Assisted Language Learning for the LSP Classroom", it describes SMAIL (Multimedia System of Interactive Autonomous Language Learning), a multimedia application designed by M. del Rosario Caballero, M. Noelia Ruiz and other researchers from the GIAPEL research group (2). The system was designed in order to promote autonomous language learning and to effectively deal with the problems encountered by teachers in most LSP courses in Spain (e.g. the large number of students per course, and the diversity of levels of proficiency and learning styles). The design of SMAIL followed the guidelines proposed by the European Council, including both a learning styles questionnaire and a proficiency foreign language test (in four different languages) aimed at helping students to build a learner profile in accordance with the European Portfolio for Languages. In the system, the materials are organised according to different genres and around the "journey metaphor" (e.g. "discovering a language is engaging in a journey where the learner 'enters' –discovers- a new culture through its language –as used in genres and texts-", p. 110). Caballero and Ruiz describe a case study focusing on the way learners interact with SMAIL by selecting activities and itineraries based on their personal interests, thanks to the flexibility of the system, which allows them to choose between "a number of tailor-made itineraries, some of which are actually inserted within the general route" (p. 110).

The third section, entitled "Specific Technology-based Projects in Different Educational Settings", presents two projects carried out by Devaux, Otterbach and Cheng, and Healey; in places such as China, Taiwan, The United States, and Tunisia. In "Technology for Trust, Collaboration, and Autonomy among Asian Students at the University Level," Claudia Devaux, Renate Otterbach and Ying Ying Cheng describe a collaborative technology-based project aimed to help LSP students from Taiwan and China to transition from an educational approach based on the accumulation of information and memorisation to a more active way of learning. This transition is facilitated by situating the project in the Zone of Proximal Development (Vygotsky, 1978), and by the use of different e-tools, such as teachers' websites, e-mail, bulletin boards and chat rooms used to develop trust, collaboration and autonomous learning, when dealing with academic writing. Deborah Healey describes her experience in "Networking for Learning and Teaching English for Specific Purposes", which describes a project consisting of a faculty exchange between institutions from Oregon (USA) and Tunisia, aiming to create and expand connections, to improve the teaching of different disciplines, and to encourage the use of the Internet to enhance the teaching of ESP (p. 141). Healey's paper explains the political, cultural and economic difficulties encountered, as well as how these were overcome in such a way that the objectives of the project were, to a great extent, achieved.

Part four includes three articles dealing with "Technology and Learner Autonomy in Higher Education", written by Lasagabaster and Sierra; Luzón and González; and Trinder. The first chapter presents the results of David Lasagabaster's and Juan Manuel Sierra's 18-item software evaluation questionnaire, answered by 59 undergraduates at the University of the Basque Country (Spain) who had used four different CD-Rom courses (*Tell Me More*, *CD English Tutor*, *English Express*, and *Interactive Course in Acoustic Phonetics*) for a whole academic year. The goals of the study were to check the students' opinions and views about using these programs to learn English, and to compare the opinions of two different groups of students: the first one, made up of students specialising in English, and the other group, of non-specialists. When commenting on the findings of the study, and on the students' opinions about the feedback they received, the authors state that "as expected, when the students reflected on the advantages and disadvantages of the computer/teacher dichotomy, the computer's drawbacks were much more abundant than those concerning the teacher" (p. 170). Further research would be needed in order to contrast these findings about older CD-ROMs for language learning with the results of studies involving new-generation online courseware -which often incorporate advances concerning feedback and interactivity- in order to see if these advances lead to a higher degree of satisfaction among users. In the following chapter, "Using the Internet to Promote Autonomous Learning in ESP," María José Luzón and María Isabel González explore the ways in which ESP can benefit from the use of the Internet and how teachers can exploit Internet-based materials in the ESP classroom to promote autonomous learning. The theoretical framework they present is followed by an example of a *Webquest* in which "students (usually working in groups) are presented with an authentic situation and a task, which usually consists of solving a problem, making a decision or finding the answer to a complex question" (p. 183). The researchers conclude that web-based activities can be very useful in a learner-centred approach to language teaching aimed at promoting motivation and the development of learning strategies, but only if different factors (e.g. language level, relevance of the activities to the students' goals, provision of guidance, feedback, and support) are cautiously taken into account. Ruth Trinder signs the last chapter of this section, "Integration of E-learning into a Tertiary Educational Context", describing the integration of an e-learning component which supplements face-to-face ESP Business classes at the Vienna University of Economics, funded by the Austrian Ministry of Education. Trinder focuses on the aspects of web-delivered course design, as depicted by Chapelle (2001): learner fit, language learning potential, meaning focus and authenticity; as well as on the students' acceptance and perceptions of the effectiveness of the system, based on "rates of effectiveness and enjoyment as well as frequency of interaction with the courseware" (p. 204).

The last section, part five, includes two papers by Piqué, Posteguillo and Melcion; and Scott, dealing with "Terminology and Lexis: Teaching and translation", the first of which is entitled "The Development of a Computer Science Dictionary, or How to Help Translate the Untranslatable" and signed by Jordi Piqué-Angordans, Santiago Posteguillo and Lourdes Melcion. It describes the collaborative design of a corpus-based bilingual dictionary for Computer Science. This dictionary, designed by two Spanish universities, a British one and a publishing house, is based on a corpus of 1,125,768 words, consisting of sub-corpora of different texts and glossaries. It also includes words selected for their relevance, clarity, and economy, each entry having the head word plus the part of speech, the quotations, and a technical commentary. Mike Scott, the developer of the well-known suite of programmes WordSmith Tools for text analysis, closes this final section with a chapter about "The Importance of Key Words for LSP" and about the application of the notion of "keyness" to LSP. According to Scott, keyness "presupposes an interest in text and textuality" (p. 232) and its two main aspects are importance and aboutness (what a communicative event is about). Bearing this in mind, technological tools could be used in the LSP classroom to help students identify the main or key points of a text. Scott also provides a classification of the different levels and types of contexts, and gives a useful example of how *Wordsmith Tools* (Scott, 1999) can be used to detect the key words in a given text, concluding that key words "can provide a less stressful way of working in the LSP classroom" and are therefore "a means of enhancing awareness" (p. 242).

In the last chapter, "Conclusions", the editors of the volume discuss the twofold orientation of the book, and the way in which the individual chapters are "organised around five main areas of active enquiry, which cover a wide range of interest for specialists in LSP and applied linguistics in general" (p. 247). They also summarise the different chapters, finding similarities and differences among them in an effort to make it clear that the use technology is no longer optional or supplementary, but a reality that needs to be reflected into the practices of LSP teachers and researchers. Following this, the editors list the main factors or "driving forces" which are "related to the fact that technology is a commodity item that forms part of our daily lives and of the new practices" in LSP (p. 258): the need to adapt LSP practice to technological changes; the need for LSP teachers to catch up with their students' technological skills; technological innovation and collaboration among LSP practitioners; and external factors that make LSP practitioners adopt technology.

To sum up, *Technology in Languages for Specific Purposes: Issues and Prospects* is a well-written, thorough overview of different studies and research projects carried out in the field of ICT in LSP. It provides a great variety of perspectives and both theoretical reflections and pedagogic applications of the use of technologies in LSP, covering a wide range of topics. The articles that this volume contains are organised around different main areas of active research, namely *the role of information technology in ESP, corpus linguistics in ESP, computer-mediated communication, technology-based projects worldwide, technology as a means to foster learner autonomy, and terminology and lexis*, thus providing a myriad of perspectives of interest for LSP specialists and for applied linguists in general.

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(1) English for Specific Purposes.

(2) Universidad Jaume I (Spain).

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Events Calendar

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