European Association for Computer Assisted Language Learning

THE EUROCALL REVIEW

Volume 20, Number 2, September 2012

http://eurocall.webs.upv.es/index.php?m=menu_00&n=news_20_2

and

http://www.eurocall-languages.org/review/20_2/index.html

Table of Contents

Project

Pedagogic Corpora for Content and Language Integrated Learning.
Insights from the BACKBONE Project

Kurt Kohn
Applied English Linguistics, University of Tübingen (Germany)

_____

Kurt.kohn @ uni-tuebingen.de

Abstract

BACKBONE is a European LLP/Languages project (1) (Jan 2009 - Feb 2011), whose overall objective is to provide foreign language teachers in CLIL settings with innovative language learning solutions. To achieve this goal, pedagogic corpora of spoken interviews are combined with corpus-related e-learning activities in blended learning scenarios. The seven BACKBONE corpora contain video interviews in English, German, French, Polish, Spanish and Turkish as well as in European manifestations of English as a Lingua Franca (ELF). The interviews have been transcribed and pedagogically annotated with regard to thematic and linguistic features; additional enrichment resources include ready-made language learning modules as well as suggestions and instructions for exploratory and communicative learning activities. The BACKBONE search interface provides free online access to the interviews and enrichment resources. It supports pedagogically motivated searches using thematic and linguistic categories as well as lexical searches with words and phrases. 24 CLIL-related pilot courses have been implemented and evaluated in secondary, higher and vocational education; they demonstrate how BACKBONE search results can be used to facilitate individual and collaborative learning in Moodle-based blended learning activities.

A suite of pedagogic corpus tools covering transcription, annotation, management of enrichment resources and corpus search is available under a GNU General Public License. The customization and flexibility these tools offer enables teachers to cater to diverse language learning and teaching needs in CLIL contexts or in connection with lesser taught languages and varieties. To facilitate exploitation, the BACKBONE website serves as a 'one-stop-shop' for an ensemble of teacher support facilities including web support for the development and hosting of "guest" corpora and courses.

Key words: Pedagogic corpora, corpus-based language learning, CLIL, Blended Language Learning, e-learning, Moodle.

1. Rationale

Across Europe, school subjects like history and biology are increasingly taught not in the country's native language, but in a second language, frequently English. This approach is known as bilingual education and forms part of the pedagogic concept of Content and Language Integrated Learning (CLIL). In this form of teaching, the main focus is on the subject at hand; the second language is merely used as the medium of instruction. As a result, students practise and learn the second language in a relevant thematic context and through 'real' communication. CLIL interactions in school, however, are not limited to bilingual subject teaching; they can also be found in regular foreign language teaching contexts when the focus of learning is on, e.g., culture, geography or

literature. The CLIL method holds huge potential for language learning – both in its strong version in bilingual subject classes and in its weak version in subject-focused units in regular foreign language teaching: CLIL can help students improve their general language proficiency, become more confident in using the foreign language for communication purposes, and boost their communication skills in relation to specific subject areas.

Success in CLIL is based on two main factors: rich opportunities for communicative interaction and availability of relevant content with which to work. Both factors are closely related to the communicative-constructivist requirements of authenticity, autonomy and collaboration; and they can be significantly enhanced by a blended learning setting combining web-based corpus resources with tools for computer-mediated communication (CMC).

Written and spoken text corpora were first developed for purposes of linguistic description, e.g. the British National Corpus (BNC) or the International Corpus of English (ICE), and to support the production of dictionaries (e.g. Sinclair 1987) and grammars (e.g. Sinclair 1990; Biber et al. 1999). Extensive deployment of corpora and corpus techniques (e.g. concordances, word lists frequency counts) for language learning and teaching purposes, in particular data-driven learning, became possible with advancements in PC and internet/web technology (Aston, Bernadini & Stewart 2005; Boulton 2011; Braun, Kohn & Mukherjee 2006; Flowerdew 2009; Johns & King 1991; Sinclair 2004; Tribble & Jones 1990; Wichman, Fligelstone, McEnery & Knowles 1997). In the wake of this pedagogic turn, the range of corpus types has been extended to include e.g. non-native speaker corpora of written and spoken learner English (ICLE and LINDSEI; see Granger, Dagneaux and Meunier 2002) or small, do-it-yourself corpora focusing on genres and topics of immediate relevance to a specific group of learners (Tribble 1997; Aston 2002). A more recent development concerns the change from a primarily descriptive corpus concept to a pedagogical one. An early prototype is ELISA, a small interview corpus of everyday spoken English developed by Sabine Braun (2005, 2007). Incorporating Widdowson's (1991, 2003: 102ff.) principle of pedagogical mediation, ELISA adopts a consistent pedagogical conceptualization of the entire corpus process from compilation to annotation, enrichment and search. The overall objective is to help teachers and learners proceed from decontextualized textual data to context-embedded discourse interaction and thus to facilitate and promote learner authentication (Widdowson 1998, 2003: chap.8). ELISA's pedagogical approach was adopted and further developed, both in terms of design and corpus tools, by the European Minerva project SACODEYL (2005-08) (Braun 2010; Hoffstaedter & Kohn 2009; Pérez-Paredes & Alcaraz-Calero 2009; Pérez-Paredes 2010; Widmann, Kohn & Ziai 2010).

Corpus resources and tools can be adapted to function as an important content-related e-learning pillar of CLIL; the second pillar, communication and collaboration, is provided by internet and web2 technologies: forum, chat, skype, wiki or blog are some of the key tools that help facilitate communicative and social contact as well as collaborative production (Guth & Helm 2010; Kohn & Warth 2011). The pedagogical integration of these two dimensions of e-learning, access to online resources and communicative interaction, creates a huge potential for authenticated foreign language learning through CLIL collaboration. Relevant language learning activities include, for example, explorations of linguistic means of expression in a corpus or in Google, forum discussions of a subject or language-related topic, collaborative creation of multimedia wiki documents, conversations in Skype, or blog entries reflecting on learning challenges and strategies. This e-learning extension of CLIL offers flexible opportunities for authenticated written and spoken production. It is thus particularly suitable for ensuring a more balanced distribution of reception and production activities than is usually possible in a face-to-face classroom setting (2).

E-learning integration of corpus resources with the communication and collaboration facilities of the internet and web2 can be exploited in different learning contexts. The range includes the ordinary foreign language classroom, bilingual subject teaching in its

various manifestations, or incidental language acquisition through communicative contact in the social web.

In the following chapters, I will describe the pedagogical corpus approach developed in the European LLP/Languages project "BACKBONE – Corpora for Content and Language Integrated Learning" (Jan 2009 – Feb 2011). A strong emphasis is on pedagogical corpus principles, tools and contents. In addition, Moodle-based pilot courses in secondary, tertiary and vocational education demonstrate how corpus resources can be combined with online communication and collaboration in blended learning settings to enable learners and teachers to engage in rich language and content integrating learning experiences (Kohn, Hoffstaedter & Widmann 2010).

2. Objectives and methodological approach

The BACKBONE project addresses the pedagogic content needs and challenges of language teachers in secondary, higher and vocational education with regard to a pedagogic integration of CLIL and e-learning. The overall project objective is to offer do-it-yourself e-learning solutions based on a pedagogic corpus approach involving spoken interviews on a wide range of topics. Special attention is given to lesser taught languages, to regional, socio-cultural and subject-related varieties of more frequently taught languages, as well as to English as a Lingua Franca.

More specific project objectives concern pedagogic research, pedagogic corpus tool development, e-learning implementation, pedagogic corpus creation, pedagogic piloting and evaluation, dissemination and exploitation. This involves in particular:

1. carrying out an empirical "fields & needs" analysis of pedagogic scenarios, learning objectives and CLIL topics, a research study on corpus-enhanced language learning & teaching, as well as pedagogic evaluation studies of the BACKBONE corpus tools, corpora and courses [→ pedagogic research];

2. consolidating and extending existing open source corpus tools for interview transcription, collaborative corpus annotation and management, management of enrichment resources, and online search [→ pedagogic corpus tool development];

3. designing and implementing a Moodle platform combining a course area with an area for continuous teacher support [→ e-learning implementation];

4. compiling, annotating and enriching web-based corpora of video-recorded interviews in English, French, German, Polish, Spanish, Turkish, and English as a Lingua Franca [→ pedagogic corpus creation];

5. designing Moodle-based pilot courses for evaluating and exploring the pedagogic potential of the BACKBONE approach in various manifestations of CLIL in secondary, higher and vocational education [→ pedagogic piloting & evaluation];

6. promoting the BACKBONE approach and outcomes with an emphasis on awareness raising and distribution of the BACKBONE corpora in secondary, higher and vocational education [→ dissemination];

7. ensuring long-term impact and sustainability in the educational "market" through teacher training workshops in European countries and implementation of an online BACKBONE service [→ exploitation].

Primary users of the BACKBONE approach are learners and teachers in CLIL settings in secondary, higher and vocational education; secondary users are teacher educators in these areas. Both groups of users have been directly involved in the project through the

pilot courses, which are monitored by project partners specializing in CLIL-related language learning and teaching as well as in language teacher education.

The targeted impact and benefit is twofold: Language learners experience the motivating potential of corpus-based content and language integrated learning (CLIL) – they explore the possibilities of e-learning (in blended learning contexts) with regard to learner autonomy, authenticity and collaboration; and they are enabled to further develop their ICT/media competences. Language teachers are given the opportunity to extend their pedagogical and technological competences. Continuous teacher support is implemented to ensure seamless integration of BACKBONE activities with the individual teacher's established teaching approach. Additionally, teachers and educational institutions are invited to deploy the BACKBONE tools in a do-it-yourself fashion to create their own customized BACKBONE corpora and courses.

In BACKBONE, all decisions regarding the methodological approach are consistently influenced by research-based pedagogical considerations. Because of this orientation, input from pedagogic "fields & needs" analyses and background research reports about the theoretical-methodological foundations of corpus-based language learning and teaching plays a key role in the overall BACKBONE approach (also see Braun 2005, 2007, 2010; Hoffstaedter & Kohn 2009; Kohn 2009). Informed by these studies, BACKBONE proposes a do-it-yourself corpus approach that empowers teachers to collaborate in the creation and pedagogical deployment of spoken interviews for web-based language learning and teaching in specialised CLIL contexts. Content-wise, BACKBONE addresses the constraints and needs of pedagogically disadvantaged languages and varieties in CLIL settings. The approach is applied to seven languages representing three areas of disadvantage: lesser taught languages (Polish, Turkish), regional and socio-cultural manifestations of more frequently taught languages (English, French, German, and Spanish), and English as a Lingua Franca (ELF). For each of these areas, a corpus of video-recorded, spoken interviews with speakers from different walks of life (e.g. occupation, social class, region, dialect) is compiled.

The pedagogical orientation has far-reaching implications throughout all levels of corpus design and creation. This begins with the actual corpus recordings, in particular the specification of the communication genre, the choice of topics and the selection of speakers. In terms of communication genre, BACKBONE focuses on interviews; topics were chosen in accordance with the thematic orientation of language course programmes and materials in secondary, higher and vocational education. To increase BACKBONE's application potential, we also talked to teachers who would later be interested in taking part in the pedagogic evaluation.

In keeping with the do-it-yourself approach, the preferred interview recording procedure is not a sophisticated one. The main purpose is to get the interviewee to relax and talk; conversational interaction is not primary. As a result of this, the interviews have a distinct monological, "native narrative" character. The questions are rather short, with the main purpose of encouraging longer descriptions, explanations and opinions; dialogical interaction is thus less frequent. This clearly results in a certain restriction of the range of communicative activities and functions; at the same time, however, this interview approach helps to create fairly natural conditions for the recording of spoken language. In addition, monological interview utterances are communicatively far more interesting than it might appear at first sight. The ability to describe, explain and evaluate things in an interview is also of crucial importance for dialogical communication. Speakers who are not able to express themselves in a monological interview will undoubtedly have serious problems in conversation. Learning with interview-based material should thus be given a key role in preparatory communication tasks. Nevertheless, it must be conceded that conversation-specific interaction and related means of expression are not covered in the BACKBONE narratives. With an adapted elicitation procedure, however, the BACKBONE approach could be easily extended to capturing conversation-style interactions as well.

The pedagogical orientation also thoroughly influences corpus tool development. The "engine" of the BACKBONE corpus approach is an ensemble of corpus tools created and adapted to support pedagogic corpus annotation and enrichment, as well as online corpus search. Key features are designed with a pedagogic purpose in mind and thus differ from descriptive corpus tools in important respects. BACKBONE tool development builds on open source products available from SACODEYL. Development in BACKBONE focuses on further consolidation, and the integration of additional pedagogically desirable features suggested by insights gained from pedagogic research studies.

Beyond tools development, corpus creation and corpus search, the pedagogic orientation of BACKBONE also includes the embedding of corpus-based learning materials and activities in e-learning and e-teaching contexts. The guiding principle is the integration of 'focus on form' activities within an overall communicative and collaborative learning environment. To support and combine these two complementary task and activity types, BACKBONE uses the authoring software Telos Language Partner (Kohn 2008) and the open source e-learning platform, Moodle.

The pedagogical potential and added value of the BACKBONE corpora is explored and evaluated in 24 specially designed pilot courses. The range of settings includes CLIL-related foreign language in secondary, higher and vocational education, teaching English as a lingua franca (ELF), and community interpreter training in higher education. The courses cover all BACKBONE languages and corpora.

The project's dissemination and exploitation strategy builds on open web access to the BACKBONE tools, the corpora and learning materials, "sand box" courses on the project's Moodle site, and accompanying teacher workshops in the various partner countries. Close integration of all teacher training with real courses in regular school programmes is deemed essential and is given priority. Teacher training and support measures are reinforced by the general do-it-yourself quality of the BACKBONE approach and tools.

3. Preparatory pedagogic research

Pedagogic research in BACKBONE involves and combines three task dimensions: (a) an empirical "fields & needs" analysis to ensure a sound pedagogic contextualization of the project, (b) a state-of-the-art study about the theoretical-methodological foundations of a corpus-enhanced language learning & teaching approach, and (c) the formative and summative pedagogical evaluation of the BACKBONE tools, corpora and courses.

(a) "Fields & needs" analysis

The "fields & needs" analysis (Braun & Slater 2009) was employed to obtain an overview of those institutions willing to set up BACKBONE pilot courses and of the pedagogical environments in which the pilot courses would have to be implemented. A questionnaire approach was used to collect information about the different types of institutions, their technological infrastructure, and the teaching needs and approaches for which the pilot courses should be designed. The overall aim was to ensure that the corpora and the learning activities employed in the BACKBONE project were relevant for the teachers and learners participating in the pilot courses.

The picture that emerged from the completed questionnaires was that the regulations, circumstances and preferences of the pilot course institutions and teachers, and the needs and proficiencies of the learners were very diverse across the different institutions. Differences were found with regard to learning objectives, the ways in which the classes were structured and taught, and the length of time available for piloting. However, it also became evident that the course settings envisaged were all suitable for CLIL-related e-learning solutions and thus clearly within the target range of BACKBONE.

(b) State-of-the-art study: "Corpus-enhanced language learning & teaching"

The results of the state-of-the-art study are presented in two reports. The first one, "Spoken multimedia corpora for student-centred corpus exploration" (Braun 2009), takes a research perspective and looks at the theoretical and methodological foundations of the pedagogic application of corpora. Based on a review of recent research literature, the report argues for a pedagogic corpus approach that reaches beyond the mere pedagogic application of descriptively motivated corpora; it emphasizes the need for corpora to be designed from a specifically pedagogic vantage point right from the start. Using examples from the ELISA corpus, the report continues to illustrate how corpus-based work in the classroom can be expanded beyond the conventional methods of data-driven learning. In this way, it provides valuable orientation for corpus development in BACKBONE.

The second report, "Using pedagogic corpora for form and communication integrated learning" (Hoffstaedter, Kohn & Widmann 2009) specifies prototypical corpus-based learning tasks and activities that can serve as a model for the creation of language learning resources in BACKBONE. Topic oriented learning activities include listening and reading comprehension supported by multimedia learning modules, topic driven explorations of the corpora, as well as thematic internet explorations (e.g. WebQuests) using corpus material as an opener or starting point. Language oriented activities focus on vocabulary, grammar and communicative functions, but also on spoken discourse and regional and social varieties. It illustrates how the various modes and functions of the BACKBONE search tool can be used in Moodle for creating suitable exercises that combine a focus on form with a focus on communication.

4. Pedagogic corpus tool development

BACKBONE corpus tool development (3) covers corpus functions from transcription, annotation and enrichment to online search. Maintaining a consistent pedagogical orientation has been a constitutive principle of development. Since the BACKBONE interviews are intended for learning and teaching contexts, the BACKBONE **Transcriptor** (cf. Figure 1) (Pérez-Paredes, Alcaraz & Sánchez-Tornel 2011) employs an orthographical notation including punctuation; the punctuation conventions are slightly adapted to suit characteristics of spoken discourse. Pre-defined mark-up codes are used to specify breaks, truncations, alternatives, comments, etc. Fillers, repetitions, and hesitation phenomena are accounted for if considered to be communicatively relevant. Interview transcripts are divided into thematic sections; a time-stamping function is used to synchronize these sections with their corresponding video/sound files.

The BACKBONE **Annotator** (cf. Figure 1) (Pérez-Paredes & Alcaraz 2009; Pérez-Paredes, Alcaraz & Sánchez-Tornel 2011) operates on interviews and short transcript sections, and produces a corpus XML file. The interview sections are annotated in a drag & drop fashion with categories deemed relevant by the annotator-teacher, e.g. thematic, grammatical, lexical, and textual categories, and CEFR level specification. Words or phrases in a section that fit a certain category can be marked. The aim of annotation is not a classificatory one. The categories are rather meant to support meaningful searches; they can be defined by the annotator/teacher and thus tailored to capture the pedagogic potential of each individual corpus.
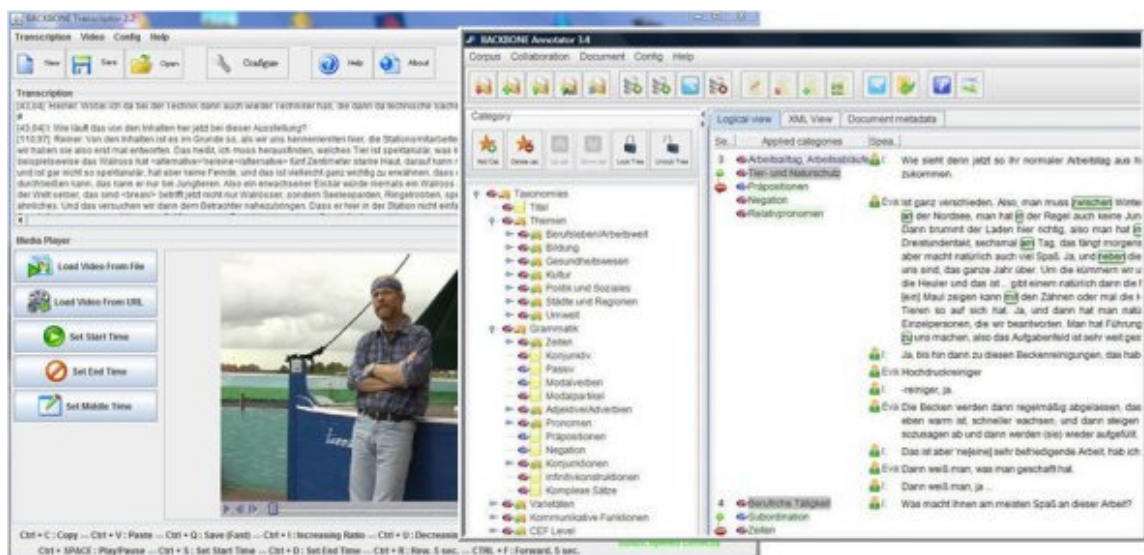
Figure 1. BACKBONE Transcriptor and Annotator.

The Annotator can be used in collaboration mode. In this case, a web service links it to the online BACKBONE **Corpus Management Tool** (CMT), which supports simultaneous annotation, i.e. annotation by different annotators of different interviews of the same corpus at the same time (Pérez-Paredes, Alcaraz & Sánchez-Tornel 2011). In addition, enrichment resources in the form of ready-made learning modules and instructions for communicative and collaborative learning exploration are managed via the BACKBONE **Virtual Resource Pool** (VRP) and linked to interview sections (Kohn, Widmann, Wetzel & Hoffstaedter 2011). The resources themselves are stored in the VRP in a virtual fashion, i.e. together with their web address and a short description. Teachers can browse the listed resources, select the ones they need and drop them into a Resource Sheet (comparable to a shopping cart). During the annotation procedure, they can create links from interview sections to relevant Resource Sheets.

The annotated and enriched interviews are accessed by teachers and learners via the online BACKBONE **Corpus Search Site**, which has been designed to operate on a pedagogically annotated XML corpus file created with the Transcriptor/Annotator, enriched with links to learning resources in the VRP, and stored in the Corpus Management Tool (Kohn, Widmann & Wetzel 2011). BACKBONE Search offers five search modes: 'Browse', 'Section search', 'Concordances', 'Co-occurrence', and 'Lexical lists'.

'**Browse**' (cf. Figure 2) displays all interviews contained in a corpus along with short descriptions. Entire interviews can be viewed, listened to and read, which facilitates contextualization and discourse authentication. In addition, the interview audio can be downloaded for further use, for instance, on an MP3 player.
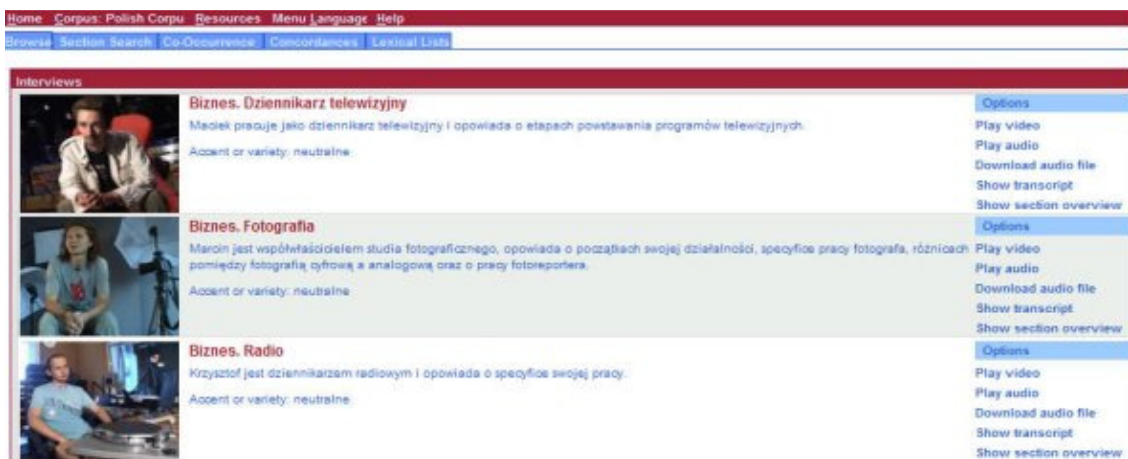
Figure 2. BACKBONE Search – 'Browse'.

It is also possible to use 'Section overview' to see all the thematic sections which make up an interview. Each section is displayed by title along with information regarding duration and length; links provide access to the corresponding video and sound files and to the annotated section itself.

'**Section search**' presents the annotation/search category tree (cf. Figure 3) and is used to search for individual interview sections that comply with a specified combination of thematic and linguistic annotation categories.

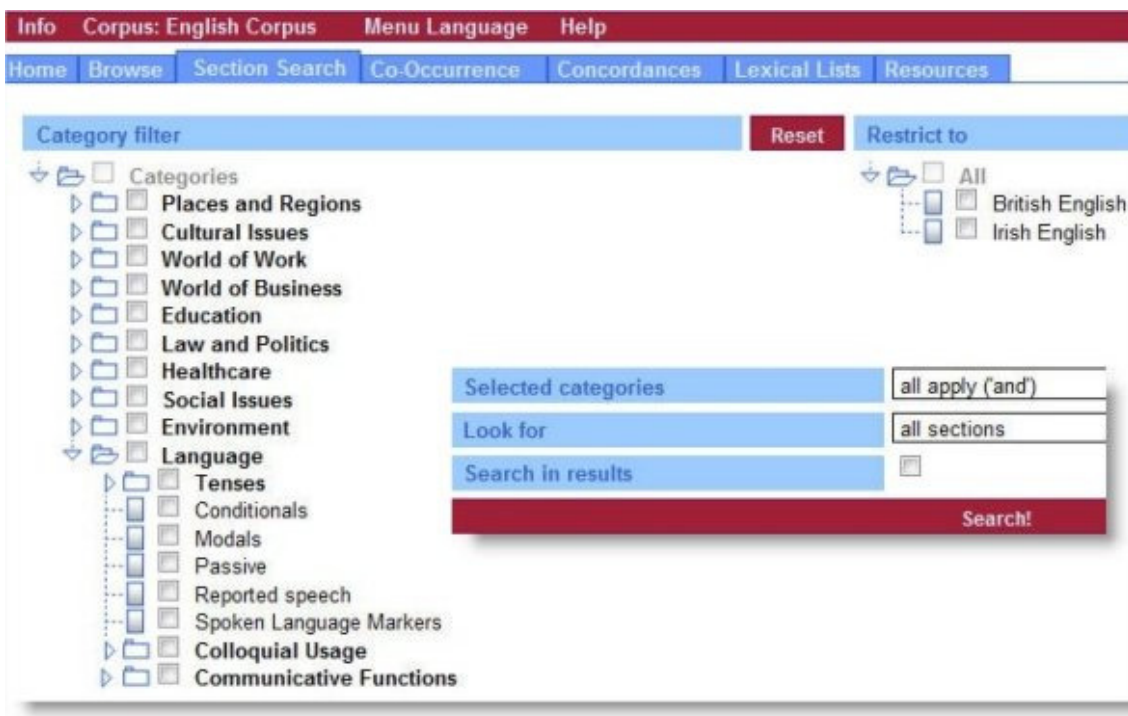Figure 3. BACKBONE Search – 'Section search': annotation/search category tree.

In a section found as a search result (cf. Figure 4), all words and phrases that have been marked (during annotation) as 'satisfying' the respective category can now be highlighted. It is also possible to access the corresponding video and sound files and to call up the entire interview to see the section in a wider context.
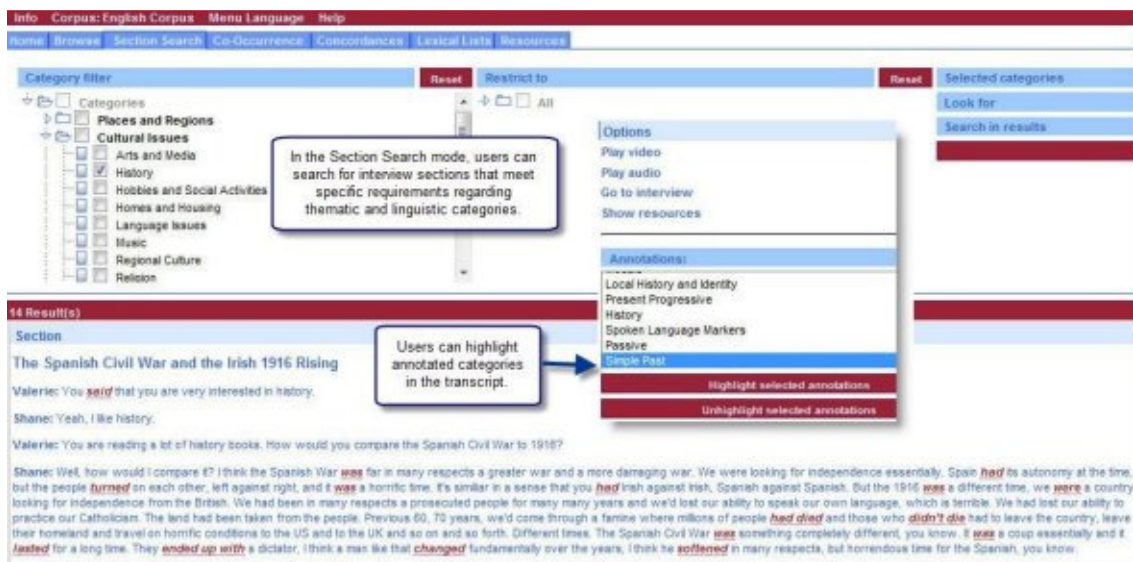
Figure 4. BACKBONE Search – 'Section search': results.

Other specifications can be used in combination with selected annotation/search categories to further restrict and focus a search. This concerns, in particular, narrowing a search to selected sub-corpora (e.g. British or Irish English) or to sections that have been enriched with an attached 'Resource sheet' containing additional learning resources from the VRP.

'**Co-occurrence**' (cf. Figure 5) lists sections that contain a number of specified words in free distribution. Two wildcards replacing any number of characters ('*') or one single character ('?') can be used to include morphological word families.
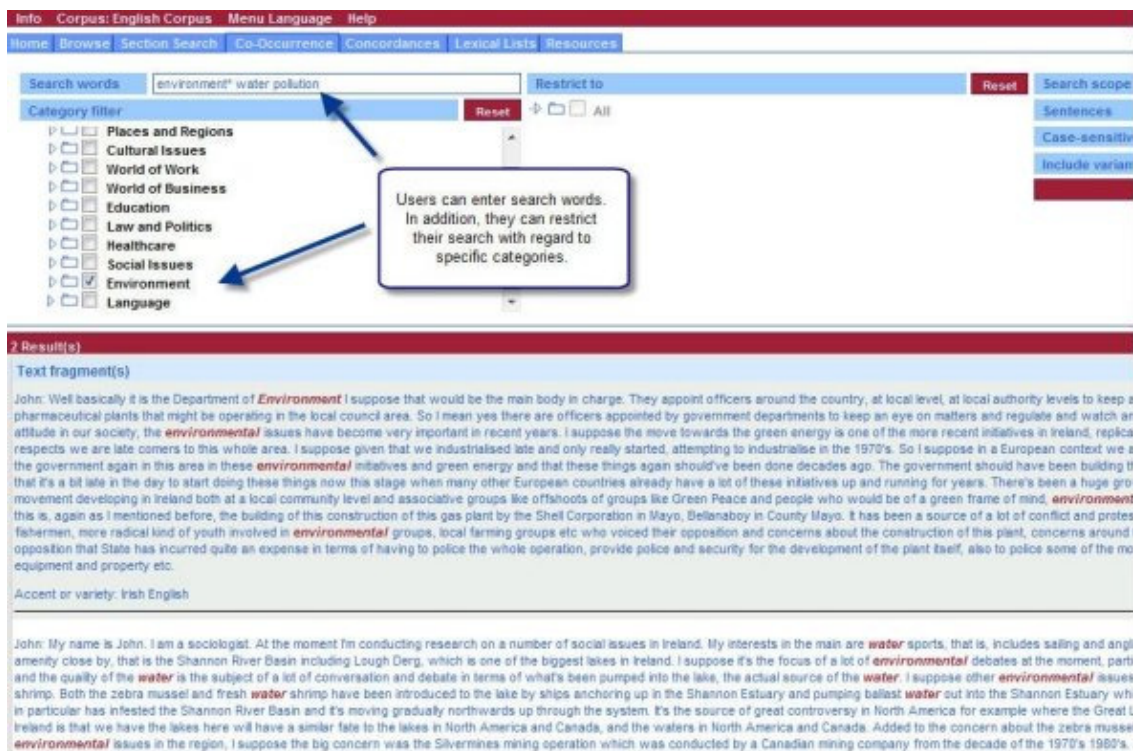
Figure 5. BACKBONE Search – 'Co-occurrence'.

'**Concordances**' (cf. Figure 6) produces lines of text with keywords in context as with other KWIC concordancers. Three words can be used along with the two wildcards '*' and '?'.
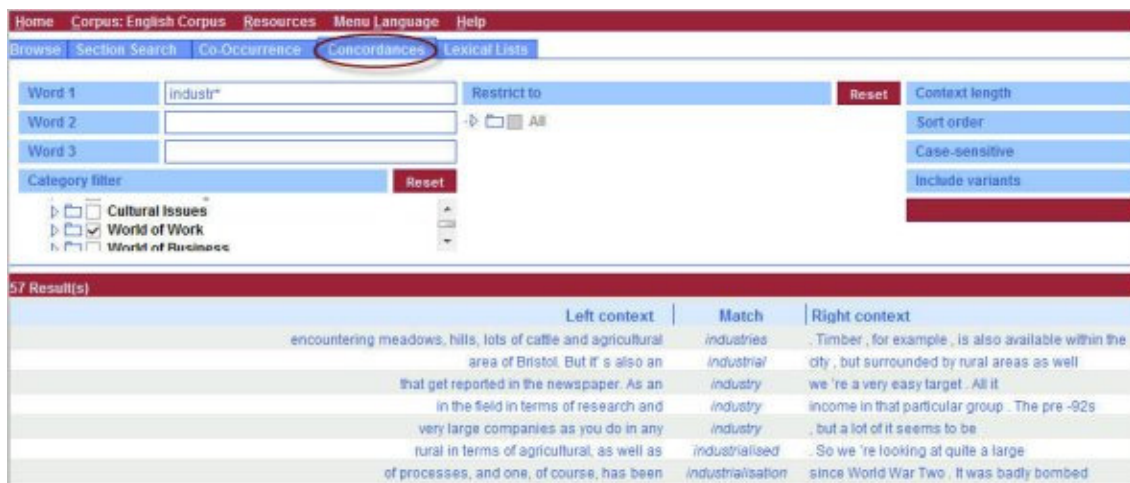
Figure 6. BACKBONE Search – 'Concordances'.

Both co-occurrence and concordance searches can be combined with selected annotation/search categories thereby limiting the search scope to sections that deal with a certain topic, exhibit certain grammatical properties, or belong to a preferred CEFR level. Restriction to certain language varieties is possible as well.

'**Lexical lists**' enables users to display either all occurring words or all words and phrases that have been marked by a certain annotation category (cf. Figure 7). The options include 'all words' and 'annotated words and phrases'. Both lists also indicate frequency of occurrence and provide access to concordances; they can be based on the entire corpus or only on those interview sections that fit a certain annotation category or category combination.
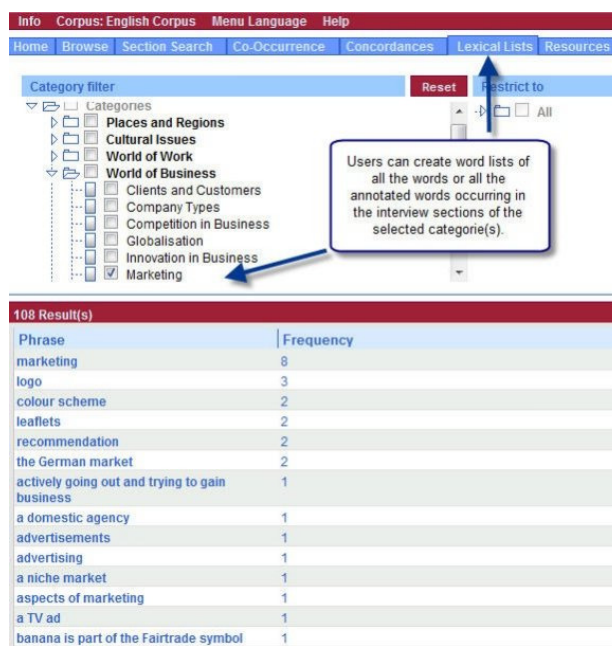
Figure 7. BACKBONE Search – 'Lexical lists'.

As in the other search modes, a preferred thematic focus can be specified by selecting the appropriate annotation/search or variety category. While substantial parts of these corpus tools were available from the SACODEYL project (see chap. 1, above), additional major extensions were designed and implemented in BACKBONE. Beyond necessary consolidation work, these extensions include significant improvements in functionality, in particular with regard to new mark-up and time-stamping features in the transcription procedure, collaborative and simultaneous corpus annotation and corpus management, multi-layered annotation, a web service integrating enrichment resources both during annotation and search, alignment of formats for video streaming and download of sound files, as well as lexical pattern search.

5. Pedagogic corpus creation

The BACKBONE suite of pedagogic corpora consists of **seven sub-corpora** of video-recorded interviews in English, French, German, Polish, Spanish and Turkish, as well as in European manifestations of English as a Lingua Franca (ELF) (Hoffstaedter 2011). English is covered by 50 interviews, including 25 British and 25 Irish interviews; all the other languages are represented with 25 interviews each. The ELF corpus contains a total of 50 English interviews as well, with 10 native speakers from each of the five base languages French, German, Polish, Spanish and Turkish. The interviews are an average length of 10 minutes.

The BACKBONE corpus compilation procedure includes three main tasks: interview collection, transcription and annotation, and development and embedding of pedagogic enrichment resources. The **first compilation step**, interview collection, involves in particular the identification of pedagogically relevant topics, the specification of desirable speaker characteristics, recruiting of interviewees, as well as the organization and video-recording of the interviews. The topics covered in the BACKBONE corpora have been identified in collaboration with teachers and through the analysis of relevant course books. The thematic areas chosen emphasize a regional perspective and include culture, world of work, urban and rural life, social issues, health and social security, education, environment, government and politics (Table 1).

Cultural issues	customs/traditions, food, special days, ceremonies
	arts (music, movies, youth culture)
	sports
	new technologies
Economy	fishing, automotive industry and other industries
	agriculture
	globalisation
World of Work	occupations, working conditions, trade unions
	work placement, internship
Urban and rural life	living in a city or in a mega-city (London)
	suburban life
	rural life
Social issues	minorities and fringe groups

	ethnic groups
	immigration
	multicultural society
Health & social security	national health system and hospitals
	health professions
	welfare and social benefits
Education	educational system and institutions
	vocational education
	educational mobility
The environment	climate change
	traffic and pollution
	renewable energies (e.g. solar energy, wind farms)
	environmental policy in industrial companies
Government & politics	political system, institutions and parties
	mayor, city council, local government
	Europe

Table 1: Thematic areas covered in the BACKBONE corpora.

Across these thematic areas, each corpus tries to strike a balance between the range of coverage and the thematic preferences set by the envisaged BACKBONE pilot courses. The following summary account gives an idea of the breadth of topics dealt with across the interviews in the various corpora.

The **British English interviews** (4) were recorded in selected regions in the UK including the counties of Surrey (Guildford), Somerset (Bristol, Cleeve, Martock and Taunton), Devon (Plymouth) and the West Midlands (Birmingham). Some interviews focus on other parts of the country (Cheshire, Derbyshire, Lancashire). The interviewees include the Managing Director of a science park, a senior nurse at a special care baby unit, a virtual learning specialist, a wedding planner, and a lawyer.

The **Irish English interviews** (5) were recorded in selected regions in Ireland, in particular the counties of Cork, Tipperary, Kerry, Dublin, Laois, Roscommon, Clare and Mayo. The participants include teachers from primary, secondary and tertiary education, a community dietician, a taxi driver, a jewellery shop assistant, various sports players and enthusiasts, a Product Development Officer for Failte Ireland, and a farmer.

Although most of the **French interviews** (6) were recorded in the Jura region, the people selected for the interviews came from different parts of France or French speaking areas: Jura, Bresse, Paris, Lorraine, Provence, and Africa. The interviewees include trainers in a business school, students of Medicine, Politics, and Business Administration, a salesman, a retired Post Office inspector, a chief accountant, a webmaster, an IT engineer, and the President of a Football Association.

The **German interviews** (7) were recorded in different regions and cities including Southern Germany (Lake Constance, Baden, Swabia), the Rhine-Ruhr area, Northern Germany (Dithmarschen/Schleswig-Holstein), and Berlin; one interview was recorded in Austria (Vienna). The interviewees include teachers, a city councillor, Green Party activists, a general practitioner, automotive engineers, a tourism director, a delicatessen shop owner, a fisherman, workers in nature conservation and animal-welfare, an artist, and a writer.

The **Polish interviews** (8) were recorded in central Poland with speakers of the standard language, including the owner of a computer shop, an interpreter, a staff member from the Polish Agency for Enterprise Development, a television journalist, a make-up artist, as well as people discussing social topics such as sexual minority, icons of pop culture or extraordinary hobbies.

The **Spanish interviews** (9) were recorded with speakers from different regions: Aragon (Zaragoza), Andalusia (Jaen, Seville, Granada), Cantabria (Celis/Santander), Castilla-La Mancha (Albacete), Comunidad Valenciana (Alicante), Galicia (La Coruña), and Murcia. The interviewees include a top researcher, an ex-lawyer, teachers, an NGO volunteer, a doctor, a librarian, a sportswoman, a former quality control laboratory worker, a folklorist, two young entrepreneurs, a telemarketer, a bio farmer, and a clerk.

The **Turkish interviews** (10) were recorded in Kayseri, Central Anatolia, and involve speakers of standard Turkish born and raised in different regions in Turkey, including a housewife, an insurance expert, computer specialists, a dentist, a librarian, mechanical engineers, a science teacher, a pharmacist, two architects, a florist, a catering manager, a shop owner, a medical doctor, a lawyer, a banker, an optician, a project administrator, and a hairdresser.

The **English as a Lingua Franca (ELF) interviews** (11) were recorded with non-native speakers of English in France, Germany, Poland, Spain and Turkey. The interviewees are all used to speaking English in their work environments or privately on a regular basis; and they come from a wide range of different professional backgrounds. The topics they speak about are similar to those of the native speaker interviews

In a **second compilation step**, the recorded interviews were transcribed and time-stamped with the BACKBONE Transcriptor; the transcribed video recordings were analysed and annotated with the BACKBONE Annotator with regard to pedagogically relevant characteristics including e.g. topic, grammar, communicative functions and CEFR level.

The **third compilation step** concerned supplementing each corpus with pedagogic enrichment resources. Besides the interview video/sound files, this concerns in particular two types of language learning resources: (a) ready-made learning modules for self-study, and (b) task suggestions and instructions for exploratory and communicative learning activities combining web tools such as forums, chats or wikis with corpus explorations and classroom interactions. The development of the BACKBONE language learning resources was informed by the analysis of language learning tasks and activities undertaken in Hoffstaedter, Kohn & Widmann 2009. The created resources were stored in the Virtual Resource Pool (VRP) and linked to the interview sections as part of the annotation process.

The **ready-made learning modules** consist of web-based multimedia exercises created with the authoring software Telos Language Partner. The exercises focus on combinations of listening comprehension, vocabulary practice and grammar learning in a variety of task formats including multiple choice, true/false, select, gap filling, or drag & drop (cf. Figure 8).

Figure 8. Telos learning module.

The **exploratory and communicative learning activities** consist of suggestions and instructions for teachers who want to use the BACKBONE corpora in an e-learning environment. Relevant web tools include forums, chats and wikis or the Moodle glossary for the collaborative creation of topic-specific dictionaries. Exploratory and communicative activities have been developed for each of the main topics represented in the corpora and they are available as PDF files, each covering a number of activity sheets on different aspects of the respective topic. A typical activity sheet contains task descriptions and suggestions concerning a suitable interaction mode (e.g. individual work, pair, or group work), a specification of suitable web tools to be used, and links to useful websites. Typical learning activities include topic-driven corpus explorations requiring learners to study certain interview sections with regard to specific questions, as well as topic and task-driven exploratory internet research using the corpus materials as an opener or starting point but reaching out beyond the immediate scope of the corpus.

The exploratory learning activities may also include vocabulary explorations using specific search options and features of BACKBONE Search such as Co-occurrence, Concordance or Lexical lists.

The language learning resources can be accessed in Backbone Search either via the menu tab 'Resources' or in 'Browse' and 'Section search' via the interview sections to which they have been attached. Additional information on both the video interviews and the language learning resources is available on the BACKBONE project website via the menu tabs 'Corpora & search' and 'Project documentation'.

6. Pilot courses and evaluation

The BACKBONE approach was explored and evaluated in 24 **pilot courses** (Kohn & Hoffstaedter 2011) comprising 9 foreign language courses in secondary education, 8 in higher education and 4 in vocational education, as well as 3 multilingual community interpreter courses in higher education. The courses cover the 6 target languages: English, French, German, Polish, Spanish and Turkish. In terms of pedagogic approach, they all combine a CLIL orientation with e-learning support in a blended learning environment.

Topics include e.g. 'Multicultural society', 'Economic globalization', 'The Irish sports camogie and hurling', 'Francophonie', 'La vie d'une étudiante en médicine', 'The Berlin Wall', 'Health issues', 'Media and music in Poland', 'Amphibious vehicles', 'Certification and safety in the car industry', 'Mobility and the oil industry', as well as various types of 'Education'. Three of the higher education courses are embedded in language teacher study programmes, one of which specifically addresses the needs of teacher students with regard to learning to teach English as a lingua franca (ELF).

A characteristic foreign language course unit may, for example, start off with video-based awareness raising and forum discussion activities, followed by comprehension checks with ready-made TELOS modules; it may then continue with collaborative thematic and/or linguistic corpus explorations, spoken interaction in class, or summary writing tasks in a forum or as an individual assignment. For more information, see the demo courses on the BACKBONE website under the menu tab "Courses".

The multilingual community interpreter courses follow a somewhat different pedagogical approach specifically adapted to the requirements of interpreter training. They typically involve up to six languages and implement corpus-based activities focusing on interpretation-related skills such as active listening, memory training, anticipation, note taking, and consecutive production.

To facilitate pilot course implementation, a **teacher training and support area** was set up on the BACKBONE website. It provides information, instructions and hands-on practice regarding the BACKBONE pedagogic approach, the BACKBONE search tool and corpora, creation of corpus-based learning units, use of Moodle for designing online courses, as well as do-it-yourself tools for developing one's own customized corpora and learning materials. This module is supplemented by demo courses and a course template for e-learning sequences. Furthermore, teacher training workshops were set up in connection with project dissemination and exploitation activities to provide opportunities for networking and collaboration. The pilot course area under the menu heading 'Courses' is kept available for hosting "guest courses" from external cooperation partners.

The pilot courses made it once again clear that e-learning – in particular with regard to languages – is still a rather marginal phenomenon and one of the major challenges for teacher training and support. Preparatory field analyses carried out in BACKBONE (Braun & Slater 2009) as well as survey studies from the Comenius network projects EcoMedia and Wide Minds (Kohn & Esteves 2009; Kohn, Glombitza & Helbich 2008) provide strong evidence that for many language teachers and course providers in secondary, higher and vocational education a smooth and seamless pedagogic integration of e-learning is not yet a practical reality. Throughout the BACKBONE pilot course activities, it was thus necessary for local course supervisors and e-learning experts from the BACKBONE team to provide intensive and continuous teacher support. In several cases, problems concerning local technological infrastructure – in particular regarding availability of computer rooms, restricted web access due to security settings, or limited technical support at schools – persisted despite previous checks and required continuous monitoring and "tailored" solutions.

These technological problems and challenges were also emphasized in the **pedagogical assessment and evaluation** of the BACKBONE approach based on questionnaire,

interview and performance feedback from all 24 pilot courses spread across four educational settings from secondary, higher and vocational education to interpreter training (Braun & Slater 2011). Despite all technological flaws and misgivings, however, the BACKBONE approach received an overall positive reception. The topics covered in the video interviews were judged highly relevant by the teachers and pedagogically suitable for initiating a wide range of learning activities integrating content and language. Students were engaged in thematic vocabulary explorations and were encouraged to talk and write. The diversity of voices and regional accents significantly helped them develop their aural and comprehension skills. In addition, the English as a lingua franca corpus provided innovative opportunities for improving awareness and comprehension in relation to a wide variety of European non-native speaker manifestations of English. While the BACKBONE topics and interviews are reported to fit in well and also seem to be easy to integrate, it should be emphasized that the thematic requirements and preferences across courses, course types and educational settings outside the initial piloting scenarios will certainly be more varied. In this connection, the need for American English and South American Spanish was specifically mentioned. There is thus clearly a place for the do-it-yourself quality of the BACKBONE tools, which allow for customizing small corpora to given course curricula and course contents – ideally in cooperation with course content providers (e.g. publishers).

The learning resources provided in connection with selected interviews and interview sections received very positive ratings and comments. The Telos Language Partner modules were valued for their focus on form in thematic contexts, immediate feedback and scoring options and their self-study potential, in particular for weaker students; in the case of the exploratory and communicative activities, it was emphasized that they save preparation time and provide useful suggestions for collaborative interaction. Evaluation of the BACKBONE search tool was obviously influenced by the users' degree of familiarity with computers and e-learning: some found it easy to use; others felt it was functionally and pedagogically difficult to understand. Several teachers emphasized the need to compensate for the limited content and language range of a small corpus. They suggested using the search tool for checking out self-study exploration paths that lead to meaningful search results and thus avoid unnecessary dissatisfaction and frustration on the students' part. Working with Moodle was generally given high positive ratings; some teachers emphasized its potential for easy and cohesive course development and support, collaborative learning with forums and wikis, as well as online writing assignments with individual feedback. At the same time, however, the need for better design transparency and more detailed instructions was mentioned. In some cases switching between Moodle and the search interface was felt to be somewhat confusing. It was also pointed out that careful lesson planning can initially be quite time-consuming.

All in all, though, integrating BACKBONE corpora within a Moodle-based e-learning environment combining form and content-focused self-study with collaborative communication and interaction seems to be well suited to support content and language integrated learning (CLIL); and, in a somewhat different vein, it also helps to cater to the challenges of teaching English with an emphasis on lingua franca communication. The foreign language students' perceived learning success was encouragingly high; and a majority voiced their interest in continuing this teaching/learning approach. This finding was matched by the overall positive learning success rating obtained from teachers – albeit with repeated reference to the need for a sound pedagogical embedding. In the case of consecutive interpreting, the BACKBONE resources proved highly relevant for step-by-step interpreter training both for classroom and self-study scenarios. The interpreting-related activities clearly helped students improve their interpreting skills; they were particularly useful in bridging undergraduate to postgraduate levels.

It can be concluded that e-learning activities, used in the right way, significantly foster key principles of communicative and constructivist language learning, in particular the principles of authentication, learner autonomy and collaboration. In this connection it should be added, however, that the computer lab does not provide the most suitable

conditions for tapping the language learning potential offered by e-learning. Using a laptop in conjunction with data projection and internet access in class and individual and/or collaborative self-study outside class as part of homework or independent study may prove to be more efficient, albeit more difficult to implement and supervise pedagogically.

These clearly positive piloting results must not eclipse the negative comments, which were mostly concerned with IT equipment and interface functionality, course navigation and pedagogical issues. However, these negative evaluation results are put into perspective by the fact that for most institutions, teachers and students involved in the pilots the integration of e-learning activities was an entirely new experience. Shortcomings due to insufficient technological infrastructure and lack of technological and/or pedagogical familiarity and expertise on the part of the users are thus hardly surprising. Instead of disproving the pedagogical potential and feasibility of e-learning, the recorded weaknesses rather underline the urgent need for

- raising awareness regarding possibilities, limitations and challenges,

- ensuring adequate technological support both in terms of equipment and staff,

- implementing continuous and focused teacher training measures.

However, these measures may not be sufficient due to the 'classroom approach' firmly established in educational institutions from schools and universities to adult education and vocational training. The pedagogic potential of e-learning for supporting autonomous, authenticated and collaborative learning outside classroom hours can only be fully exploited if learning activities are supported by teachers who are available as need arises. This requires teachers to be more flexible than is usually possible within the traditional workload management system based on face-to face teaching hours.

References

Aston, G. (2002). The learner as corpus designer. In B. Kettemann & G. Marko (eds.). *Teaching and Learning by Doing Corpus Analysis.* Amsterdam: Rodopi, 9-25.

Aston, G., Bernadini, S. & Stewart, D. (2005). *Corpora and Language Learners.* Amsterdam: John Benjamins.

Biber, D., Johansson, S., Leech, G., Conrad, S. & Finegan, E. (eds.) (1999). *Longman Grammar of Spoken and Written English.* Harlow: Pearson Education.

Boulton, A. (2011). Data-driven learning: The perpetual enigma. In S. Goźdź-Roszkowski (ed.). *Explorations across Languages and Corpora.* Frankfurt/M: Peter Lang, 563-580.

Braun, S. & Slater C. (2009). Pedagogical fields and needs analysis. BACKBONE Report 3.2 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Braun, S. & Slater C. (2011). Pedagogical assessment and evaluation. BACKBONE Report 3.3 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Braun, S. (2005). From pedagogically relevant corpora to authentic language learning contents. *ReCALL,* 17(1), 47-64.

Braun, S. (2007). Integrating corpus work into secondary education: From data-driven learning to needs-driven corpora. *ReCALL,* 19(3), 307-328.

Braun, S. (2010). Getting past 'Groundhog Day': Spoken multimedia corpora for student-centred corpus exploration. In T. Harris & M. Moreno Jaén (eds). *Corpus Linguistics in Language Teaching.* Frankfurt: Peter Lang, 75-98.

Braun, S., Kohn, K. & Mukherjee, J. (2006). *Corpus Technology and Language Pedagogy: New Resources, New Tools, New Methods.* Frankfurt/M: Peter Lang.

Flowerdew, L. (2009). Applying corpus linguistics to pedagogy. A critical evaluation. *International Journal of Corpus Linguistics,* 14(3), 393-417.

Granger, S., Dagneaux, E. & Meunier, F. (2002). *The International Corpus of Learner English.* Louvain-la-Neuve: Presses Universitaires de Louvain.

Guth, S. & Helm, F. (eds.) (2010). *Telecollaboration 2.0.* Bern: Peter Lang.

Hoffstaedter, P. & K. Kohn (2009). Real language and relevant language learning activities: insights from the SACODEYL project. In A. Kirchhofer & J. Schwarzkopf (Eds.), *The Workings of the Anglosphere. Contributions to the Study of British and US-American Cultures.* Trier: WVT, 291-303.

Hoffstaedter, P. (2011). Compilation of the BACKONE pedagogical corpora. BACKBONE Report 5.1-7 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Hoffstaedter, P., Kohn, K. & Widmann, J. (2009). Corpus-enhanced language learning and teaching. Part 2: Using pedagogic corpora for form and communication integrated learning. BACKBONE Report 3.1 (part b) [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Johns, T. & King, Ph. (1991). *Classroom Concordancing.* Birmingham: University of Birmingham.

Kohn, K. & Hoffstaedter, P. (2011). Pilot courses. BACKBONE Report 6 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation]

Kohn, K. & Warth, C. (2011). *Web Collaboration for Intercultural Language Learning. A Guide for Language Teachers, Teacher Educators and Student Teachers. Insights from the icEurope Project.* Münster: MV-Wissenschaft.

Kohn, K. (2008). Telos Language Partner: DIY authoring for content-based language learning. In A. Gimeno (ed.). *Computer Assisted Language Learning: Authoring Tools for Web-Based CALL.* Valencia: Universidad Politécnica de Valencia, 157-174.

Kohn, K. (2009). Computer assisted foreign language learning. In K. Knapp & B. Seidlhofer (eds.). *Foreign Language Communication and Learning. Handbooks of Applied Linguistics,* Volume 6. Berlin: Mouton-de Gruyter, 573-603.

Kohn, K., Widmann, J. & Wetzel, D. (2011). Pedagogic corpus search tool. BACKBONE Report 4.3 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Kohn, K., Widmann, J., Wetzel, D. & Hoffstaedter, P. (2011). Pedagogic corpus enrichment tools. BACKBONE Report 4.2 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Kohn, K.& Esteves, M. (2009). The use of educational e-learning equipment and applications in foreign language classes: a questionnaire-based survey. Wide Minds Comenius Network Report (Workpackage 5: Developing Multilingualism through Digital Content). [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Kohn, K., Glombitza, A.& Helbich, G. (2008). Perceived potential of educational ICT in European schools. EcoMedia Socrates Comenius 3 Network (ed.). ICT in European Schools, ePortfolios and Open Content. St. Michael: der wolf verlag, 35-42. [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Kohn, Kurt, Petra Hoffstaedter & Johannes Widmann (2010). BACKBONE – pedagogic corpora for content & language integrated learning. In A. Gimeno Sanz (ed.). *New Trends in Computer-Assisted Learning: Working Together.* Madrid: Macmillan ELT, 157-162.

Pérez-Paredes, P. & Alcaraz-Calero, J.M. (2009). Developing annotation solutions for online data driven learning. *ReCALL,* 21(1), 55-75.

Pérez-Paredes, P. (2010). Corpus linguistics and language education in perspective: appropriation and the possibilities scenario. In T. Harris & M. Moreno Jaén (eds). *Corpus Linguistics in Language Teaching.* Frankfurt: Peter Lang, 53-73.

Pérez-Paredes, P., Alcaraz. J.M. & Sánchez-Tornel, M. (2011). Pedagogic corpus compilation. BACKBONE Report 4.1 [http://projects.ael.uni-tuebingen.de/backbone > Project documentation].

Sinclair, J. (ed.) (1987). *Collins COBUILD English Language Dictionary.* London: Collins.

Sinclair, J. (ed.) (1990). *Collins COBUILD English Grammar. Helping Learners with Real English.* London: Collins.

Sinclair, J. (ed.) (2004). *How to use Corpora in Language Teaching.* Amsterdam: John Benjamins.

Swain, M. (2005). The Output Hypothesis: Theory and Research. In E. Hinkel (2005). *Handbook on Research in Second Language Teaching and Learning.* Mahwah, NJ: Lawrence Erlbaum, 471-484.

Tribble, Ch. & Jones, G. (1990) *Concordances in the Classroom: A Resource Book for Teachers.* Harlow: Longman.

Tribble, Ch. (1997). Improvising corpora for ELT: quick-and-dirty ways of developing corpora for language teaching. In B. J. Lewandowska-Tomaszczyk & P. J. Melia (eds.). *PALC-97: Practical Applications in Language Corpora.* Łódź: Łódź University Press, 106-117.

Wichman, A., Fligelstone, S., McEnery, T. & Knowles, G. (eds.) (1998). *Teaching and Language Corpora.* London: Longman.

Widdowson, H. G. (1991). The description and prescription of language". In J. Alatis (ed.). *Linguistics and Language Pedagogy: the State of the Art.* Washington, DC: Georgetown University, 11-24.

Widdowson, H. G. (1998). Context, community and authentic language. *TESOL Quarterly,* 32(4), 705–716.

Widdowson, H.G. (2003). *Defining Issues in English Language Teaching.* Oxford: OUP.

Widmann, J., Kohn, K. & Ziai, R. (2010). The SACODEYL search tool: exploiting corpora for language learning purposes. In Frankenberg-Garcia, A., Flowerdew, L. & Aston, G. (eds.). *New Trends in Teaching and Language Corpora. Proceedings of the TaLC 2008.* London: Continuum, 321-327.

Websites

ELISA corpus: http://projects.ael.uni-tuebingen.de/elisa (Last accessed 17 Sept. 2012)

SACODEYL project: http://www.um.es/sacodeyl (Last accessed 17 Sept. 2012)

BACKBONE project: http://projects.ael.uni-tuebingen.de/backbone (Last accessed 17 Sept. 2012)

BACKBONE corpus search: http://purl.org/backbone/searchtool (Last accessed 17 Sept. 2012)

Notes

[1] The BACKBONE project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

[2] In this connection also see Swain's (2005) observation concerning the asymmetry between reception and production in immersion classes and her call for more (and "pushed") output processing.

[3] For more information and download options, please see the BACKBONE website. Development of the BACKBONE tools was carried out by two teams: (a) Transcriptor, Annotator and Corpus Management Tool (Universidad de Murcia: Pascual Pérez-Paredes, Jose María Alcaraz Calero, María Sánchez Tornel) and (b) Virtual Resource Pool (VRP) and Search Site (University of Tübingen: Kurt Kohn, Johannes Widmann, Dominikus Wetzel).

[4] Corpus compilation and learning materials: Sabine Braun and Catherine Slater (University of Surrey).

[5] Corpus compilation: Fiona Farr, Michelle O'Shea and Valerie Rabbette (University of Limerick); learning materials: Elaine Riordan (University of Limerick).

[6] Corpus compilation: Michel Meuret, Denis Trossat and Bernard Vallauri (Chambre de Commerce du Jura); learning materials: Michel Meuret and Bernard Vallauri (Chambre de Commerce du Jura).

[7] Corpus compilation and learning material: Petra Hoffstaedter (STZ Sprachlernmedien, DE).

[8] Corpus compilation: Jakub Karykowski (Academy of Humanities and Economics Łódź, PL); learning material: Sebastian Ostalak (Academy of Humanities and Economics Łódź, PL).

[9] Corpus compilation and learning materials: María Sánchez Tornel and Pascual Pérez-Paredes (Universidad de Murcia, ES).

[10] Corpus compilation: Doğan Bulut (Melikşah University, TR), Gullu Cinek, Ömer Erdoğan, Sevgi Erel, Ozlem Altun (Erciyes University, TR); learning materials: Doğan Bulut (Melikşah University, TR), Ömer Erdoğan and Sevgi Erel (Erciyes University, TR).

[11] Corpus compilation: Bernard Vallauri and Michel Meuret (Chambre de Commerce du Jura, FR), Johannes Widmann (University of Tübingen, DE), Jakub Karykowski (Academy of Humanities and Economics Łódź, PL), María Sánchez Tornel and Pascual Pérez-Paredes (Universidad de Murcia, ES), Doğan Bulut (Melikşah University, TR), Sevgi Erel and Ömer Erdoğan (Erciyes University, TR); learning materials: Johannes Widmann, Philipp Glaser and Matthias Kobsa (University of Tübingen, DE).

Top

Recommended website

Vivre en Aquitaine: pedagogy, audience, design

Tita Beaven
Department of Languages, The Open University (UK)
_____

m.c.beaven @ open.ac.uk

Abstract

This article provides an overview of the website *Vivre en Aquitaine,* a website for learners of French that introduces learners to that region of France whilst at the same time developing their language skills, cultural knowledge, and intercultural awareness. Whilst designers of learning resources have to take into account the learners' needs and objectives, the interplay between pedagogy and design are also crucial in developing the resources, and work together in an iterative process. This is illustrated by focussing on one particular section of the website, where the original pedagogical framework was modified by our emerging understanding of how some technical affordances could develop our pedagogy in unforeseen ways, pushing us to engage further with plurilingualism and intercomprehension.

Keywords: Pedagogy, audience, design, intercomprehension, plurilingualism.

1. Introduction

Vivre en Aquitaine is a website for learners of French (levels B1-B2) that aims to engage learners in discovering the region of Aquitaine and beyond whilst also undertaking activities that develop their language skills, their cultural knowledge, and their intercultural awareness. The site is sponsored by the *Région Aquitaine,* the Aquitaine Regional Government, and therefore one of its aims is also to introduce the area and give practical information to visitors and potential long-time residents from other European countries, namely Spain, Italy, Germany and the UK.

The project, led by the *Institut Français* in Madrid, also includes three other partners: the Open University in the UK, the *Institut Français* in Bremen, Germany, and the University of Genoa, in Italy (in 2011 the latter left the project, and the *Institut Français* in Milan replaced it). Although sponsored by the Aquitaine Region, the partners have had full control of the design of the website and its content, and at the forefront of the development were clear pedagogical objectives. These include:

- Practical objectives (discovering Aquitaine, its culture, its history, its ways of life and its customs, and finding out useful practical information for those wanting to settle in the area).

- Intercultural objectives (adopting an open and curious outlook, relativising one's values and point of view);

- Linguistic objectives (reading, listening to and understanding texts and recordings in French, knowing how to react to situations in everyday life, etc.)

- Personal objectives (improving one's French in an autonomous way by identifying one's language needs, and carrying out research and selecting information relevant to one's needs and interests).

In this article, I will briefly provide an overview of the site and describe its different sections and their content (2. Overview of the website), and then look at the initial pedagogic assumptions we made when developing the site, in particular in relation to our target audience (3. Pedagogy and audience). Next, I will consider how design and pedagogy worked together in an iterative process, in particular with regards to one particular section of the website. Although all the partners had started with a clear pedagogical framework for the website, during the development phase of the project some of the design features of the site provided affordances that we had not anticipated, and this led to the development of our pedagogical approach in a slightly different direction from the one we had planned. I will describe this process in section 4. Pedagogy and design, and in the next section (5. Pedagogy and design, a practical example) I will deal in particular with one aspect of the website, the *Miroirs"* section, in the light of the technical affordances we "stumbled upon", our emerging understanding of plurilingualism and intercomprehension and the pedagogic implications this has had on our approach. Finally, in section 6. Conclusion and future plans, I will look at future developments for the project.

2. Overview of the website

The *Vivre en Aquitaine* website has four points of entry, each one linked to the user's first language. So the website can be approached from any of the following:

- http://uk.aquitaine.fr for the English version;

- http://de.aquitaine.fr for the German version;

- http://it.aquitaine.fr for the Italian version;

- and http://es.aquitaine.fr for the Spanish version.

Although the sites are almost identical, and most of the content is in French, the four language sites present slightly different versions, which I shall explain in more detail in this section. All four websites have exactly the same structure, and comprise the following distinct sections:

Figure 1. *Vivre en Aquitaine* homepage.

2.1. *Portraits*

Because one of the aims of the *Vivre en Aquitaine* website is to provide advice for those thinking of moving to the area, the resources include video portraits of Spanish, British, German and Italian people who have settled in different areas of Aquitaine for a variety of reasons (such as family, work, study or lifestyle). They present a range of different experiences and give advice to the newcomers. For instance Paz, from Spain, explains that the five words or expressions that are essential for anyone coming to the area are: *Merci, s'il vous plaît, pardon, excusez-moi,* and *bonjour,* whilst Penny's survival phrases include the more esoteric *"Est-ce que votre crème brûlée est faite[à la] maison?"*(1). She does strongly recommend to anyone thinking of settling in France that they should learn French as soon as possible, something that not all expats do, especially British ones.

Heinrich, from Germany, offers the following thoughtful advice to those thinking of settling in the area:

Apprenez la langue. Oubliez vos préjugés. Habituez-vous au fait que tout le monde ne pense pas comme vous, soyez ouvert aux idées nouvelles. N'oubliez pas votre culture et votre savoir faire, le mélange fera la richesse de vos échanges. Invitez vos nouveaux voisins à diner, c'est la meilleure façon de faire connaissance. N'invitez jamais un Français au petit déjeuner, il vous prendra pour un fou. Ne vous enfermez pas dans votre communauté. (2)

As well as illustrating the first-hand experiences of settlers to the area, these portraits are also interesting in that they show foreigners speaking French, so provide the learners with non-native speaker models against whom to measure themselves. The case for providing learners with models of non-native speakers has been made elsewhere (Byram et al., 2002). It has also been argued that from a cultural point of view, interculturally competent non-native speakers might be a useful model for learners: indeed, Byram et al. (2002), for instance, explain how as opposed to "the insider, someone who belongs to a culture," and who is "very often unable to analyse and conceptualise what is too familiar", "the non-native teacher and learner have the advantage of seeing a culture from a distance, and then taking the perspective of that other culture to look back on their own." (Byram et al., 2002 p. 18).

2.2. *Itineraires*

The section *"Itinéraires"* enables the learners to practice their French whilst discovering specific areas of Aquitaine. It is organised in terms of *"étapes",* or stages on a journey that covers the whole of the Aquitaine geographical area. Each of the ten stages of the itinerary includes a quest *(enquête),* a meeting *(rencontre)* and a situation *(situation).* *"Itinéraires"* is a section rich in resources (including audio) and online activities, and is mostly envisaged for autonomous learning.

2.3. *Pratique*

Pratique contains practical information for those preparing to move to France and, particularly, to Aquitaine. This section includes different *"dossiers",* each dealing with a specific topic: money, accommodation, food, health, work and study, sports and leisure, and communications, but always from an intercultural perspective. One of the aims of this section is to make the learner reflect on the ways in which these everyday practices and activities are similar to or differ from the ones they already know in their own country. The section indeed follows Byram's definition of the skills of interpreting and relating *(savoir comprendre)* in the intercultural context, i.e. the "ability to interpret a document or event from another culture, to explain it and relate it to documents or events from one's own" (Byram et al. 2002). At the end of each *"dossier",* there is a short activity to test the understanding of what has been read, and a *pense bête,* a little reminder of key phrases or issues related to that topic.

2.4. *Enfants Nomades*

Enfants nomades is a section for children, both those who are learning French and might be going to live in France, and for those who are "nomadic children" already, and live abroad. There are video and audio contributions from children in France, from French children who live abroad, and from children from the different partner countries on different topics such as their hobbies, where they live, traditions and celebrations, and advice for travellers.

2.5. *Miroirs*

Miroirs is a collection of texts in French, with a corresponding "mirror text" in each of the languages of the parallel websites, i.e. English, German, Italian and Spanish. The mirror texts are not translations, but texts that take up the same issues, or that present a similar topic in the other culture. For instance, a text on the daily life of a woman from Bordeaux is mirrored by texts about the life of a woman from Sheffield, a student from Bremen, and a woman from Genoa, each in their respective language. Similarly, the French article on the pine trees of the Landes, which are so characteristic of this region, is mirrored by articles on Thetford forest and its Scots pines, the Castilian oak, and the Ligurian mimosa, each representing a different national landscape, and each enabling the reader to reflect on the relationship between landscape, culture and identity in their home culture and in France.

2.6. Additional sections

In addition to these main sections, the site offers two other sections that are worth commenting on:

- **Forums**: there are forums in the site where learners can post on a number of different discussion topics which are moderated by the project team to ensure that messages are swiftly responded to; there are also forums at the end of the practical *"dossiers"* and the *Miroirs* texts to enable learners to share their experiences and reflections on those specific texts and the topics they shed light on.

- ***Espace pédagogique***: this section is for teachers, and contains a collection of lesson plans to enable them to exploit the different resources in their classroom. Lesson plans are organised by topic, and by CEFRL levels.

Having briefly described the different section of the website, I will now look at the initial pedagogic assumptions we made in the planning stages of the project, in particular around defining our target audience.

3. Pedagogy and audience

The four partner institutions originally involved in the project came from fairly different institutional and cultural backgrounds, and different educational areas. The French Institutes in Madrid and in Bremen offer part-time, mostly non-formal French language learning opportunities to adults and children studying part-time, usually face-to-face, and who attend regular lessons during the academic year once or twice a week; the Institute in Bremen also teaches French to students at the local university. The Department of French at the University of Genoa offers language courses, mostly for undergraduates, who study full-time in a face-to-face "traditional" university setting. The Open University, on the other hand, also offers undergraduate provision, but teaches at a distance, using online synchronous and asynchronous tools, and its mostly adult students study part-time. The different settings in which the members of the project team operated provided us with a wide variety of approaches, skills and interests, but also with different pedagogical assumptions and understandings of how the website would be exploited by potential users.

Collis and Moonen (2001) identify five dimensions of flexibility of learning: time, content, entrance requirements, instructional approach and resources, and course delivery and logistics. Whilst we obviously had no control over some of these, as we were producing learning materials rather than courses, we wanted these to enable teachers and learners to use them as flexibly as possible. We wanted the website to be designed in such a way that it could cater for different types of learning contexts: for individuals accessing the website completely independently; for learners working on the resources as part of a more directed course (for instance with a teacher, either face-to-face or at a distance); for teachers wanting specific resources that they could incorporate into their courses, and, in the case of the *Enfants Nomades* section, for parents working with their children independently and for teachers in formal or informal settings and their learners. Because of the multiple and sometimes competing audiences we had identified, and the different needs they would have, flexibility was paramount, and we wanted to design a site that could be accessed by different users in different ways.

The idea behind the website itself, of providing a collection of digital resources and activities for users to develop their language skills and cultural knowledge, is not new. What was interesting and innovative from a design point of view, though, is that, on the one hand, our different contexts and backgrounds made us envisage very different potential users for the website and this, in a sense, meant that we were "designing for strangers". On the other hand, compared to materials that are designed for more closed or controlled institutional settings, for instance, the type of resource we were designing, which is open to any user and free to access, is characterised by a "lack of gatekeeping" compared to traditional settings (Collis and Moonen, 2010).

4. Pedagogy and design

In their foreword to Sharpe et al.'s *Rethinking Learning for a Digital Age* (2010), Collis and Moonen define learning footprints as "the evidence of where a learner has been or is going", and what they are using and doing as they learn. Whilst Collis and Moonen wonder how "learning footprints" are influenced by the affordances of different learning spaces, they also consider that the pedagogical practices of instructors are important components of the learner experiences. They explain that:

> *Simplistically we can say that learning footprints are a function of (at least) the personal characteristics of the learner, cohort cultures, time available to the learner for learning, extrinsic and intrinsic motivations for learning, institutional affordances (spaces, tools and support available), technologies used and their affordances, social and personal priorities, and, last but not least, the pedagogies set forward by their instructors for learning.* (Collis and Moonen, 2010)

It is fair to say that in the *Vivre en Aquitaine* resources, our pedagogical approach is not something that we formulated explicitly at the start of the project, and whilst it's true that we all subscribed to a communicative approach and to fostering intercultural understanding, we did not fully define all aspects of our approach before starting to design the activities and resources.

Rather than seeing this as a shortcoming of the project, though, I think that this particular example can be used to illustrate how, as materials writers, we can conceptualise design processes, and the implications this has. The traditional model for working on solving complex design problems (such as designing a collection of learning materials, producing an e-learning course, or any other such design project) is to follow some linear top down process that starts with defining the problem and then moves on to working out the solution. Traditionally this model would involve understanding the requirements (the needs of the learners, the context, etc.), drawing up a specification of the project, formulating a solution, and implementing it, as illustrated in figure 2 below:
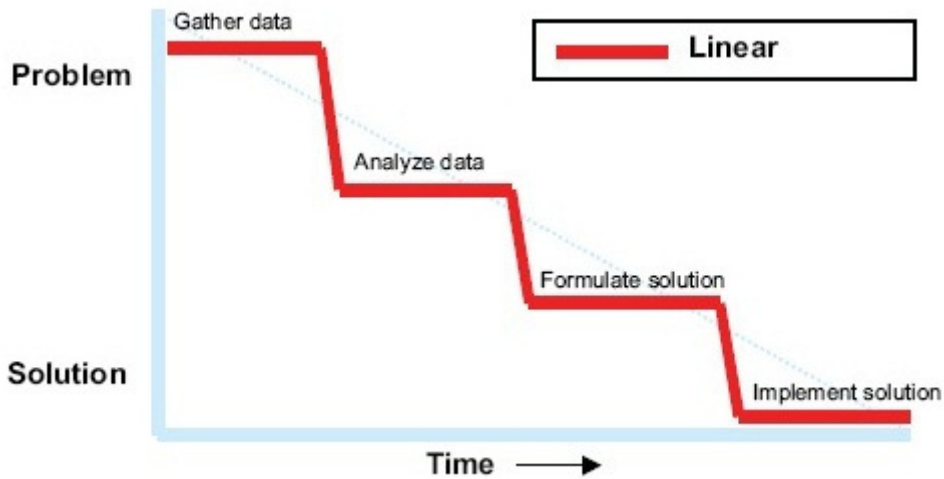
Figure 2. Traditional wisdom for solving complex problems: the 'waterfall', from Conklin (2006).

Writing about wicked problems and social complexity, Conklin (2006) explains how experienced designers don't follow this orderly waterfall model of understanding a problem first and then working out a solution, but in fact in their designing process is non-linear, and they constantly shift between redefining the problem and working out solutions in an iterative way. Indeed, once part of the problem has been identified, they work on a solution to that part of the problem, which might shed new light on the problem or demand that it is re-examined, providing further insights into how to work out a solution. As Conklin (2006) points out, humans don't solve problems by gathering and analysing data and then moving on to formulating solutions and implementing them. Rather, the thinking patterns of creative, experienced individuals are full of unpredictable leaps. This makes it difficult to provide an orderly explanation of the rationale of the development of a complex project such as the creation of a set of learning resources like the one our team was engaged in.
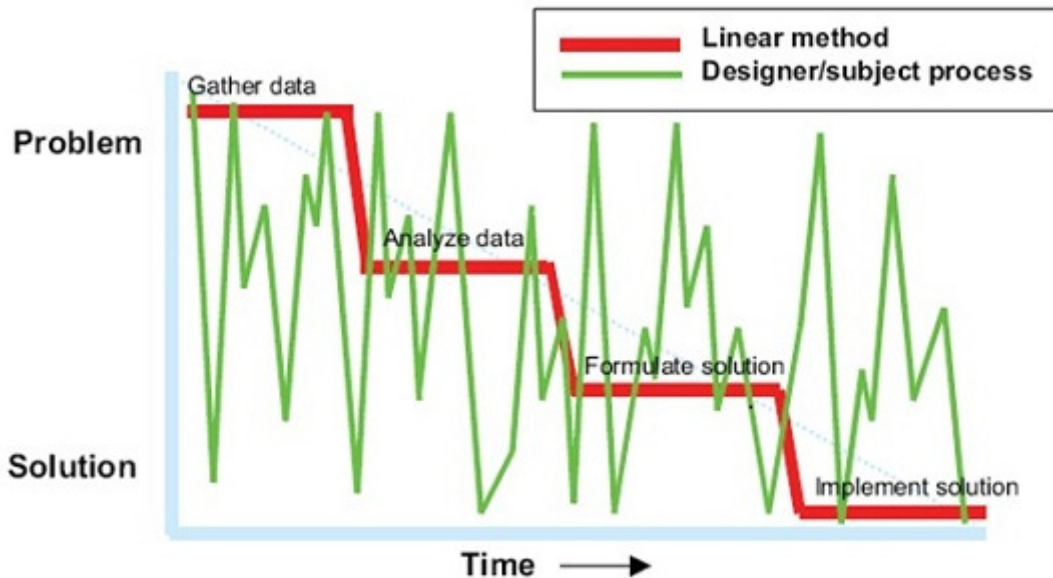
Figure 3. Pattern of cognitive activity of one designer: the "jagged" line, from Conklin (2006).

In the case of *Vivre on Aquitaine,* "the problem" was the design of a set of learning materials that fulfilled the generic aims of the project, for a wide range of users (so, to some, extent "designing for strangers"), and for a project that would have no gate-keepers and be available for learners in a whole range of settings, from completely open (in the case of independent learners) to fairly structured (if used as part of a course).

We were restricted by the affordances of the platform (we used SPIP, partly because it is open source, and partly because the back-end is relatively easy to use in terms of uploading and publishing materials). Although a set of pedagogical approaches were already in place when we started the production of the website resources, and they influenced the design (a desire to place intercultural competence at the centre of the project, the use of common tools such as the CEFR documentation for reference), others, however, developed through the interplay between our pedagogic expertise and the affordances of the site, and through constant leaps between a conceptual understanding of what we were doing ("the problem"), and a practical, hands-on approach when writing of the activities ("the solution"). In the next section, I want to illustrate this process through our emerging approach to the *Miroirs* section of the site.

5. Pedagogy and design: a practical example

The *Vivre en Aquitaine* website is a website for teaching and learning French, but the *Miroirs* sections for each language version also include texts in the users' L1s. So the French text *"La journée d'une Bordelaise",* for instance, is accompanied by a text in Italian in the Italian version of the site, a text in Spanish in the Spanish version, etc. As explained above, these are not translations of the French original, but "mirror" texts about the other culture. At one level, of course, they are designed to encourage reflections about similarities and differences between French culture and the students' own culture. When we started designing the website, we at first considered these different language mirrors to be fairly self-standing, and envisaged users who were speakers of a particular language to approach the site and the material from that language site (so a German learner would go to the de.aquitaine.fr site and see the Franco-German mirror texts, or a British user would go to the uk.aquitaine.fr site and read the texts in French and their English mirrors).

As we were writing the content of the *Miroirs,* however, we found that a particular design feature of the site, which we had not really considered at first, enabled users to move from one national site to another at the click of a button. As we wrote the *Miroirs* section, we became more and more interested in what this design feature enabled us to do pedagogically: it enabled us to easily promote plurilingual competences and even intercomprehension in a way we had not anticipated at the start, when our focus was mostly on promoting knowledge and the skill of interpreting and relating through the simple juxtaposition of a text in the target language with one in the user's L1.

Beacco and Byram (2003:8) have defined plurilingualism as "the potential and/or actual ability to use several languages to varying levels of proficiency and for different purposes." Following the Common European Framework of Reference for Languages (Council of Europe, 2001:168), they go on to explain that plurilingual and pluricultural competence is the ability "to use languages for the purposes of communication and to take part in intercultural action, where a person, viewed as a social agent, has proficiency, of varying degrees, in several languages and experience of several cultures". They distinguish between plurilingualism (a speaker's ability to use more than one language) and multilingualism (the presence of several languages in a given territory). Plurilingual education, they argue, should seek "to develop speakers' language skills and linguistic repertoires", and they clearly believe that it is the responsibility of the education systems to

> *make all Europeans aware of the nature of this ability, which is developed to a greater or lesser extent according to individuals and contexts, to highlight its value and develop it in the early years of schooling and throughout life, since it forms the basis of communication in Europe, but above all of linguistic tolerance, the prerequisite for the maintenance of linguistic diversity. The experience of plurilingualism also provides all European citizens with one of the most immediate opportunities in which actually to experience Europe in all its diversity. Policies which are not limited to managing the diversity of languages but adopt plurilingualism as a goal may also provide a more concrete basis for democratic citizenship in Europe: it is*

> *not so much mastery of a particular language or particular languages which characterises European citizens (and the citizens of many other political and cultural entities) as a plurilingual, pluricultural competence which ensures communication, and above all results in all languages being respected.*
> (Beacco and Byram, 2003, p. 8)

Alves and Mendes (2006) have also highlighted the point that plurilingualism as a concept goes beyond merely enabling communication in multilingual environments; rather it embodies the recognition and appreciation of linguistic and cultural diversity. They remind us that the Common European Framework of Reference for Languages defines plurilingual and pluricultural competences as "complex and composite competences, which allow individuals to participate as social agents in intercultural communicative interactions" (Council of Europe, 2001: 168).

One of the ways in which we have tried to promote plurilingualism and an appreciation of linguistic and cultural diversity through the *Miroirs* section of the website is by making the mediation of texts in other languages part of the learning activities with our students. In a French class with Open University students of French, for instance, students who also had some understanding of one of the other languages of the site were asked to read the mirror text in that language and then summarize it in French for the rest of their peers, who also asked them questions about it, as appropriate. Although students were in the class primarily for the purpose of developing their speaking skills in French, they enjoyed and appreciated the opportunity to use their wider linguistic repertoire and to be able to act as linguistic and cultural mediators for their classmates.

As we continued working on the *Miroirs* section of the website, we also developed or refined our understanding of intercomprehension. In its purest form intercomprehension is "a form of communication in which each person uses his or her own language and understands that of the other." (Doyé, 2005). It has also been defined as "the process of developing the ability to co-construct meaning in the context of the encounter of different languages, and to make pragmatic use of this in a concrete communicative situation" (Capucho, quoted in Alves and Mendes, 2006). Alves and Mendes explain that thus, it involves "the transfer of strategies and knowledge from known to unknown languages", a process that is supported by awareness of cultural features (Alves and Mendes, 2006). Indeed, they argue that "activating and training intercomprehension strategies comprises three levels: (1) the human ability to communicate meanings, (2) language learning (in a conscious or unconscious manner) as a process of strategies acquisition, and (3) the on-going development of intercomprehension abilities and strategies (both in interpreting and producing discourse)".

The functionality of being able to easily swap between languages in the *Miroirs* led us to think of ways in which the pairs of texts could be used to highlight this process of intercomprehension strategies acquisition, and to foster the on-going development of intercomprehension abilities and strategies. Working with students on a mirror text in a language they do not speak encourages them to pay attention to the strategies they use to make sense of the text (text organization, multimedia elements such as images, numerical data (dates, times…), vocabulary items that are similar to the student's L1 or any other of the languages they know, cultural knowledge they may have about the target culture or other cultures, etc.).

Doyé (2005) points out that learners have "considerable funds of usable knowledge which can be exploited", and suggests that teachers should make learners aware of this knowledge and enable them to use it by developing appropriate strategies. For this purpose, he summarises the relevant categories of knowledge that learners draw upon when understanding new texts and utterances in a language they are not familiar with, and suggests that these are the categories of knowledge necessary for promoting competence in intercomprehension:

- General knowledge

- Cultural knowledge
- Situational knowledge
- Behavioural knowledge
- Pragmatic knowledge
- Graphic knowledge
- Phonological knowledge
- Grammatical knowledge
- Lexical knowledge

In order to find out how to exploit you own funds of knowledge that can help you make sense of a text in a language you do not speak, I would urge you to visit the *Miroirs* section of the website, and to look at a text in a language you do not understand. The following example illustrates the use of a German text from the *Miroirs* with a learner who speaks no German: http://vimeo.com/37817462

What is important to highlight here is that an unexpected technical development, and the affordances it provided, influenced our approach to the pedagogy, providing us with possibilities we had not anticipated at the start. As Conklin (2006) puts it, by working on "the solution", we were also at the same time redefining "the problem". Thinking about these technical possibilities and their pedagogical applications also enabled us to start contemplating how else we could promote plurilingualism and the polyglot dialogues learners might want to engage in.

Sometimes, however, it was the users themselves who, through their own use of the resources, pointed at new possibilities we had not originally envisaged. For instance, the *Miroirs* texts offer users the possibility to comment on the texts. As authors, we had difficulties in finding an equivalent in English for one of the French texts on the cultural and gastronomic practice of the *"éclade de moules".* Because of the interactive affordances of the website, we decided to ask users to leave messages trying to come up with a UK equivalent, and several left comments in English or French, making suggestions of similar practices in their own cultural context. Although at first we had wanted to promote the use of French in all the user interactions in the site, we felt that the use of English here was entirely appropriate, and fitted well with the promotion of plurilingualism that we were keen to foster. The comments on the French/English version of the *Miroir,* however, were only available to users who were on English page (so if you were in the Italian page, looking at the French/Italian version of the *Miroir,* you might not know that there was a discussion on the English site). The more learners used the site, the more persuaded we became that these plurilingual and pluricultural competences were ones we wanted to promote rather than prevent, and therefore in the new phase of the project which is currently taking place, we have made technical changes to enable this practice, informed this time by our own pedagogical development, so that learners on one bilingual mirror page can see the forum discussions on the sister pages (see, for instance, http://uk.aquitaine.fr/spip.php?rubrique84&lang=en and click on the flags next to the forum discussion).

6. Conclusion and future plans

Goodyear and Ellis (2010) have shown how the learning context and the educational intentions of their teachers can influence the students' learning approach. They argue that learners' "conception of learning and approaches to study are not fixed personal traits, but emerge in interaction with a context". Indeed, by helping learners shape and reshape the context in which they learn (for instance through the tools they use), as teachers we can also "nudge their sense of what learning is, and how to become better at it, in more productive directions". I would argue that although this is certainly the case in our experience, and that through the *Miroirs* we were certainly able to nudge learners to explore issues of plurilingualism and intercomprehension and help develop competences in these areas, our own conception and approaches as teachers is not necessarily fixed either, and it too can emerge in interaction with a context. In this particular case, as designers of learning materials, our conception and approaches

shifted because we discovered pedagogical applications of technical features that we had not originally foreseen. At the same time, our learners' unexpected behaviour (such as the use of the L1 in the comments on the *Miroirs),* also "nudged" us as educators into further expanding our pedagogical understanding of pluriligual and intercultural practices in action.

In the next phase of the project, which is now underway, we are enabling learners who enter the *Miroirs* from a specific language portal to be able to see the comments in the other language *Miroirs,* so as to encourage a polyglot dialogue between users. We have also chosen intercomprehension and plurilingualism as two of the axes of our work for this phase of the project, and are further developing our understanding and our practice in those areas.

References

Alves, S. and Mendes, L. (2006). Awareness and Practice of Plurilingualism and Intercomprehension in Europe. *Language and Intercultural Communication,* 6(3).

Beacco, J.C. and Byram, M. (2003). *Guide for The Development of Language Education Policies in Europe - From Linguistic Diversity to Plurilingual Education,* Strasbourg: Language Policy Division, Council of Europe.

Byram, M., Gribkova, B. and Starkey, H (2002). *Developing the Intercultural Dimension in Language Teaching. A Practical Introduction for Teachers,* Strasbourg: Language Policy Division, Council of Europe.

Collis, B., & Moonen, J. (2001). *Flexible Learning in a Digital World: Experiences and Expectations.* London: Kogan Page.

Collis, B. and Moonen, J. (2010). Foreword to Sharpe, R., Beetham, H. and de Freitas, S., *Rethinking Learning for the Digital Age.* London: Routledge

Conklin, J (2006). *Dialogue Mapping: Building Shared Understanding of Wicked Problems.* Sussex: Peter Wiley.

Council of Europe (2001). *Common European Framework of Reference for Languages,* http://www.coe.int/t/DG4/Portfolio/documents/Framework_EN.

Doyé, P. (2005). *Intercomprehension. A Guide for the Development of Language Education Policies in Europe: from Linguistic Diversity to Plurilingual Education.* Strasbourg: Council of Europe.

Goodyear, P. and Ellis, R., (2010). Expanding conceptions of study, context and educational design, in Sharpe, R., Beetham, H. and de Freitas, S., *Rethinking Learning for the Digital Age.* London: Routledge.

Notes

[1] "Is your *crème brûlée* home-made?"

[2] Learn the language. Forget your prejudices. Get used to the fact that not everyone thinks like you, be open to new ideas. Don't forget your culture and your "savoir faire", mixing things up will make your exchanges all the richer. Invite your new neighbours to dinner; it's the best way to get to know them. Never invite a French person for breakfast, they'll think you're mad! Don't lock yourself up in your own community.

Top

Article:

SMS as a learning tool: an experimental study

Mar Gutiérrez-Colon Plana*, Pere Gallardo Torrano** and M. Elisa Grova***
Universitat Rovira i Virgili (Tarragona, Spain)

_____

*mar.gutierrezcolon @ urv.cat, **pere.gallardo @ urv.cat,
***mariaelisa.grova @ urv.cat

Abstract

The aim of this experimental study was to find out the potential of using mobile phones in teaching English as a foreign language, specifically the use of SMS as a support tool in the EFL class. The research questions formulated were: (1) Is using SMS messages via a mobile phone an effective tool in terms of motivation and engagement? (2) What type of mini-lessons do subjects think are better to be sent via SMS in terms of effectiveness, engagement, and usefulness for their learning purposes? (3) What is the appropriate timing for the activities to be sent? (4) Did students who participated in the project perform better than the control group?

This experimental study lasted two academic years. As this was a preliminary study of the viability of the SMS methodology, it was conducted with a small group of students (n=13) from the English Degree at the University Rovira i Virgili (Tarragona, Spain). During the first year we designed various types of activities and sent them though a period of 15 weeks. The aim of this first part was to answer the research questions 1 to 3. The second year, a new set of exercises was created. This time, the aim was to gather data to be able to answer the fourth research question. Both qualitative data (from the first year) and quantitative data (from the second year) were analysed.

We can conclude that the subjects have found this experience engaging. The subjects preferred receiving short, direct exercises which could be answered immediately. They preferred receiving the SMS in the afternoon or evening and the results show that this methodology enhances the retrieval of memorized English language rules.

The results of this study were presented at the EuroCALL 2011 conference in Nottingham and are the result of a research project funded by the Institut de Ciències de l'Educació (Universitat Rovira i Virgili).

Keywords: e-Learning, m-Learning, SMS, distance learning, new language teaching methodology.

1. Introduction

In recent years there has been considerable progress in various areas of distance education in Spain thanks to the introduction of e-learning practices. In contrast, applications relating to mobile learning may be said to be still at an early stage of development. M-learning is typically identified by two basic factors: 1) the fact that it can be used "anywhere, anytime" (Geddes, 2004), and 2) because the technology used is affordable for many users and technically simple to use.

This idea of using a mobile phone as a support tool for working alone on assigned tasks is supported by researchers such as, Lu (2008), Kennedy and Levy (2008), and Cavus and Ibrahim (2009). Thornton and Houser state that:

The teacher must make difficult choices about how to use that limited time [class time] to promote language learning. Since foreign language students usually have opportunities to speak and hear the target language in the classroom, it makes sense to use as much class time as possible in communication activities. This means that other kinds of practice and exposure must be provided in other ways. We believe that mobile technology can help extend learners opportunities in meaningful ways. (2005: 218).

Traxler believes that while the book format constrains knowledge to a linear format, web-based formats present information in a richer way, since all the bits of information are linked to endless sources of information. He also contends that "Mobile devices, systems and technologies also have a direct and pervasive impact on knowledge itself, and how it is generated, transmitted, owned, valued and consumed in our societies" (2009: 8). At the same time, this fact has changed the way in which knowledge is transmitted, because it is now presented in "smaller chunks governed by the heuristic of usability and increased non-linear navigational complexity." (2009: 9). The following technological step, that is, the use of mobile phones as a device to transmit information, has also had an impact on knowledge, since we send big amounts of information in "small disconnected and trivial chunks" (2009: 9). On the other hand, this methodology has proven to be very personal and spontaneous; it can be used anytime, anywhere and these characteristics reinforce the students' sense of control over their learning process. It can also supplement other methods of learning and teaching, or even replace them. It can also be tailored to each specific learning situation like any other method. So (2009) explains that we cannot assume that all learners have PDAs, netbooks, etc., but we can be sure that almost all our subjects carry basic mobile phones which are mainly used for voice and SMS communication. Therefore, when we "consider ubiquitous access (other than web-based access) for teaching and learning foreign languages, we must employ basic and trusted technologies such as SMS to connect with our students" (2009:113). Thus, the basic principle in our experimental study follows So's recommendations.

2. Using Mobile Phones in Foreign Language Teaching

According to Pownell and Bailey (2001) "handheld computers are at the forefront of the fourth wave in evolution of educational technology." The first wave started before the 70's; the second started when desktop computers appeared (around the 70's). The third, started in the 90's with the appearance of the Internet and the World Wide Web. In the year 2001 the fourth wave started as palmtop computers and mobile phones began to spread. For Stockwell (2007), this last stage of CALL can be considered "integrative", which means that subjects use a wider variety of technological tools, and thus learning a language does not only happen in a laboratory or a classroom but it is a continuous activity. He also believes (2010) that the popularity of mobile phones is due to their rapid spread on the market, their lower prices (compared to laptop computers) and the simplicity of their use. In spite of the drawbacks of mobile phones pointed out by Stockwell (2007), many institutions and teachers see mobile phones as their best technological option within the field of m-learning.

Usability is also a current issue in the field of mobile learning (Kukulska-Hulme et al., 2007; Churchill and Hedberg, 2008; Gu et al., 2011). Gu et al. (2011) identified a set of design principles for (a) content, (b) activity and (c) usability. The content (a) has to be practical and micro; that is, it has to address practical needs of the learner. These self-contained learning objects have to fit into small slots of time. The activity (b) has to be micro and simple; that is, each activity should be made through one action "such as listening, reading or pushing a button to input feedback (Gu, 2011:4). The usability (c) of the mobile activities has to focus on the needs to keep learners' attention and to keep content fresh in their mind" (Gu, 2011:4).

On the other hand, So states that "the most ubiquitous and stable technologies, namely Short Message Service (SMS) texting or cellular phones, have great potential in education" (2009:114). He also believes that SMS is the most reliable type of communication on mobile phones today (not to say the most popular), because if the phone is powered off or out of range, messages are stored in the network servers and

delivered to our phone as soon as it is again available. Information is therefore never lost or the communication channel is never totally cut off.

Although there are many projects based on mobile technology, the number of projects which focus on the use of SMS in the foreign language classroom is scarce. Thornton and Houser (2005) developed an innovative project which focused on providing vocabulary instructions by SMS. They e-mailed short mini-lessons to the students, three times a day during 15 weeks. The results indicated that SMS students learnt twice the amount of vocabulary compared to students using web-based materials and those using paper format. Levy and Kennedy (2005) conducted a similar study with Italian learners in Australia. Kiernan and Aizawa (2004) placed upper and lower level students into three groups: PC e-mail users, mobile phone users and face-to-face speaking users. They studied the time spent answering the exercises. In 2008, three academics at the University of Aberdeen developed a Flood Disaster simulation. This simulation used SMS text messaging, and the objectives were to help learners apply the theoretical ideas they had learnt during a practical situation (Cornelius, Marston and Gemmell, 2011).

Vavoula and Sharples (2009) believe that an in-depth study on the various m-learning scenarios should be carried out at three levels of evaluation: (1) the usability of the technology (micro level); (2) education/learning (meso level); and (3) organisation/practicability (macro level). Our study focuses on both the micro and the macro level, since we have investigated different types of exercises which follow the "set of designed principles for content, activity and usability" designed by Gu et al. (2011), as well as the organisation of time, students' preferences and other issues directly relating to the macro level of evaluation.

The research questions formulated were:

1. Is using SMS messages via mobile phone an effective tool in terms of motivation and engagement?

2. What type of exercises do subjects think are better to be sent via SMS in terms of engagement and usefulness for their learning purposes?

3. When do learners prefer receiving and sending the SMS outside of the class time?

4. Did students who participated in the project perform better than the control group?

Since the general aim of this study was to test the acceptability of using mobile phones in the classroom as a support tool, we thought that this project should not yet be linked to assessment. We coincide in this respect with Kennedy and Levy when they say: "We did not wish to link messages to assessment until we had established an approach that students were happy with." (2008:458).

3. Research Design

3.1. Participants and procedure

This experimental study started in September 2009. As this was a preliminary study focusing on the viability of this methodology, the study was conducted with a small group of students. The group was made up of 13 first-year students taking the English Degree at the University Rovira i Virgili, in Tarragona, Spain. All thirteen students had registered for the face-to-face course "English Language-1". As the project involved spending some money on the exchange of SMS with the researcher, it was agreed that students would participate in the project on a voluntary basis.

3.2. Research Rationale and Pedagogical Design

In a study conducted in 2007, Stockwell found out that most students preferred working with computers instead of mobile phones. He reached the conclusion that there is a need for a mobile interface "that requires little effort on the part of the learners to use, even when a higher cognitive burden is placed on them" (2007: 380). In our experimental study we have taken advantage of the way our subjects use their mobile phones on a regular basis, and thus we created SMS-based exercises. One of the aims of this project was to study the type of SMS exercises that are the most suitable to be sent to our students in terms of engagement and usefulness. For this reason, we designed different types of lessons and exercises that were sent to the students. The only characteristic that these exercises had in common was the fact that in part all of them solve the problem of interface complexity, the burden of the small screen as well as that of cost. So (2009:115) argues that SMS messages are a discrete type of message that can be delivered rapidly and that are very fast to read. This makes them readily available to learners anywhere, including trains or buses. The initial aim of our project was therefore to verify the viability of the technology for this specific purpose. In order to study the subjects' reactions towards this new use of technology it was considered that all the differences between students had to be eliminated or at least waived. This means that we had to create a methodology that could be supported by all kinds of mobile phones and which could be used by all kinds of users (i.e., from the most techno-skilled, to the least technology-oriented). For all these reasons we thought that as a starting point for our experimental study, a text-based message was the most appropriate option.

This research project lasted two academic years (Sept.2009- Sept.2011). During the first semester of the first year (Sept.2009-Jan.2010) we designed the activities that had to be sent. The various types of activities were meant to answer our second research question: what type of exercises do students think are better to be sent via SMS in terms of engagement and usefulness for their learning purposes? (See Appendix 1 with all the SMS texts sent). The SMS messages were sent throughout 15 weeks (the 2 nd semester of the academic year, i.e. from February to June 2010). Throughout this period he students were sent three exercises per week. This means that some exercises were sent in one single message, while others were divided into two or three messages due to their structure.

The subjects who received the messages were expected to answer the exercises wherever they happened to be. They were not expected to check dictionaries, grammar books or any reference source because all the information they needed to complete the exercises was included in the SMS.

The aim of study during the second year of our research project shifted to another objective. At that point of our study, we had an answer to our three first research questions, but we did not know if the students performed better when the exercises were given on paper or as an SMS.

For this purpose, during the first semester of the second year (Sept. 2010- Jan. 2011) we created SMS exercises that were based on the content that was taught in the subject that the students were taking, i.e. "English Language 1". Once the semester was over, we started sending the students three exercises (three SMSs) per week with the content that they had learnt in the first semester. This experiment expanded throughout the 15 weeks of the subject.

3.3. Data collection

Since the research project was divided into two different periods, the collection of data was also differentiated.

The data from the first period was collected through a detailed test. This test was divided into two parts: in the first one we asked about different aspects of each of the

exercises that the students had received. Since one of the central points of this first part of the project was to establish which type of exercise was more suitable to be sent via SMS (from the students' point of view), we needed to know their opinions on each exercise in detail. The second part of the survey was a more general questionnaire on the methodology used in this project. (See Appendix 2)

In order to collect the data from the second period of the project, we administered a pre-test and a post-test to both the experimental group (students who participated in the research) and the control group (the students enrolled in the same course but who did not participate in the project). Both the pre and post-test were a combination of multiple choice questions and fill-in-the-blanks exercises. All these questions were based on the content covered by all the students during the first semester. The results of both the first year survey and second year tests, this is, both qualitative data and quantitative data, are presented in the following section.

4. Results

This section analyses the results obtained and to what extent they answer our research questions. Our first research question tried to address the topic of motivation and engagement by the subjects when using this learning method. After a qualitative analysis of the subjects' feedback we concluded that most of the subjects found this methodology engaging. A detailed analysis of their feedback shows a wide range of reasons for their positive reaction:

1. The subjects did not mind (they actually enjoyed) receiving and answering messages immediately.

2. The subjects had the feeling that they were receiving private lessons with highly personalised material.

3. They enjoyed being able to answer from anywhere they happened to be.

4. They believed the exercises were not complex and so they could solve them in a short time.

5. They enjoyed that some of the exercises were based on real facts, and this increased their interest and curiosity about the next message.

6. All of them explained that they had the feeling they were living a special moment as subjects of "an experiment" with a new learning methodology.

Only one subject out of the 13 who participated in the experimental group stated that he did not find this methodology engaging at all. Being a computer user (on a daily basis), he could not see any justification in using a mobile phone, which coincides with the results obtained by Stockwell (2007).

The second research question addressed a more particular issue. We asked them to specify the type of exercises they thought were the most useful in terms of engagement and usefulness for their learning purposes. The following tables show the results of their answers:

Mini-lesson	Yes	No	So-so
1	100%		
2	100%		
3	100%		
4	50%	10%	40%
5	66%	22%	11%
6	37.5%	25%	37.5%
7	90%	10%	

8	50%	30%	20%
9	77.7%	22%	
10	77.7%		22.2%
11	77.7%		22.2%

Table 1: "Did you like the design of this activity?"

Mini-lesson	Yes	No	So-so
1	80%	20%	
2	80%	20%	
3	80%	20%	
4	100%		
5	100%		
6	37.5%	50%	12.5%
7	62.5%	25%	12.5%
8	11.1%	66.6%	22.2%
9	66.6%	22.2%	11.1%
10	75%	25%	
11	100%		

Table 2: "Do you think this is an appropriate exercise to be delivered via a mobile phone? Why?"

The data shows that the subjects in the study preferred the activities that could be answered immediately by just typing one or several words. They also preferred the activities for which they did not have to consult additional materials. The following reasons were produced to justify their negative answers:

- *The answer I had to write was too long;*
- *I couldn't answer immediately because I had to check the answers in a dictionary;*
- *I couldn't answer immediately because I needed a reference book and I was on the bus;*
- *The language level was too high;*
- *I had to write the answers on a paper because I couldn't remember all of them;*
- *Writing a whole definition is too long / too difficult.*

The third research question that we aimed to study was timing. We wanted to determine the appropriate timing for the activities to be sent. We knew that our students had a very busy timetable, and we were not sure about the best moment to send the messages. The timing preferences coincided, and data suggests that future messages should be sent between one and eight p.m. They all agreed that two or three messages a week was a good quantity, and they all preferred receiving them in the afternoon or in the evening. This explanation came as a surprise to us since we believed that the subjects would not like to be disturbed with academic matters once they left the faculty. Yet, we realised that they didn't really perceive these SMS exercises as an intrusive methodology, because they are accustomed to receiving SMS text messages on a daily basis to communicate with friends.

Or fourth research question addressed the issue of content performance. In this case, the data was collected through a pre-test and a post-test. These two tests were administered to both groups: the experimental group and control group. The following tables show the results obtained.

	Pre-test results (44 Questions)	Post-test results (20 Questions)
experimental group	30.3 (68.8%)	10.5 (52.5%)
control group	29.5 (67%)	7.95 (39.75%)

Table 3: Pre-test and post-test results.

From these results, we can safely conclude that the experimental group has outperformed the control group.

5. Discussion

Consequently, after analysing the data, we concluded that we coincide with So's theory (2009) on the necessity of employing trusted technologies such as SMS to connect with our subjects. From our subjects' feedback, we discovered that they did not perceive this experimental study as a big change in their lives, but only as an addition. That is, just some more SMS text messages per week to be added to the number of messages they already receive. This technology is completely natural to them, and this could be demonstrated by the fact that some subjects wrote in their evaluation questionnaires very personal comments, such as the following ones: *I didn't like the topic of this message so I didn't do it; I had to think a lot to do this exercise and for this reason I don't like it; I had just split up with my boyfriend and this topic was a bit difficult for me to answer; after all these SMS I still prefer face-to-face learning because I don't find this new methodology useful; I felt a bit sad and depressed, so I didn't feel like answering some of the exercises.*

The majority of our students enjoyed the experience. According to their feedback, they found this methodology useful and engaging. A very interesting point is that many of the students told us that they liked receiving the exercises, and they also liked receiving feedback on their answers the same day they had completed the activity. We believe that feedback via SMS is one of the issues that should be analysed in more detail in future studies because it has been one of the better evaluated items by the students.

According to the data obtained in the second year of the project, we strongly believe that SMS messaging is promising evidence that this methodology helps toward the retrieval of information and prior knowledge.

6. Conclusions

As a whole, we can conclude that the subjects found this experience interesting and appealing. They felt comfortable with it because they already knew how to use the technology and it did not mean any real change in their daily life except for the fact that they received some extra messages per week.

According to the data obtained, the subjects preferred receiving small chunks of information (contained in one SMS) which could be answered immediately. We can also conclude that the subjects preferred answering the exercises that required no additional support material. The possibility of answering at any time and in any place was regarded as a very positive feature.

Mobile phones are undoubtedly an important part of our students' lives, and so they do not see this methodology as intrusive. As our study proves, this methodology also has positive repercussions on the students' performance.

7. Implications and limitations

After a close observation of the subjects' use of mobile technology, we completely agree with So (2009: 122) in the fact that nowadays this methodology cannot be used in isolation or as a replacement of other traditional e-learning methods. Mobile technology

still has a long way to go before it becomes really effective: cheaper rates for Internet connection, larger screens, technology improvement, etc.

In the future, a study with a larger number of subjects needs to be carried out. But for this research study, the fact of having such a small group of subjects helped us overcome some of the difficulties that we came across and for which no reference studies were available. As flat rates become more popular and smart phones become more widespread, we hope that in the near future financial reasons will no longer prevent learners from being able to participate in this type of reinforcement methodology. Additionally, new software is currently being developed allowing users to access messaging services completely free of charge. As an example, we are now conducting a new research project for which a free SMS application is being used, so we plan to send increased media-rich messages in terms of content and visual/sound aids.

In conclusion, we believe that mobile technology is still in its early stages although it presents an enormous potential for education. We therefore hope that the findings in this study provide useful insights for other researchers interested in this type of technology and methodology.

Acknowledgements

References

Cavus, N. and Ibrahim, D. (2009). M-Learning: An experiment using SMS to support learning new English language words. *British Journal of Educational Technology,* Vol. 40, No. 1: 78-91.

Churchill, D. and Hedberg, J. (2008). Learning objects design considerations for small-screen handheld devices. *Computers and Education*, 50: 881-893.

Cornelius,S., Marston, Ph. and Gemmell, A. (2011). SMS text messaging for real-ime simulations in Higher Education. In Traxler and Wishart, J. (eds), *Making mobile learning work: case studies of practice* . ESCalate. University of Bristol.

Geddes, S.J. (2004). *Mobile Learning in the 21 st Centiry: benefit for learners.* Tree e-journal. http://knowledgetree.flexiblelearning.net.au/edition06/download/Geddes.pdf

Gu, X., Gu, F. and Laffey, J.M. (2011). Designing mobile system for lifelong learning on the move. *Journal of Computer Assisted Learning.*

Kennedy, C. and Levy, M. (2008). L'Italiano al telefonino: Using SMS to support beginners' language learning. *ReCALL*, 20(3): 315-330.

Kiernan, P and Aizawa, K. (2004). Cell phones in task based learning. Are cell useful language learning tools? *ReCALL,* 16(1): 71-84.

Kukulska-Hulme A., Traxler, J. and Petit, J. (2007). Designed and user-generated activity in the mobile age. *Journal of Learning Design,* 2: 52-65.

Levy, M. and Kennedy, C. (2005). Learning Italian via mobile SMS. In A. Kukulshka-Hulme and J. Traxler (eds.), *Mobile Learning: A handbook for educators and trainers.* London: Routledge. 76-83.

Lu M. (2008). Efectiveness of vocabulary learning via mobile phone. *Journal of Computer Assisted Learning,* 24: 515-525.

Pownell, D. and Bailey, G. (2001). Getting a handle on handhelds: what to consider before you introduce handheld computers in your school. *American School Board Journal.*

So, S. (2009). The development of a SMS-based teaching and learning system. *Journal of Educational Technology Development and Exchange,* 21(1): 113-124.

Stockwell, G. (2007). Vocabulary on the Move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning.* Vol. 20, No. 4: 365-383.

Stockwell, G. (2010). Using Mobeil Phones fror Vocabulary Activities: Examining the Effect of the Platform. *Language Learning and Technology,* Vol 14, No. 2: 95-110.

Thornton, P. and Houser, C. (2001). Learning on the move: Vocabulary study via e-mail and mobile phone SMS. In C. Montgomerie and J. Viteli (eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2001.* Chesapeake, VA: AACE. 1896-1897.

Thornton, P. and Houser, C. (2005). Using mobile phones in English Education in Japan. *Journal of Computer Assisted Learning* , 21: 217-228

Traxler, J. (2009). Learning in a Mobile Age. *International Journal of Mobile and Blended Learning* 1(1): 1-12.

Vavoula, G. and Sharples, M. (2009). Meeting the challenges in evaluating mobile learning: A 3-level evaluation framework. *International Journal of Mobile and Blended learning* 1, no. 2: 54-75.

Appendix 1

SMS 1: Hello. We know that nowadays young people always carry a mobile. Many studies suggest that you enjoy sending and receiving SMS. These studies also suggest that many people download games, and play with these games when they ARE BORED, waiting for the bus, in the train, etc. Nevertheless, some people find these games BORING, because they believe that the screen is too small. In some countries like Japan, people TOY WITH their mobile a lot more than we do. They watch TV with it and even receive video lessons from their universities! Maybe one day we will do the same... who knows.

BE BORING / BORED: Adjectives that end with –ed talk about our feelings. Adjectives that end with –ing talk about a person, a thing or a situation that causes one's feelings. TOY WITH: means to play with.

SMS 2: It's Saturday evening. You are watching a TV programme. Are you boring? or are you bored?

SMS 3: Which is the verb that rhymes with joy and means to play with?

SMS 4: Thanks for your SMS!! Feedback for the 1st lesson. If you are BORED, why don't you go to the cinema or TOY WITH your mobile phone? ;-) Well done!!

SMS 5: Two days ago I was talking to a friend of mine. She was rather angry because she had received a letter from the gas company which began "Dear friend…". The fact is that she knows nobody at the gas company. I told her she was being too SENSITIVE because the letters are printed automatically and normally respond to a model created by a computer programme. On hearing this, I noticed there were tears in her eyes. She said her eyes were extremely SENSITIVE to the smoke of my cigarette. So I apologised again, but she wouldn't change her opinion about the letter. I told her that her reaction

was not too SENSIBLE because she was paying too much importance to something really trivial, which she finally admitted.

SENSITIVE: easily hurt or damaged, esp. emotionally, susceptible, receptive to sense impressions (cat: sensible, susceptible, ple de sensibilitat). SENSIBLE: rational, reasonable, indicative of good sense or reason (cat: prudent, raonable)

SMS 6: It's getting dark outside. Someone turns on the light unexpectedly. You shout with pain. Your eyes are SENSIBLE to the light or SENSITIVE to the light?

SMS 7: Be SENSIBLE /SENSITIVE, you can't do it all on your own!!

SMS 8: Thank you so much for your feedback!! Here you have the feedback: Our eyes are usually very SENSITIVE to the light. That's why we wear sunglasses in summer. Be SENSIBLE, you can't do it all on your own!!

SMS 9: Hi. Do you know anything about Mary Shelley? You are right! Yes. She's the author of "Frankenstein", a TERRIFIC novel you should read immediately if you haven't yet. And please don't say you don't like HORROR stories. In "Frankenstein" there is little horror but a lot of action, suspense, love, tenderness, suffering, hate, revenge. All things considered, there is very little TERROR and a great deal of human emotions. In any case, the things that scared nineteenth-century people are not exactly the same we are scared of nowadays. So next time they tell you about a terrific novel, make sure you don't get confused.

- Remember: The weather in Madeira was terrific (superb)
- "Frankenstein" is a terrific novel (excellent, great)
- Frankenstein is a horror story (it causes fear)
- The creature in "Frankenstein" looks horrible (ugly, deformed)

SMS 10: We wanted to go to Jamaica, but the weather forecast for next week predicts a HORRIBLE tropical storm or a TERRIFIC tropical storm?

SMS 11: I've been having nightmares for three days now. It's HORRIBLE (or TERRIFIC?). I usually wake up after being attacked by a TERRIFIC (or HORRIBLE?) monster.

SMS 12: There was a HORRIBLE storm in Jamaica while I was there on holidays. Since then I have HORRIBLE nightmares in which a HORRIBLE monster attacks me.

SMS 13: Have you seen today's La Vanguadia? /10/03/10) On the cover we can read: "No one assumes the chaos" which means that no one A) takes up B) takes off C) takes in responsibility.

SMS 14: Ugh! This one was a bit more difficult, wasn't it? The right answer is A = take up responsibility (to be free from guilt). [take off = take flight -a plane-, take in = absorb information]

SMS 15: Today, at about 11, it has started snowing in Tarragona! Have you seen it? I've been told that it was snowing in many other places. I love it when it's snowing. There's so much silence, so much quietness... but it can be really dangerous if you suddenly see a large mass of snow and ice sliding swiftly down the mountain side... I forgot the name!! How do you call this phenomenon? a_ _ _ _ _ _ _ _ e

SMS 16: AVALANCHE

SMS 17: Hi. I love the north east coast. The weather is lovely both in winter and summer and there are tourists all year round. Actually, near my hometown there is a summer RESORT where thousands of people from various nationalities spend one of two weeks every year. I guess the Mediterranean weather is a strong motivation. When

they've had enough rain, fog, cold and wind, and they cannot afford going to a tropical island, they RESORT to our country, which is close, friendly and well-communicated with the rest of Europe. However, every year more and more tourists visit our winter RESORTS up in the Pyrenees. If there is not much snow, many winter stations RESORT to artificial snow, though only as a last RESORT because there's nothing like a white weekend in a fancy skiing RESORT.

- Remember: Resort (NOUN): a place frequented by people for relaxation or recreation
- Resort to (VERB): turn to someone or something for help or protection

SMS 18: Find a synonym for the words RESORT: When tourists have had enough rain, they RESORT (1) to our country. However, every year many winter stations RESORT (2) to artificial snow.

SMS 19: Find a synonym for the words "resort": Words are rich and powerful enough to sort out differences. We should never RESORT (3) to violence. Actually, it's much better if we burn our negative energy in a winter RESORT (4)!

SMS 20: When the tourists have had enough rain, they FLY TO / TRAVEL TO (1) our country. Under many days of bad weather, some people FALL BACK ON / UTILISE (3) violence. However, every year many WINTER STATIONS (4) HAVE TO USE [with urgent necessity] (2) artificial snow.

SMS 21: If you score, you have a… GOOOOOAL!!!!!!

Talking about football vocabulary, do you know the meaning of referee? A referee is the person who makes sure the players follow the rules. Normally he wears a black shirt and shorts, and has a whistle. The goalkeeper is the one who makes the quick decisions as to when to leave the goal in order to prevent an attacking player from reaching a pass or cross. The DECISION has to BE TAKEN / MADE or you can also REACH or COME TO A DECISION. In football, a decision made by a referee is also called 'the call'.

SMS 22: Which word had a spelling mistake in yesterday's lesson? After a foul has been committed in the penalty area, the referee awards a penalty by blowing his --------. He has to solve problems, quickly select the best alternative; this means quick --------- - making.

SMS 23: Who's the only one who has a whistle in a football match? When he ----- a penalty he blows his whistle.

SMS 24: The REFEREE always blows his WHISTLE (he's the only one who's got one) when he CALLS a penalty. He has to be good at DECISION-MAKING skills for the football match to be enjoyable.

SMS 25: One of the most important Spanish celebrations is HOLY WEEK. The Holy week is the RE-ENACTMENT of the Passion of Jesus Christ, and some cities and towns in Spain assume an air of solemn respect for what are the most important dates in the religious calendar. It is really spectacular to see hundreds of BEARERS belonging to different BROTHERHOODS carrying the FLOATS which support the IMAGES of Jesus and the Virgin Mary, while the EERIE sounds of the traditional DIRGES break the silence of the night. The image of the hundreds of feet DRAGGING on the floor and the smell of SCENT that comes from the candles drive you to a different world, a different setting... of sadness? of joy?

SMS 26: Find a synonym for the following words. 1. Religious societies. 2. Mysterious and frightening

SMS 27: Define the following words: 1. Dirge 2. Bearer

SMS 28: Read the following paragraph and write the words that are missing.

As you all know, next Friday we (1) St. Jordi. It's a very traditional holiday in which all Catalan people take over the streets to buy books and roses in (2) prepared for this purpose. The ritual consists of going for a walk and buying a rose and a book to your beloved. Unfortunately it is not a (3) holiday, though it is the only national festival celebrated on a working day. The most popular legend about St. Jordi tells that there was a dragon in Montblanc which (4) people. In order to pacify it, a person had to be chosen as a (5) to the monster. One day, the king's daughter was chosen, and she would have died in the beast's claws if it (6) not been for a handsome knight who killed the dragon. A (7) of roses sprang from the stain of its blood. Have a nice day!!

SMS 29: 1. celebrate, 2. stalls, 3. public, 4. attacked, 5. sacrifice, 6. had, 7. bunch

SMS 30: Entertaining, amusing, fun or funny? 1. The film is… (=entertaining). Don't miss it. 2. Jane is a very… (=amusing) person. You'll never get bored with her. 3. I have a… stomach today (=upset). 4. If I had known this novel was so…, I would have read it immediately (=enjoyable)

SMS 31: 1. fun, 2. funny, 3. funny, 4. entertaining

SMS 32: I did not like the film Avatar. The PLOT / ARGUMENT is simply boring.

SMS 33: Plot

Appendix 2 (1)

Questions:

• *Please, use as much space as you need to answer your questions*

• *These questions are general. Feel free to write as much as you wish and even about topics not reflected in the questions.*

• *Any information you can give us will be extremely useful for this project. Just keep in mind that this is the first experimental study in this field in our country and any information you can provide will be of great value.*

Exercises 1, 2 & 3

- Did you like the structure *text + a little theoretical explanation?* If so, why? If you didn't like it, how would you have preferred it?

- Do you think this type of exercise is appropriate for mobile technology? Why?

- Did you like the structure: first *a text* , and then *two separate exercises?* Why? Would you have preferred another option?

- Did you wait to receive both exercises, or did you answer immediately after each message? Why?

- For this type of activity, which sort of exercise do you prefer, choosing between several options, or finding the right word on your own? Why?

- Any other comments

Exercise 4

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why?

3. Did you like the exercise to be based on a real event (which had happened on the same day)? Why?

4. Did you like receiving personalized feedback? Which do you prefer, feedback of the type "that's right!" or a little text with the right words used in context as in previous exercises? Why?

5. Any other comments

Exercise 5

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why?

3. Did you like having to choose among several options or do you prefer open-answer exercises (you provide the right answer)? Why?

4. Did you like the exercise to be based on a real event (which had happened on the same day)? Why?

5. Any other comments

Exercise 6

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why?

3. This time you were supposed to find synonyms. Did you like this type of exercise? Why/Why not?

4. Any other comments

Exercise 7

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why? Which problems did you have to face when you did the exercises?

3. This time you were supposed to fill in the blanks with a word, and also to correct a mistake. Did you like this type of exercise? Why/why not?

4. Any other comments

Exercise 8

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? This time you had to define words and find synonyms. Which problems did you have to face when you did the exercises?

3. Did you like the exercise to be based on a real event/festivity (Holy Week)? Why?

4. Any other comments

Exercise 9

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? This time you had to fill in the blanks. Which problems did you have to face when you did the exercises?

3. Did you like the exercise to be based on a real event/festivity (St. George's Day)? Why?

4. Any other comments.

Exercise 10

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why?

3. This time you had to fill in the blanks, though you were given the words. Did you like this type of exercise? Why?

4. Any other comments.

Exercise 11

1. In general, did you like this activity? Which part did you like the most/the least? Why?

2. Do you think this type of exercise is appropriate for mobile technology? Why?

3. Do you think such a short exercise, and with only one option is interesting at all or do you prefer exercises with more content?

4. Any other comments.

Finally...

1. Do you think the activities we have designed are useful to learn vocabulary? In your opinion, which ones are more useful? Why?

2. According to your own experience, which applications do you think this System might have? In other words, what sort of activities would you like to do: new vocabulary, vocabulary revision, false friends, etc.

3. Considering these activities were designed for mobile technology, which ones did you prefer? Which ones were more difficult to carry out using your mobile? Why?

4. Did you like the feedback you received? Can you think of a better way to send feedback?

5. Which exercises did you prefer, those which were divided into several parts (lesson + activity) or those which you could answer immediately after receiving the SMS?

6. When you did not answer one SMS (check page 1 to see your performance), do you remember why you didn't reply?
   - It came in a bad moment.
   - I didn't like the type of exercise.
   - Too difficult to answer.
   - Content not particularly attractive.
   - In general I thought it was a waste of time.

7. Please specify make and model of your mobile phone.

Thank you very much!!

Notes

[1] This questionnaire was originally given to the students in Catalan language. It has been translated by the authors for the purpose of this article.

Top

Article

Comparing vocabulary learning of EFL learners by using two different strategies: mobile learning vs. flashcards

Behrooz Azabdaftari and Mohammad Amin Mozaheb*
Islamic Azad University, Tabriz Branch (Iran)

_____
***mozaheb.ma @ gmail.com**

Abstract

Vocabulary acquisition is one of the most important aspects of language learning. There are a number of techniques and technologies which enhance vocabulary learning in the year 2012, e.g. wordlists, flashcards and m-learning. Mobile phones are among those devices which not only meet the expectations of their users for communication, but are also good devices for language learning. Mobile phones can be used anywhere and anytime, and students are free to use them inside or outside the classroom setting. The present study compared the use of two strategies for vocabulary learning (i.e.

flashcards and m-learning) among 80 students studying English Literature and Translation at BA level in a non-profit, non-governmental university in the city of Tehran, the capital of Iran. The findings showed that the use of mobile phones for language learning and vocabulary learning would be a better strategy compared to the use of other paramount techniques, such as flashcards.

Key words: Vocabulary learning, flashcards, mobile phones, CALL, Language learning.

1. Introduction

Vocabulary learning is an integral part of language teaching. How the vocabulary should be learned or acquired in Second/Foreign language contexts is a question which needs further research studies (e.g., Folse, 2004; Hunt & Belgar, 2005). Recently, vocabulary teaching has become the topic of interest for many ESL/EFL practitioners all around the world (e.g., Calderon et al., 2005; Cheung & Slavin, 2005; Folse, 2006; Lee & Muncie, 2006; Nassaji, 2003). Nam (2010: 127) stressed that "not only vocabulary supports the four language skills of listening, speaking, reading, and writing, but also mediates between ESL students and content-area classes in that these students often find that lack of vocabulary knowledge is an obstacle to learning". Moreover, the more vocabulary an ESL/EFL learner acquires, the better communication he/she will have. There are a large number of strategies and techniques utilized by teachers in teaching vocabulary. These techniques are used to foster the ESL/EFL learners' ability to convey their intended meanings in different contexts and settings.

If learners do not acquire effective strategies for learning new vocabularies, they will be disappointed and will lose their self-confidence (Nation, 2001). Consequently, it is necessary for ESL/EFL practitioners to familiarize students with new strategies and techniques which are used for vocabulary learning (Baleghizadeh & Ashoori, 2011, Hulstijn, 2001; Hulstijn, and Laufer, 2001). The current study will introduce and compare two different techniques (i.e. mobile learning (m-Learning) vs. flashcards) for vocabulary teaching for EFL students.

1.1. Vocabulary teaching

Many ESL/EFL teachers are asked by their students about the best way of learning vocabularies in ESL/EFL contexts. Most learners are not aware of the different strategies for learning vocabularies. The role of teachers in informing their students with regard to proper strategies for vocabulary learning cannot be ignored. In other words, it is the duty of ESL/EFL teachers to acquaint the learners with new strategies in vocabulary learning.

Breadth and depth are two dimensions of vocabulary learning (Qian, 2002; Read, 1988; Wesche & Paribakht, 1996). Breadth refers to the vocabulary size of each ESL/EFL learner and it relates to the recognition and production of lexical items. On the other hand, depth concentrates on how well a learner knows a word. Reading can foster both breadth and depth of vocabulary learning. Each ESL/EFL teacher should consider these two dimensions of vocabulary learning while employing different strategies for vocabulary teaching.

Another important dimension with regard to vocabulary learning is the one introduced by Oxford and Scarcella (1994) in which there are three categories for vocabulary learning, namely decontextualized vocabulary items (often having no context for guiding the learners to learn the meaning and function of the new words, e.g. flashcards, wordlists), partially contextualized vocabulary items (technically called planned or intentional vocabulary items e.g., word association, word groupings, physical responses) and ultimately, fully contextualized vocabulary activities (providing students with authentic practices for the newly-learned vocabulary item, e.g. participating in

conversations, writing messages with the purpose of real world or authentic communication, listening to the radio or MP3 files).

As mentioned earlier, vocabulary learning can be fostered by reading since reading can provide multiple encounters with the newly-acquired vocabulary items (Nagy, Herman, Anderson, 1985). Flashcards are a sample of decontextualized vocabulary activities while mobile learning (m-learning) can be viewed as an instance of fully contextualized vocabulary activities.

1.2. Mobile Learning (m-Learning)

Larsen-Freeman and Anderson (2011) name a number of techniques which are used for language learning in the age of technology such as :blogs, computer-assisted language learning software, mobile phones, digital portfolios, distance education, electronic chatting, e-pen pals, electronic presentation, electronic text corpora, cell phone-based applications: text messaging and twitter, podcasts, social networking and wikis. Among these techniques, mobile phones are one of the most important ones. Learning anywhere and anytime is the most important advantage of wireless mobile technologies such as cellular phones, iPods, Personal Digital Assistants (PDAs), ultra notebook computers which are paramount everywhere. The importance of Mobile learning is the fact that the learning is delivered to the "right person, at the right time and in the right place while using electronic devices" (Ally et al., 2007: 2). Thanks to the speed of innovation in new technologies, mobile learning will be the focal point in education in the near future.

Mobile learning (m-learning) is a new concept in the world of ESL/EFL. Considering this point, one cannot find many studies with regard to m-learning (i.e., Attewell, 2005; British Educational Communications Technology Agency, 2004; Keegan, 2002; Savill-Smith & Kent, 2003). The initial investigation of m-learning in education demonstrated a number of drawbacks to the use of mobile devices in educational settings, e.g. having a small screen, having limited processing power, having limited battery life, having limited memory capacity (Holzinger, Nischelwitzer, & Meisenberger, 2005). In the year 2012, the new mobile phone companies solved most of these problems, and now the use of finger touch phones with wide screens using Android or Windows Mobile is very common all over the world.

Recent research studies show that the use of m-learning can increase the motivation of learners and improve their writing and grammar skills as well (Ally, et al., 2007). It should be noted that familiarization with the new mobile devices needs time and energy. In other words, there should be some technical staff to assist the learners when they encounter different problems (British Educational Communications Technology Agency, 2004).

There are a number of studies with regard to the use of m-learning in teacher education (e.g., Brown, 2004; Perry, 2000; Stockwell, 2007 & 2008; Taylor, 2005; White, 2005). Additionally, Song and Fox (2005) used m-learning with task-based language learning (TBLL) in ESL settings and found a great improvement in the performance of students. Other studies showed a significant improvement in the use of mobile devices for listening and pronunciation teaching (e.g., Bull, et al., 2005). There are a number of other research studies with regard to the use of mobile devices in different processes of language learning, such as the use of meta data and online learning (see for example, Ally, 2004; Davis, Good & Sarvas, 2004; Esmahi & Lin, 2004; Lin, 2004; Lin & Esmahi, 2004; Kawarasaki, et al., 2004; Magusin, Johnson & Tin, 2003; McGreal, et al., 2005; McGreal, et al., 2005; Yang, Shao & Sue, 2005).

Accordingly, in a seminal volume the ReCALL journal published a number of research studies about the use of Mobile Assisted Language Learning (MALL) in EFL/ESL settings. For instance, Song and Fox (2008 : 291) stressed that " PDAs can be used in more flexible, novel and extended ways for English as a Foreign Language (EFL) vocabulary teaching and learning in higher education" while regarding the students' needs. In

another study, Kennedy and Levy (2008) posited that the use of SMS would be a good tool for vocabulary learning in EFL contexts. Nah, White and Sussex (2008:335) hold that the use of WAP sites "can enhance opportunities to learn language skills, and encourage language learners to participate actively in the learning process". Furthermore, Wishart (2008) carried out a research study on a new line of research in the domain of MALL. Wishart (2008: 349) investigated "challenges faced by modern foreign language teacher trainees in using handheld pocket PCs (Personal Digital Assistants) to support their teaching and learning". In the mentioned study, Wishart (2008) meticulously explored the issue and found a coherent framework with regard to the use of PDAs in ESL/EFL classrooms. Petersen, Divitiny and Chabert (2008) analyzed the concept of identity in a community of mobile language learners. In other words, Petersen, Divitiny and Chabert (2008: 378) suggest that "while a blog might be an appropriate tool for promoting knowledge sharing, it lacks functionalities to promote connectedness among learners and foster their identity as a community." Last but not least, Kukulska-Hulmea and Shielda (2008) did an in depth analysis of MALL in ESL settings. To put it other way, they were "interested in speaking and listening practice and in the possibilities for both synchronous and asynchronous interaction in the context of online and distance learning." Kukulska-Hulmea and Shielda (2008: 288)

1.3. Flashcards

Flashcards are another technique for ESL/EFL learners while learning new vocabularies. A flashcard "is a cardboard consisting of a word, a sentence, or a simple picture on it" (Baleghizadeh & Ashoori, 2011: 2). Another important feature of these cards is the fact that all the letters should be written in capital letters because learners sitting both in the front and back of the classroom should be able to read them easily. In the process of teaching vocabulary to ESL/EFL students, both sides of these cards should be used. In other words, on the one side the new vocabulary item should be written in the second language and on the other side should be written the translation and pronunciation. In some cases, a sample sentence from the dictionary would pave the way for vocabulary learning. Both teachers and learners can devise their own flashcards. Needless to say, nowadays there are many ready-made flashcards on the market which can be used as a guide for self-study in EFL settings.

Having reviewed the related literature on the use of flashcards in ESL/EFL contexts, it was found that flashcards have a long history for both teaching and learning purposes. Compared to wordlists, (another strategy for learning vocabulary), flashcards are more effective in terms of learning (e.g., Akın & Seferoğlu, 2004; Bruton, 2007; Erten & Tekin, 2008; Genç, 2004; McCarten, 2007; Moras, 2001; Newton, 2001; Tang & Nesi, 2003). Moreover, they were used for teaching alphabets in both L1 and L2 contexts (e.g., Young, Hecimovic & Salzberg, 1983). In particular, flashcards are used in SL contexts for teaching vocabularies, articles, structures and phrasal verbs (Palka, 1988).

Although the use of flashcards for language learning dates back many years, the number of research studies done in this area is limited. Ehri & Roberts (1979) used flashcards for teaching alphabets and new words in contexts. They showed that the use of flashcards would be very helpful in language learning. In another study, McCullough (1995) stressed that the use of flashcards is helpful for language learning but that the main emphasis of flashcards is memorization, not comprehension. Some other researchers believe that flashcards are good for children, not adult learners, and they can create fun classrooms (Nicholson, 1998).

2. The current study

Having viewed the related literature on MALL and ESL/EFL contexts, it was found that the use of the Internet, PDAs, online dictionaries and SMS in language learning has not been investigated simultaneously. This study aims to fill the mentioned gap in an Iranian setting which can be used in other ESL /EFL settings as well. To put it simply, the current study compares two strategies used for vocabulary teaching in EFL settings, i.e., flashcards vs. m-learning. There are some reasons behind this comparison. The

related literature on the use of flashcards in ESL/EFL contexts shows that there are limited studies done in this area and as to whether flashcards are useful for the vocabulary learning of FL learners. It is also believed that using m-learning and PDAs in second language settings has many advantages (Kukulska-Hulme, 2009). However, in some cases the use of mobile phones for vocabulary learning was insignificant as reported by Okunbor and Retta (2008). These results cannot fill the gap in this regard, so further research studies would pave the way for answering the question of whether m-learning is useful for teaching vocabulary in SL contexts. Additionally, the number of studies in Iran is very limited with regard to the use of m-learning in language learning. Hence, this study seeks to determine the effectiveness of m-learning in vocabulary learning. Considering the mentioned point, this study investigates the following research questions.

1. Which strategy of vocabulary learning (e.g. flashcards vs. m-learning) is more effective in terms of learning the newly-introduced vocabularies for Iranian EFL learners?

2. What are the advantages and disadvantages of the vocabulary techniques (e.g. flashcards vs. m-learning) utilized in the present study on the basis of the learner's experience?

3. Method

3.1. Context of the study

The present study was carried out at a non-profit, non-governmental university in the city of Tehran (capital of Iran) with undergraduates of Translation and English Literature. All of them passed the Konkoor (an annual university entrance examination held nationwide in Iran). These students should master the four skills of speaking, writing, listening and reading during the four years of study. Vocabulary learning is one of the focal points which should be mastered during these four years of study. It is also important to note that the language proficiency level of these students was upper-intermediate and they were homogeneous in nature, since all of them passed the Konkoor, which is a validated examination in which the four skills are assessed for those who would like to continue their higher education in English majors.

3.2. Participants

The participants were 80 students studying English literature and Translation at BA level in a non-profit, non-governmental university in the city of Tehran, the capital of Iran. As mentioned earlier, these students passed the Konkoor and were homogenous in nature, and their preferences and scores were the critical issues for allowing them to enter the university. Their mean age was 20.5 and the level of their English proficiency based on TOEFL (IBT) was 90. Among these students, 40 of them were selected as the experimental group with regard to the fact that their mobile phones should be compatible with the vocabulary learning program. It is interesting to note that about 25 of them had PDAs and it was easy for them to use the vocabulary program and access the Internet. Additionally, 40 of them were selected as the control group.

3.3. Research Design

In this study, both qualitative and quantitative methods of data collection were used to investigate the effectiveness of using two vocabulary techniques, i.e. m-learning and flashcards, on the level of vocabulary learning of EFL students. New vocabularies were taught to the students in the experimental group (those who used m-learning) and the control group (those who used flashcards) within a 7-week period. The SRS (Spaced Repetition System) vocabulary acquisition program was selected to be used as the Mobile software for this study. The required vocabularies were scanned and inserted into the system and then the program was used as the main software for teaching the new vocabularies. It is also important to note that in addition to this software, Short

Message Services (SMS) and the Internet were used where the teacher thought they would be necessary and helpful for vocabulary learning. The control group used only the paper flashcards during the seven weeks of the study. Some of the covered topics were sports, entertainment, going abroad and favourite hobbies. During these seven weeks about 1200 new words were introduced to the students.

Before starting the experiment, the main aims of the study were meticulously described to the students. During the seven weeks, the students had to use the vocabulary program both inside and outside the classroom, and they had to answer the SMS sent to them by the teachers. Sometimes they had to listen to some useful files sent to them via Bluetooth for increasing their understanding of the newly-learned vocabularies. On the other hand, students in the control group utilized the paper flashcards for learning the new vocabularies. On the one side they had the new word and the pronunciation, and on the other side the meaning of the word in their mother tongue and L2 as well. To assess the newly-learned vocabularies, a validated multiple choice test was administered after the study. Afterwards, to find the answer for the two research questions, the qualitative method was used to interview 10 students from the experimental group with regard to the use of m-learning in FL vocabulary learning and 10 students from the control group who used the flashcards as the main strategy for learning new vocabularies. It is important to note that the students were selected randomly and all the interviews were recorded with an MP4.

4. Data Collection Instrument

To assess the newly-learned vocabularies, a multiple-choice test was conducted. The frequent vocabularies in the mobile program and flashcards were realized, and initially the test was designed with 100 items. To pilot the test and to increase the internal consistency, the test was administered to 40 students taking the same course. The measure of internal consistency of the devised test was 0.795. Then, the final version was designed with only 20 multiple-choice items. This test was administered to the control and experimental groups after the treatment.

5. Data Analysis

In this study, each correct response had five points. The range of the scores was 0 to 100. In order to answer the research questions for the quantitative data, an independent sample t-test in addition to descriptive statistics was utilized. Afterwards, in the qualitative phase of the study, the researchers conducted semi-structured interviews with ten students from the experimental group with regard to the use of m-learning for vocabulary instruction and ten students from the control group with regard to their experience in learning vocabularies by using flashcards. Then, the main themes realized from the interviews with regard to the use of m-learning and flashcards were discussed.

6. Results

To answer the first research question, (i.e., which strategy of vocabulary learning (e.g. flashcards vs. m-learning) is more effective in terms of learning the newly-introduced vocabularies for Iranian EFL learners?) an independent t-test was run. Based on the findings in Table 1 above, it was revealed that the mean calculated for the experimental group, i.e. (65), is statistically higher than the mean of the control group, i.e. (45). In other words, there is a significant difference between these two means, as ($t (78) = 6.99$, $p < 0.05$).This finding shows that the use of m-learning (vocabulary learning program) improves the level of the learned vocabularies of the students more than the flashcards.

Control group who used (flashcards)	Experimental group who used (m-learning)
N=40	N=40

Mean = 45	Mean = 65
95% confidence interval for Mean: 41.67 thru 49.88	95% confidence interval for Mean: 62.04 thru 70.26
Standard Deviation = 14.3	Standard Deviation = 16.4
Hi = 60.0 Low = 20.0	Hi = 95 Low = 35
Median = 45	Median = 65
t= 6.99 / sdev= 13.0	

Table.1 comparing the mean scores of two groups by one-sample T-test.

In order to answer the second research question (i.e. what are the advantages and disadvantages of the vocabulary techniques (e.g. flashcards vs. m-learning) utilized in the present study on the basis of the learner's experience?), the descriptive analytic stage was done after interviewing 10 participants of the experimental group and 10 participants of the control group.

The main extracted themes are as follow:

Advantages	Disadvantages
Using spare time for learning vocabularies (e.g. when waiting for the bus) / Students are interested in the use of m-learning for vocabulary learning	The small size of the screen in some phones
Sending feedback to the teacher / Anytime and anywhere students can use mobile phones / The use of mobile phones in vocabulary learning is entertaining	The cost of the Internet is very high for mobile phones
Engaging the learners' minds for learning both inside and outside the classrooms / Students can learn vocabularies through contexts	All the students do not have modern mobile phones to be used for vocabulary learning

Table 2: The results of the interview for the experimental group using mobile phones for vocabulary learning.

Advantages	Disadvantages
Flash cards are easy to use	Difficult and abstract words are not easy to be learned by flash cards
Flash cards can be used in games for learning vocabularies	The use of L1 may cause some problems for the students while remembering synonyms of the words
New words can be practiced easily	They have no access to any listening part
Learners can separate words into different categories	They cannot listen to the pronunciation
Flash cards can be fun	Having no review plan for flash cards may cause lots of problems in vocabulary learning

Table 3. The results of the interview for the control group using flash cards for vocabulary learning.

7. Discussion and Conclusion

The results of the present study demonstrate that using m-learning in vocabulary learning is more effective than using flashcards and it can foster the process of vocabulary learning in EFL settings. There are a number of advantages for using mobile phones in vocabulary learning. Firstly, students can learn anytime and anywhere. Secondly, students can receive instant feedback as they submit the right answer. Thirdly, they can surf the Internet and find different examples while encountering problems and mistakes. Fourthly, m-learning can increase the interaction among the learners, and between the learners and their teachers. Some of the students in the interview said that "we sent sms to each other periodically and checked the synonyms and antonyms… sometimes we surfed the net and found some idioms in which the new words had been used and we sent that idiom to all.

The findings of the present study are in line with a number of studies (e.g., Akbulut, 2007, Akbulut, 2008; Altun, 2005; Aydin, 2006; Aydin, 2007; Çakir, 2006; Hatipohlu Kavanoz, 2006; Kennedy and Levy 2008; Kocohlu, 2008; Saran, Cagiltay and Seferoglu, 2008; Song & Fox, 2008) which found that EFL students have a positive attitude towards using mobile phones and computers in vocabulary learning. Additionally, Cavus and Ibrahim (2009) stressed that the use of short messages in EFL vocabulary learning can be a focal technique of vocabulary learning. Moreover, Thornton and Houser (2005) found similar results about the use of mobile phones in vocabulary learning. They compared m-learning and paper-based learning of vocabularies and found that m-learning can be a better choice for learning vocabularies in an EFL setting.

This study shows that not only can mobile phones be used for communication in the year 2012, but they can also be used as effective devices for language learning. EFL students can use mobile phones for learning vocabularies, pronunciation and meanings in different contexts. Moreover, they can use these technologies wherever they like and whenever they think it is necessary to remember a meaning or synonym of a word. Nowadays, thanks to PDAs and finger touch mobile phones, the problem of small screen size has been solved and many ESL learners can enjoy the use of m-learning for vocabulary acquisition.

This study can suggest a number of implications for ESL/EFL practitioners. Although, flashcards were used as an effective way of teaching vocabulary, it should be noted that m-learning is a better strategy which should be utilized by EFL teachers in this age of technology. Accordingly, the use of this method in the EFL students' regular language learning program is highly recommended. All in all, teachers in EFL contexts should consider the use of different strategies for vocabulary learning. However, as shown in the present study, m-learning would be one of the best strategies in this regard.

References

Akbulut, Y. (2007). Variables predicting foreign language reading comprehension and vocabulary acquisition in a linear hypermedia environment. *The Turkish Online Journal of Educational Technology*, 6(1), 53-60.

Akbulut, Y. (2008). Exploration of the attitudes of freshman foreign language students toward using computers at a Turkish state university. *The Turkish Online Journal of Educational Technology,* 7(1), 18-31.

Akin, A., & Seferoglu, G. (2004). Improving learners' vocabulary through strategy training and recycling the target words. *Hacettepe University Journal of Education,* 27, 1-10.

Ally, M. (2004). Intelligent tutoring systems for distributed learning. In F. O. Lin (Ed.), *Designing Distributed Learning Environments with Intelligent Software Agents.* Hershey, PA: Information Science Publishing, pp. 162-183.

Ally, M., Schafer, S., Cheung, B., McGreal, R., & Tin, T. (2007). Use of mobile learning technology to train ESL adults. Paper included in the *Proceedings of the 6th Annual International Conference on Mobile Learning,* Melbourne, Australia, pp. 7-12.

Altun, A. (2005). Toward an effective integration of technology: message boards for strengthening communication. *The Turkish Online Journal of Educational Technology,* 4(1), 68-74.

Attewell, J. (2005). *Mobile technologies and learning: A technology update and mlearning project summary.* London: Learning and Skills Development Agency.

Aydın, S. (2006). The effect of computers on the test and inter-rater reliability of writing tests of ESL learners. *The Turkish Online Journal of Educational Technology,* 5(1), 75-81.

Aydın, S. (2007). The attitudes of EFL learners towards the Internet. *The Turkish Online Journal of Educational Technology,* 6(3), 18-26.

Baleghizadeh, S. & Ashoori, A. (2011). The Impact of Two Instructional Techniques on EFL Learners' Vocabulary Knowledge: Flash Cards versus Word Lists. *MEXTESOL Journal,* 35(2), 70-82.

British Educational Communications Technology Agency. (2004). *What the research says about portable ICT devices in teaching and learning: 2nd Edition Revised and Updated,* Retrieved June 28, 2004, from http://www.becta.org.uk/corporate/publications/documents/Research3_Portable%20Devices.pdf

Brown, T. (2004). The role of m-learning in the future of e-learning in Africa. In D. Murphy, R. Carr, J. Taylor & W. Tat-meng (Eds.), *Distance education and technology: Issues and practice*. Hong Kong: University of Hong Kong, pp. 197-216.

Bruton, A. (2007). Vocabulary learning from dictionary reference in collaborative EFL translational writing. *System,* 35, 353-367.

Bull, S., Cui, Y., Roebig, H., & Sharples, M. (2005) Adapting to different needs in different locations: Handheld computers in university education. *Wireless and Mobile Technologies in Education* (IEEE). Tokushima, Japan: IEEE Computer Society.

Çakır, u. (2006). The use of video as an audio-visual material in foreign language teaching classroom. *The Turkish Online Journal of Educational Technology,* 5(4), 67-72.

Calderon, M., August, D., Slavin, R., Duran, D., Madden N., & Cheung, A. (2005). Bringing words to life in classrooms with English-language learners. In E. H. Hiebert & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice.* Mahwah, NJ: Lawrence Erlbaum Associates, pp. 115-136.

Cavus, N.,& Ibrahim, D. (2009). m-Learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology,* 40(1), 78-91.

Cheung, A., & Slavin, R. E. (2005). Effective reading programs for English language learners and other language-minority students. *Bilingual Research Journal,* 29(2), 241-267.

Davis, M., Good, N., & Sarvas, R. (2004). From Context to Content: Leveraging Context for Mobile Media Metadata, Retrieved September 10, 2005, from http://sigmobile.org/mobisys/2004/context_awareness/papers/davis.pdf

Ehri, L. C., & Roberts, K. T. (1979). Do beginners learn printed words better in context or in isolation? *Child Development,* 50(3), 675-685.

Erten, İ. H., & Tekin, M. (2008). Effects on vocabulary acquisition of presenting new words in semantic sets versus semantically unrelated sets. *System,* 36, 407-422.

Esmahi, L., & Lin, F. (2004). A multiagent framework for an Adaptive E-learning System. In F. Lin (Ed.), *Designing Distributed Learning Environments with Intelligent Software Agents.* Hershey, PA: Idea Group Publishing.

Folse, K.S. (2006). The effect of type of written exercise on L2 vocabulary retention. *TESOL Quarterly,* 40, 273-293.

Folse. K. S. (2004). *Vocabulary Myths.* Ann Arbor, MI: University of Michigan Press.

Genç, B. (2004). *New trends in teaching and learning vocabulary.* Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 13(2), 117-126.

Hatipohlu Kavanoz, S. (2006). An exploratory study of English language teachers' beliefs, assumptions and knowledge about learnercenteredness. *The Turkish Online Journal of Educational Technology,* 5(2), 3–9.

Holzinger, A., Nischelwitzer, A., & Meisenberger, M. (2005). Lifelong-learning support by m-learning: Example scenarios. E-learn Magazine. Retrieved December 1, 2005, from http://www.elearnmag.org/subpage.cfm?section=research&article=6-1

Hulstijn, J.H. (2001). Intentional and incidental second language vocabulary Learning: a Reappraisal of Elaboration, Rehearsal and Automaticity. In P. Robinson (Ed.) *Cognition and Second Language Instruction.* Cambridge: Cambridge University Press, pp. 258-286.

Hulstijn, J.H. & Laufer B. (2001). Some empirical evidence for the involvement load hypothesis in vocabulary acquisition. Language Learning, 51,539–58.

Hunt, A., & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in a Foreign Language,* 17(1), 23-59.

Kawarasaki, M., Ooto, K., Nakanishi, T., & Suzuki, H. (2004, January 26 - 30). Metadata driven seamless content handover in ubiquitous environment [Electronic Version]. *International Symposium on Applications and the Internet* (SAINT'04). Retrieved September 2, 2004, from http://csdl.computer.org/comp/proceedings/saint/2004/2068/00/20680287abs.htm

Keegan, D. (2002). The future of learning: ZIFF papiere 119: From eLearning to mLearning. Retrieved http://www.fernuni-hagen.de/ZIFF/ZP_119.pdf

Kennedy, C. and Levy, M. (2008). L'italiano al telefonino: Using SMS to support beginners' language learning. *ReCALL,* 20, 315-330. doi:10.1017/S0958344008000530

Kocohlu, Z. (2008). Turkish EFL student role of electronic portfolios in their professional development. The Turkish Online Journal of Educational 79.

Kukulska-Hulme, A. & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL,* 20(3) , 271-289. doi:10.1017/S0958344008000335

Kukulska-Hulme, A. (2009). Will mobile learning change language learning? *ReCALL,* 21(2), 157-165.

Larsen-Freeman, D. and Anderson, M. (2011). *Techniques and principles in language teaching.* Oxford: Oxford University Press.

Lee, S.H., & Muncie, J. (2006). From receptive to productive: Improving ESL learners' use of vocabulary in a postreading composition task. *TESOL Quarterly,* 40, 295-320.

Lin, F. (Ed.). (2004). *Designing Distributed Learning Environments with Intelligent Software Agents.* Hershey, PA: Idea Group Publishing.

Lin, F., & Esmahi, L. (2004). Integrating agent Technologies and web services into Distributed Learning Environments. In F. Lin (Ed.), *Designing Distributed Learning Environments with Intelligent Software Agents.* Hershey, PA: Idea Group Publishing.

Magusin, E., Johnson, K., & Tin, T. (2003). Library services: Designing the digital reading room to support online learning [Electronic Version]. *Proceedings of the19th Annual Conference on Distance Teaching and Learning.* Retrieved March 31, 2005, from http://www.uwex.edu/disted/conference/Resource_library/proceedings/03_65.pdf

McCarten, J. (2007). *Teaching vocabulary – Lessons from the corpus, Lessons for the Classroom.* Cambridge University Press, [On-line]. Available from http://www.cambridge.org/other_files/downloads/esl/booklets/McCarten-Teaching-Vocabulary.pdf

McCullough, C. (1955). Flash cards-The opiate of the reading program? *Elementary English,* 32, 379-381.

McGreal, R., Cheung, B., Tin, T., & Schafer, S. (2005) Implementing mobile environments using learning objects: The Athabasca University Digital Reading Room. IEEE *International Workshop on Wireless and Mobile Technologies in Education Conference* (WMTE) 2005. Tokushima, Japan: IEEE.

Moras, S. (2001). *Teaching vocabulary to advanced students: A lexical approach,* [On-line]. Retrieved February 21, 2009 Available from http://www3.telus.net/linguisticsissues/teachingvocabulary.html

Nagy, W. E., P. A. Herman, and R. C. Anderson. (1985). Learning words from context. *Reading Research Quarterly.* 23, 122-134.

Nah, K.CH. , White, P. and Sussex, R. (2008). The potential of using a mobile phone to access the Internet for learning EFL listening skills within a Korean context. *ReCALL,* 20(3) , 331-347. doi:10.1017/S0958344008000633

Nam, J. (2010). Linking research and practice: effective strategies for teaching vocabulary in the ESL classroom. *TESL Canada Journal/Revue TESL de Canada,* 28(1), 127-135.

Nassaji, H. (2003). L2 vocabulary learning from context: Strategies, knowledge sources, and their relationship with success in L2 lexical inferencing. *TESOL Quarterly,* 37, 645-670.

Nation, P. (2001). *Learning vocabulary in another language.* Cambridge, UK: Cambridge University Press.

Newton, J. (2001). *Options for vocabulary learning through communication tasks.* Oxford Journals, 55(1), 30- 37.

Nicholson, T. (1998). The flashcard strikes back. *The Reading Teacher,* 52(2), 188-192.

Okunbor, D.,& Retta, G. (2008). Analysis of a mobile learning pilot study. *Math and Computer Science,* 22, 120-135.

Oxford, R.L., & Scarcella, R.C. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System,* 22(2),231-243.

Palka, E. (1988). Using cards to revise and practice language items. (ERIC Document Reproduction Service No. ED 302093).

Perry, D. (2000). *Portable computers in primary schools: Literature review.* London: Lambeth Education Action Zone. Psion netBooks Project.

Petersen, S. A., M. and Chabert, G. (2008). Identity, sense of community and connectedness in a community of mobile language learners. *ReCALL,* 20(3), 361-379. doi:10.1017/S0958344008000839

Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. *Language Learning,* 52, 513-536.

Read, J. (1988). Measuring the vocabulary knowledge of second language learners. *RELC Journal,* 19(2), 12-25.

Saran, M., Cagiltay, K., & Seferoglu, G. (2008). Use of mobile phones in language learning: Developing effective instructional materials. *Proceedings of the 5th International Conference on Wireless, Mobile and Ubiquitous Technologies in Education-WMUTE2008*, pp. 39-43.

Savill-Smith, C., & Kent, P. (2003). The use of palmtop computers for learning: A review of the literature, Retrieved March 28, 2004, from http://www.m-learning.org/docs/the_use_of_palmtop_computers_for_learning_sept03.pdf

Song, Y., & Fox, R. (2005) Integrating m-technology into Web-based ESL vocabulary learning for working adult learners. *Wireless and Mobile Technologies in Education* (IEEE). Tokushima, Japan: IEEE Computer Society.

Song, Y., & Fox, R. (2008). Using PDA for undergraduate student incidental vocabulary testing. *ReCALL,* 20(3), 290-314.

Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning,* 20(4), 365-383.

Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL,* 20(3), 253-270.

Tang, E., & Nesi, H. (2003). Teaching vocabulary in two Chinese classrooms: Schoolchildren's exposure to English words in Hong Kong and Guangzhou. *Language Teaching Research,* 7(1), 65-97.

Taylor, R. (2005). Kenya pilots handheld education. BBC News. Retrieved August 4, 2005, from http://news.bbc.co.uk/2/hi/programmes/click_online/4727617.stm

Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning,* 21, 217-228.

Wesche, M., & Paribakht, T. S. (1996). Assessing second language vocabulary knowledge: Depth versus breadth. *Canadian Modern Language Review,* 53, 13–40.

Wishart, J. (2008). Challenges faced by modern foreign language teacher trainees in using handheld pocket PCs (Personal Digital Assistants) to support their teaching and learning. *ReCALL,* 20(3) , 348-360. doi:10.1017/S0958344008000736

White, A. (2005). Infusing PDA technology into nursing education. *Nurse Educator.* 30(4): 150-154.

Yang, S. J. H., Shao, N. W. Y., & Sue, A. Y. S. (2005) Personalized Metadata Mechanism Applied to Adaptive Mobile Learning. *2nd IEEE International Workshop on Wireless and Mobile Technologies in Education* (WMTE'04). Retrieved September 10, 2005, from http://www.computer.org/portal/web/csdl/abs/proceedings/wmte/2004/1989/00/1989toc.htm doi:10.1109/WMTE.2004.1281377

Young, C. C., Hecimovic, A., & Salzberg, C. L. (1983). Tutor-tutee behavior of disadvantaged kindergarten children during peer teaching. *Education and Treatment of Children,* 6(2), 123-135.

Top

Article

A set of free cross-platform authoring programs for flexible web-based CALL exercises

Myles O'Brien
Mie Prefectural College of Nursing (Mie, Japan)

_____

myles.obrien @ mcn.ac.jp

Abstract

The Mango Suite is a set of three freely downloadable cross-platform authoring programs for flexible network-based CALL exercises. They are Adobe Air applications, so they can be used on Windows, Macintosh, or Linux computers, provided the freely-available Adobe Air has been installed on the computer. The exercises which the programs generate are all Adobe Flash based.

The three programs are: (1) Mango-multi, which constructs multiple-choice exercises with an optional sound and/or image; (2) Mango-match, which is for word/phrase matching exercises, and has an added feature intended to promote memorization, whereby an item must be matched correctly not once but an optional consecutive number of times; (3) Mango-gap, which produces seamless gap filling exercises, where the gaps can be as small as desired, down to the level of individual letters, and correction feedback is similarly detailed. Sounds may also be inserted at any desired points within the text, so that it is suitable for listening or dictation exercises.

Each exercise generated by any of the programs is produced in the form of a folder containing all of the necessary files for immediate upload and deployment   (except that if sound files are used in a Mango-gap exercise, they must be copied to the folder manually). The html file in which the flash exercise is embedded may be edited in any way to suit the user, and an xml file controlling the appearance of the exercise itself may be edited through a wysiwyg interface in the authoring program. The programs aim

to combine ease of use with features not available in other authoring programs, to provide a useful teaching and research tool.

Keywords: CALL exercise, vocabulary learning, matching exercise, text reconstruction, cloze, multiple choice.

1. Introduction

The Mango Suite is a set of three free cross-platform authoring programs for flexible network-based CALL exercises. They were developed as Adobe Air applications by the author, using Adobe Flex, so they can be used on computers running Windows, Macintosh, or Linux operating systems, provided Adobe Air has been installed on the computer. Adobe Air is available for free download from http://www.adobe.com. The exercises themselves are all Adobe Flash based.

The three programs are: (1) Mango-multi, which constructs multiple-choice exercises with an optional sound and/or image; (2) Mango-match, which is for word/phrase matching exercises, and has an added feature intended to promote memorization; (3) Mango-gap, which produces seamless gap filling exercises, where the gaps can be as small as desired, down to the level of individual letters, and correction feedback is similarly detailed. Sounds may also be inserted at any desired points within the text.

Each exercise generated by any of the programs is in the form of a folder containing all of the necessary files for immediate upload and deployment (except that if sound files are used in a Mango-gap exercise, they must be copied to the folder manually). The programs aim to combine ease of use with features not available in other authoring programs, to provide a useful teaching and research tool. Next, each program will be described in turn in more detail.

2. Operation of the 3 programs

2.1. Mango-multi

Fig. 1 shows the interface of the Mango-multi authoring program at the stage where the first item in a multi-choice quiz is ready to be added. The three uniform boxes around the middle of the window can each be a placeholder for a sound, an image or a chunk of text. The user can drag an image file (jpg, png, or gif) or a sound file (mp3 only) from any location on their computer into any of the boxes. The name of the file will appear in the box, and any previous item in that box will be displaced. As seen in Fig. 1, if the item is an image, a thumbnail view of it appears beside the box, and if it is a sound, a Play button appears so that it can be tested. Text can be inserted into a box by pasting, dragging selected text from a window of another program, or typing in directly. Dragging in the icon of a text file will not work. When the exercise is generated, the sound, image, and text will appear in the same vertical order as they were entered. Fig. 2 shows the resultant question from the input items shown in Fig. 1. Of course, to generate a question it is only necessary to have at least one item of any type in one box.

Figure 1. Interface of the Mango-multi authoring program.

Six other boxes accommodate the correct answer (top left box – green) and up to five distractors (the other five boxes – pink), which may also be pasted, typed, or dragged in. Any number of questions may be added to an exercise. Background color and the dimensions and font size of the answer boxes are freely adjustable. When the desired questions have been entered, the Finished! button brings up the exercise naming dialog, from which the exercise folder, ready for network deployment, is generated by one button click. As seen in Fig. 2, sounds are represented by a triangular Play button, and can be paused or repeated. The vertical green/red bar on the left is an analog indicator of the user's score. A bubble, which is initially in the middle, moves up or down for a correct or wrong answer respectively. The distance moved is inversely proportional to the number of questions in the exercise, so that a perfect score will bring the bubble to the top of the green bar. In Fig. 2, the first question of 2 has been answered correctly, so the bubble is at the halfway point on the green bar.
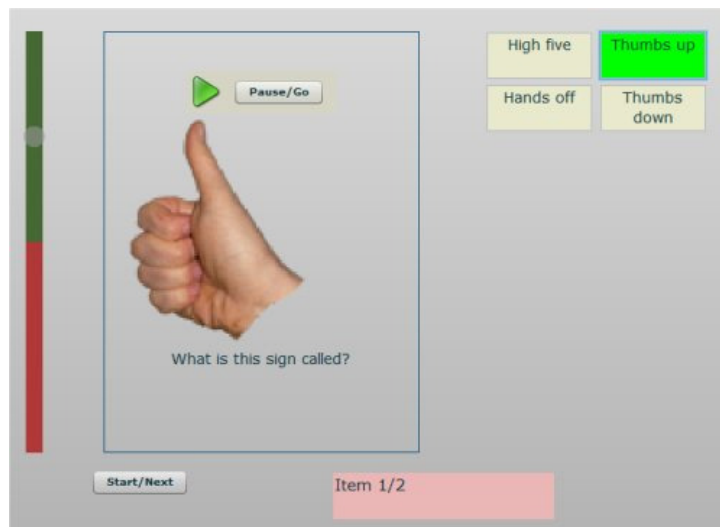

Figure 2. Resultant question in the browser from the input shown in Fig. 1.

Thus, Mango-multi affords considerable flexibility and ease in the construction of online multi-choice quizzes. Also, just as sound, image, or text may be omitted from any question, the question element itself can be omitted if desired by simply leaving the answer and distractor boxes blank. This could be useful, for instance, as a convenient way for introducing a set of new vocabulary items, each with a corresponding sound and/or image.

2.2. Mango-match

Fig. 3 shows the interface of the Mango-match authoring program at the stage where three item pairs – in this case equivalent vocabulary items in Japanese and English – have been added (the lower three pairs of boxes) and one more pair is ready to be added by clicking the Add button (the pair of boxes at the top). When all the required item pairs have been added, the Finished button brings up the exercise naming dialog, from which the exercise folder may be generated. The NEW button clears all data, in preparation for making another exercise.
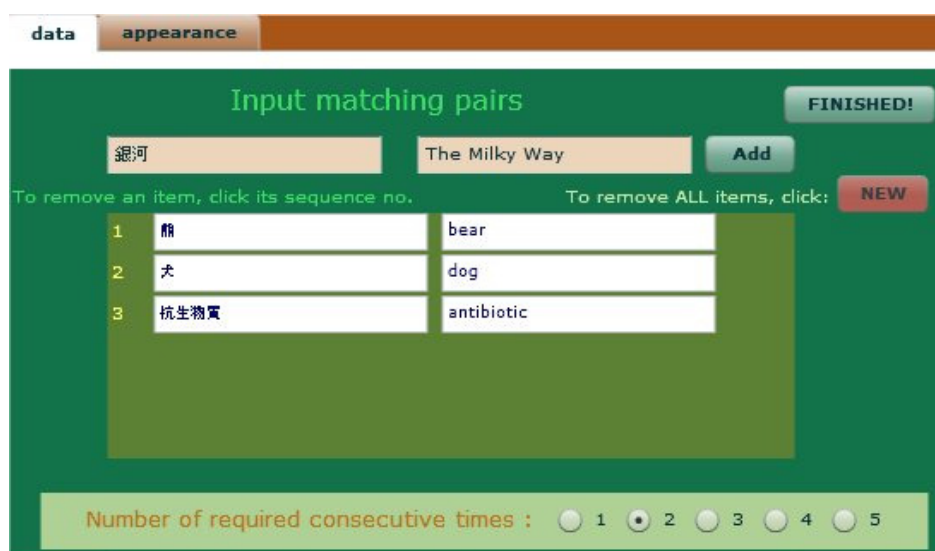

Figure 3. Interface of the Mango-match authoring program.

Another interface element of interest is "Number of required consecutive times" at the bottom, which is set to 2 in the example shown. This will now be explained in terms of the operation of the exercise – refer to Fig. 4, which shows a small partially-completed example. Initially, all the English items are on the left-hand side. The user drags one of these items onto a Japanese item in the box in the middle. If the items correspond, the English item lines up to the right of the Japanese one, and takes on a colored glow. If the items do not correspond, the English item returns to the left-hand side, and the left-hand items rearrange their vertical order randomly in order to avoid any list effect whereby the user remembers the position of a matching item rather than the item itself. Each time an English item is dragged onto a Japanese item, if it corresponds it lines up and takes on a glow. But if it doesn't correspond, it returns to the left, and there is a random vertical rearrangement of the English items. However, it is not only the mistaken item which returns to the left, but also any items which have not been correctly placed for a specified consecutive number of times (which can be set to one, in which case items never move once placed correctly). This is to help ensure that the user has memorized items that were initially lined up just by trial and error. Once an item has been lined up the required consecutive number of times (two in this case, as seen in Fig. 3), the color of its glow changes, and it no longer returns to the right when a mistake is made. In this way, trial and error allows the user to find the meaning of unknown items, but memorization of new items is required to achieve smooth completion of the exercise.

Figure 4. Small, partially completed example of a Mango-match exercise.

Selecting the "appearance" tab of the Mango-match authoring program interface (Fig. 3) brings up the interface shown in Fig. 5, which allows the author to adjust the font size and colors used in the resulting exercise. The preview immediately reflects any changes made. Clicking the Finished button will make the current design the new default for subsequent exercises (a previous scheme may be preserved by taking a copy of a file named design.xml before updating the scheme).
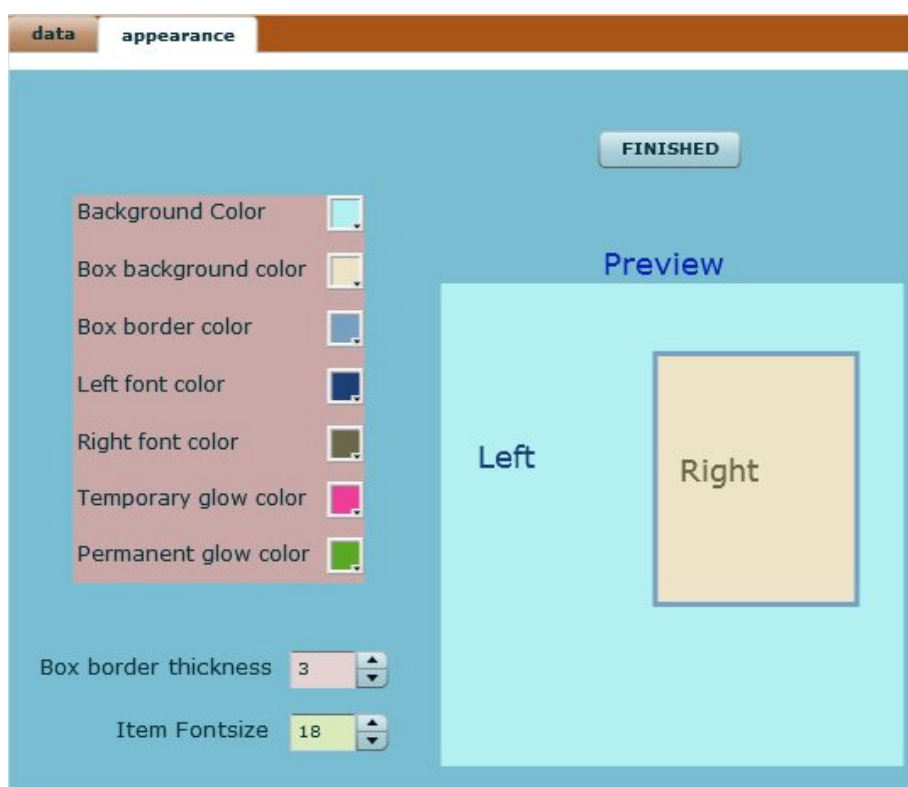

Figure 5. "Appearance" interface of the Mango-match authoring program.

Thus, Mango-match allows online vocabulary matching exercises to be constructed quickly and flexibly. It can, of course, be used to make any kind of matching exercise where the items involved are words or short phrases, such as matching words with their definitions, or questions with responses.

2.3. Mango-gap

Fig. 6 shows the interface of the Mango-gap authoring program at the stage where the example exercise shown in Fig. 7 will be generated on clicking the Finished! button. The user types or pastes text into the large box. Due to the fact that HTML formatting is used, multiple or leading spaces are not permitted, so it is suggested that characters

other than space (e.g., period, hyphen, or underscore) be used if the user wants to indent or horizontally space the text.
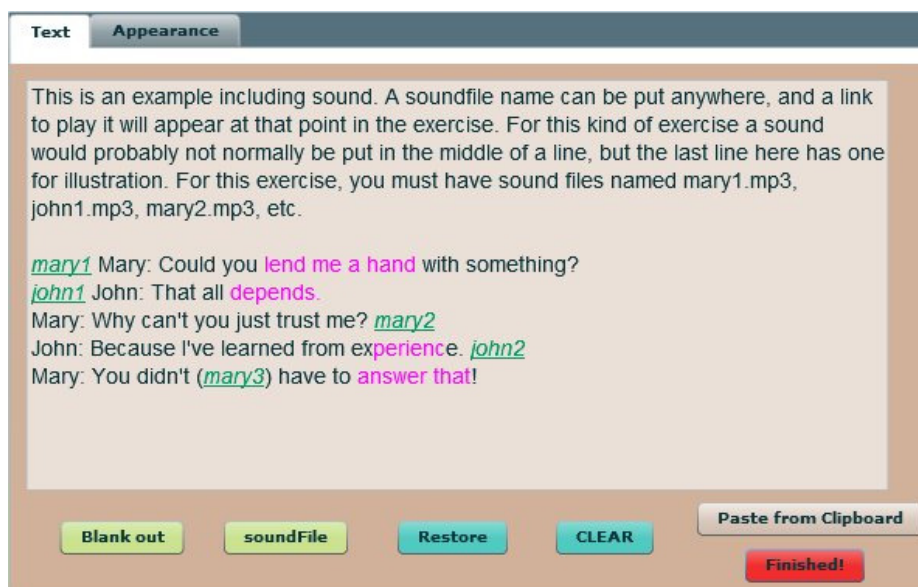

Figure 6. Interface of the Mango-gap authoring program.

Text which is to be replaced in the exercise by an "unknown" character, e.g., asterisk in the Fig. 7 example, is selected and the Blank out button clicked. The selected letters then become pink. If sound is needed in the exercise, the names of mp3 files (without the .mp3 extension) for which playback links will appear must be included at the points where the links are required. These names are selected and the soundFile button clicked, which changes them to green italic underlined text. For the example exercise to work properly, mp3 sound files named mary1.mp3, john1.mp3, mary2.mp3, etc., must be copied into the exercise folder before upload. When a playback link is clicked, the corresponding mp3 file will be played. While it is playing, a Pause/Go button becomes visible, which allows the user to pause and continue playback.
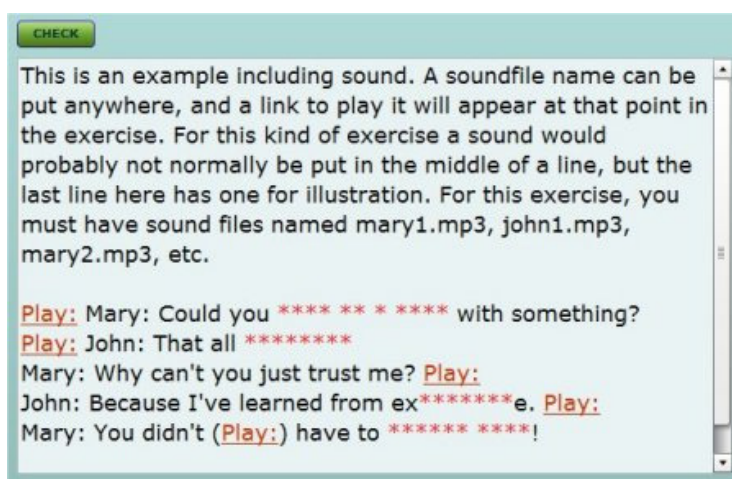

Figure 7. Resultant exercise in the browser from the input shown in Fig. 6.

The object of the exercise, whether or not it includes sound, is to correctly fill in the blanked out characters. These characters may be freely typed over, and the typed in text will assume a color which signifies that it has been typed by the user, but not yet checked. This, and other text colors and design elements, can be set by the exercise maker using the Appearance interface of the authoring program (Fig. 8) similarly to the

64

way described above for the Mango-match program. The CHECK button may be clicked at any stage, which will result in newly-entered characters becoming either, for example, green or red, depending on whether they are correct or incorrect.
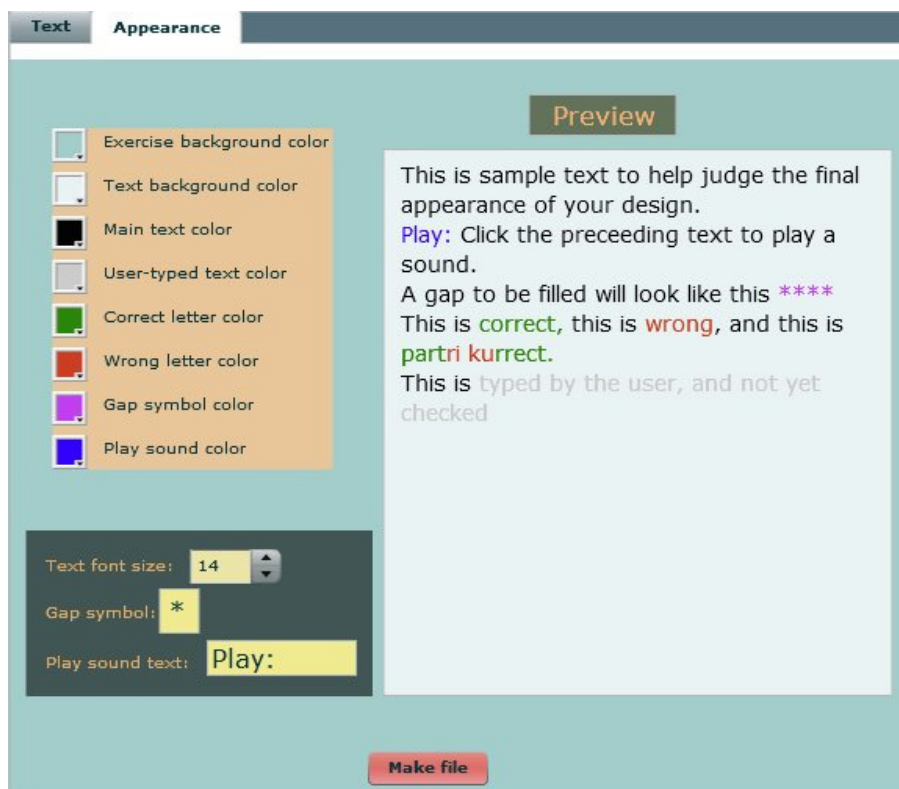

Figure 8. "Appearance" interface of the Mango-gap authoring program.

Clicking at any point within the exercise text moves the cursor to the next position beyond the clicked point where it is possible to type. This may be a position where nothing has yet been typed, or one where the typed character has not yet been checked, or has been checked and found incorrect. This allows the user to move conveniently to the next position requiring input, without needing to move the cursor to a precise point. There is no need to erase incorrect characters; they may be typed over. The cursor may also be moved within the text by using the arrow keys.

Clicking the "Play" link will play the corresponding sound. A "Pause/Go" button appears during playback so that the user can pause and continue playback. In a real exercise of the type shown in Fig. 7, placement of the "Play" links would probably be more uniform, but they are shown in various positions to illustrate that this can be done if required. Also, in this exercise there is one sound file corresponding to each line of the conversation, but of course this is not a requirement, and much longer (or shorter) sound files may be used if desired. Thus, Mango-gap enables a wide variety of gap-filling exercises, with or without sound, to be constructed simply.

3. Download and deployment

Sample exercises can be seen and tried out, and each of the three programs can be downloaded freely from http://www.mylesobrien.com/mango-suite as a zip file. The resultant folder, named mango-multi, mango-match, or mango-gap, as appropriate, should be placed in the documents folder of the user's computer. Each folder contains an Adobe Air file to install the program, and a folder named uploadFiles which contains the necessary template files for copying to the exercise folders. When a new, e.g., Mango-gap, exercise is made, a folder with the same name as the exercise name chosen by the user will appear in the mango-gap folder. It contains a file named

index.html in which the exercise will be embedded, so the URL to access the exercise may end with the folder name; it is not necessary to append the default html filename index.html. The folder may be uploaded as is, or the user can modify the very plain default index.html file in any desired way to add links, images, instructions, etc. Or, to make a wider-ranging change, the default index.html file itself, contained in the uploadFiles folder, may be modified to make a new template. This, coupled with the ability to modify the colors, font sizes, etc., of the Flash exercise itself, allows the user considerable flexibility in design. Each time the Flash exercise design is changed, the new design becomes the default from then on. The design information is in the file design.xml, and various versions can be renamed and kept on standby for later deployment if desired.

4. Discussion

4.1. Mango-multi

Multiple-choice tests are now so widespread in all fields of education that countless ways of generating them are available for both printed and computerized tests. However, it was felt that a very easy way to generate online tests, incorporating optional sounds and images, could be useful. Mango-multi provides this, in that sound files and image files on the test maker's computer need only be dragged into the appropriate boxes to produce a question in the corresponding format. The test itself includes very clear feedback of the correct choice, to optimize the effects of testing (Roediger & Marsh, 2005; Butler & Roediger, 2008). Also, as mentioned in 2.1 above, the question element of the exercise may also be omitted to yield a flexible way of presenting combinations of text, sound and image for, e.g., introducing new vocabulary items (Kim & Gilman, 2008).

4.2. Mango-match

Mango-match is primarily intended as a way of facilitating the memorization of new vocabulary items. Direct vocabulary study may have been unfashionable, even positively discouraged, for a long period since the second language acquisition model of Krashen (1981) became predominant, but there have always been those who insist that incidental learning, though perhaps the most effective, is neither sufficient nor efficient for vocabulary learning. Folse (2004) strongly states the case for explicit vocabulary learning in his systematic dismissal of the eight "myths" he lists, which he claims embody the argument of the opposition. Ensuring that the learner engages in "deep processing" when learning a new word certainly requires much more elaborate preparation of study materials (Horst, Cobb and Nicolae, 2005), which could become quite unwieldy if, e.g., the learner wants to acquire a large vocabulary of specialized technical terms. So, research into direct vocabulary learning has been continued undauntedly by some researchers (e.g., Ma & Kelly, 2006; Kim & Gilman, 2008; Nakata, 2008; Godwin-Jones, 2010).

Mango-match introduces a new twist to item matching as a way of learning vocabulary, in its feature whereby an item must be correctly matched consecutively for a set number of times before it becomes immune to automatically returning to the other side the next time any matching mistake is made. This makes it practically impossible for someone to match all the items unthinkingly, though the correct match for an unknown item may still be discovered by trial and error. However, the item is not "safe" until the learner memorizes it, so that it can be placed correctly again for the required number of times. There is a sort of "forced" memorization in the short term. This is intended to aid long-term memorization of items by ensuring that all of them are, to some extent, "known" by the learner when the exercise is completed. Rigorous research has yet to be done to test the effectiveness of this conjecture, or to determine the optimum number of required consecutive placements. In informal trials with Japanese students in which they matched English words to Japanese ones, it was suggested that 3 times is more effective than twice, which is in turn more effective than the trivial once (where pure trial and error can easily complete the exercise) in tests both immediately after doing

the exercise, and two weeks later. However, even if this were to be demonstrated rigorously, the increase in effectiveness would have to be weighed against the longer time needed to complete the exercise as the number of placements required increases. How later repetition (spaced learning) could be most effectively blended to ensure long-term memorization might be an interesting study. Mango-match itself provides a kind of compressed spaced learning environment, as the "unsafe" items must be placed again after each collapse, but these "micro-spaces" may be too short to lead to any significant beneficial effect.

It must also be noted that the memorization involved here is "recognition" rather than "recall", and there can be substantial differences in the mental processes involved (Yun, Miller, Baek, Jung and Ko, 2008). However, by using the exercise, learners will be encouraged to activate and try to enhance whatever learning strategies they use.

4.3. Mango-gap

Mango-gap is in the tradition of text reconstruction exercises (Hewer, 2011) dating back to the classic Storyboard program first published in 1982 by Wida Software. It differs from cloze generators such as Clozehorse (http://simonsplace.mine.nu/~simonac/clozehorse2/index.html) and Cloze Generator (http://www.oit.ac.jp/ip/~kamiya/mwb/mwb.html) in that it is character-based rather than word-based, and also has no connection to any vocabulary list for annotation of word difficulty. More ambitious research has even aimed at intelligent automation of question generation for cloze and open cloze. (Goto, Kojiri, Watanabe, Iwata and Yamada, 2010; Pino, Heilman and Eskenaz, 2008) but Mango-gap requires manual selection of gaps. On the other hand, it allows easy construction of network-ready exercises which are easy to fill in (due to the automatic movement of the cursor to the next position requiring input beyond the point where the text is clicked) and provide character-by-character feedback. The ability to add sound at any desired points within the text allows easy and flexible construction of dictation or listening exercises where not just words, but selected letters within words, may be allowed to remain in order to precisely adjust the assistance given to the learner.

References

Butler, A. C. and Roediger, H. L. (2008). Feedback enhances the positive effects and reduces the negative effects of multiple-choice testing. Memory & Cognition, 36(3): 604-616. Available from: http://duke.edu/~ab259/pubs/Butler&Roediger(2008).pdf

Folse, K. S. (2004). *Vocabulary Myths: Applying Second Language Research to Classroom Teaching.* Ann Arbor: University of Michigan Press.

Godwin-Jones, R. (2010). Emerging technologies - from memory palaces to spacing algorithms: approaches to second-language vocabulary learning. *Language Learning & Technology,* 14(2): 4-11. Available from: http://llt.msu.edu/vol14num2/emerging.pdf

Goto, T., Kojiri, T., Watanabe, T., Iwata, T. and Yamada, T. (2010). Automatic Generation System of Multiple-Choice Cloze Questions and its Evaluation. *Knowledge Management & E-Learning,* 2(3): 210-224. Available from: http://kmel-journal.org/ojs/index.php/online-publication/article/view/72/53

Hewer, S. (2011). Text Manipulation. In: Davies, G. (ed.) Introduction to Computer Assisted Language Learning (CALL) – Module 1.4 of *Information and Communications Technologies for Language Teachers* (ICT4LT), Slough: Thames Valley University [Online]. Available from: http://www.ict4lt.org/en/en_mod1-4.htm#textmanip

Horst, M., Cobb, T. and Nicolae, I. (2005). Expanding academic vocabulary with an interactive on-line database, *Language Learning & Technology,* 9(2): 90-110. Available from: http://llt.msu.edu/vol9num2/horst/default.html

Kim, D., & Gilman, D. A. (2008). Effects of Text, Audio, and Graphic Aids in Multimedia Instruction for Vocabulary Learning. *Educational Technology & Society,* 11(3), 114-126. Available from: http://www.ifets.info/journals/11_3/9.pdf

Krashen, S. D. (1981). *Principles and Practice in Second Language Acquisition.* London: Prentice-Hall International.

Ma, Q, and Kelly, P. (2006). Computer assisted vocabulary learning: design and evaluation. *Computer Assisted Language Learning,* 19(1), 15-45.

Nakata, T. (2008). English vocabulary learning with word lists, word cards and computer: implications from cognitive psychology research for optimal spaced learning. *ReCALL,* 20(1): 3-20.

Pino, J., Heilman, M. and Eskenaz, M. (2008). Selection Strategy to Improve Cloze Question Quality. In: Intelligent Tutoring Systems for Ill-Defined Domains: Assessment and Feedback in Ill-Defined Domains, *Proceedings of the 9th International Conference on Intelligent Tutoring Systems,* Montreal Canada: 22-34. Available from: http://www.philippe-fournier-viger.com/ill-defined/Workshop-ITS08-ill-defined.pdf

Roediger, H. L. and Marsh, E.J. (2005). The Positive and Negative Consequences of Multiple-Choice Testing. *Journal of Experimental Psychology: Learning, Memory, and Cognition,* 31(5): 1155–1159. Available from: http://www.niu.edu/~britt/courses/Roediger_Marsh_pos_neg_testing.pdf

Yun, S., Miller, P. C., Baek, Y., Jung, J. and Ko, M. (2008). Improving recall and transfer skills through vocabulary building in web-based second language learning: An examination by item and feedback type, *Educational Technology & Society,* 11(4): 158–172. Available from: http://www.ifets.info/journals/11_4/12.pdf.

Top

Reflective practice

The Use of Digital Storytelling for ESP in a Technical English Course for Aerospace Engineers

Ana Sevilla-Pavón*, Belén Serra-Cámara** and Ana Gimeno-Sanz***
CAMILLE Research Group, Department of Applied Linguistics, Universitat Politècnica de València (Spain)

*ansepa @ upv.es, **bserracamara @ gmail.com, ***agimeno @ upvnet.upv.es

Abstract

Digital Storytelling is a powerful pedagogical tool for both students and educators, which started to be used for teaching and learning purposes a few years ago, becoming more and more popular over time. The use of digital storytelling in non-specific language learning contexts has been widely explored, as shown in the literature. However, its use in technical-scientific contexts of English for Specific Purposes (ESP) has not been so widely studied. This paper explores a project of digital storytelling for ESP carried out at the Universitat Politècnica de València, in Spain. The methodology was divided into

several stages: completing a pre- and a post-survey, learning about digital storytelling by doing a WebQuest, making decisions about their digital stories (topic, plot, software and media), sharing their stories with their classmates through the PoliformaT LMS, watching their classmates' digital stories, using the forum to write their comments about their digital stories and their classmates', keeping a log and preparing and presenting their "making of" in front of the class, and assessing both their peers' digital stories and their oral presentations. The overall results were very positive, as students were highly satisfied with their progress in learning and developing different skills, these being mainly linguistic, research, writing, organisation, digital, presentation, interpersonal, problem-solving and critical-thinking skills.

Keywords: Digital storytelling, English for specific purposes, linguistic skills.

1. Introduction

Digital Storytelling (DS) is a very useful pedagogical tool which has been defined in many different ways. Generally speaking, it relates to a short form of digital film-making that allows everyday people to share aspects of their life story. It is based on "the idea of combining the art of telling stories with a variety of digital multimedia, such as images, audio, and video" (Robin, 2012). Therefore, DS could be considered as a blend of the oldest and most traditional form of communication and transmission of knowledge, that is, storytelling; and the newest and most important means of communication and of sharing information: different forms and types of multimedia digital devices. Storytelling has been and still is important to humanity because stories help us overcome the tensions between the past and the possible (Bruner, 2003) and make meaning out of experience (Bruner, 1996; Shank, 1990); while experiences, and the stories created to make sense of that experience, are key to learning (Shank, 1990; Zull, 2002). Other advantages of stories relate to the fact that they help build connections with the students' prior knowledge and improve memory (Shank, 1990), resulting in an easier and more enjoyable way to remember (Shank, 1990; Rex, Murnen, Hobbs & McEache, 2002) and to comprehend the content and the message transmitted by the story. Storytelling also helps people connect to others (Lowenthal, 2008) by disclosing personal information and relating to each other's common experiences (Lowenthal and Dunlap, 2010). According to Bruner (1996: 147) "we live in a sea of stories" but "we have our own difficulties grasping what it is like to swim in stories", and therefore we need a metaphysical support (Bruner, 1987). In the case of digital storytelling for educational purposes, that metaphysical helper would be the teacher, who acts as a facilitator, providing students with the information they need in order to reflect and develop their own ideas and perceptions about what creating a digital story involves. Even though digital storytelling has been used in education and specifically in languages teaching and learning for the past few years, its use in English for Specific Purposes (ESP) has not been so widely studied. This paper therefore aims to contribute towards filling that gap in the literature by exploring a project of digital storytelling for ESP carried out at the Universitat Politècnica de València (UPV), in Spain. The project was divided into the following stages: completing a pre- and a post-survey, learning about digital storytelling by doing a WebQuest, making decisions about the students' digital stories (topic, plot, software and media), sharing their stories with their classmates through the PoliformaT Learning Management System (LMS), watching their classmates' digital stories, using the forum to write their comments about their digital stories and their classmates', keeping a log and preparing and presenting their "making of" in front of the class, and assessing both the digital stories and the oral presentations. The overall results were very encouraging as the students reported that this approach had helped them develop different skills: i.e. linguistic, research, writing, organisation, digital, presentation, interpersonal, problem-solving and critical-thinking skills. Moreover, the difficulties encountered when completing the project were easily overcome.

2. Technical English for Aerospace Engineers

The following project, "Digital Storytelling for Aerospace Engineering", was one of the assignments of the subject called Technical English for Aerospace Engineering, taught during the 2nd Semester, from January to June 2012. This is an optional comprised of 6 ECTS credits taught at the Universitat Politècnica de València, Spain. The proficiency level of the 52 students who enrolled in this subject ranged from B1 or intermediate to B2 or upper-intermediate, according to the CEFRL (Council of Europe, 2001).

The main goal of the subject is to help the student become acquainted with the grammatical features (structure) and lexis (vocabulary) which are specific to technical English, with a special focus on Aerospace Engineering. The main theoretical contents are organised around two broad topics: the inside and the outside of a plane. In addition, the subject deals with administrative-commercial English applied to the field of aerospace engineering. The main skills to be developed are grammar and vocabulary; reading and listening comprehension; as well as writing and speaking. These skills are practised in an integrated way so as to help the students in the development of communication and learning strategies in the target language.

The work load is split into two main categories: 60 hours of in-class activities and 90 hours of autonomous homework. In-class activities include 20 hours of lectures; 6 hours of exercises and problem-solving; 30 hours of computer-assisted work; and 4 hours of group projects. As for autonomous homework, this includes 25 hours of preparation for class presentations or group activities and projects; 40 hours for all the other activities not covered by the previous 25 hours, such as exam revisions, researching and looking for information, complementary readings, and completing extra exercises; 10 hours of revision relating to the group activities, projects and class presentations; 15 hours of collaborative work in a Virtual Learning Environment (VLE) in which documents can be shared or edited simultaneously by different students and/or their teacher, and where communication can be synchronous or asynchronous.

Concerning assessment, it is formative and based on the information gathered by means of 4 different evaluation methods, each of which has 2 modalities: 2 oral exams (20% of the final grade), 2 written exams (40%), 2 academic assignments (25%), and 2 group projects (15%). This kind of formative assessment is flexible enough so as to allow the teachers to make decisions concerning the types of tasks the students have to undertake for each of the assessment methods. It was therefore agreed by the teachers delivering the subject that some of the tasks for each of the different assessment modalities could be combined. Consequently, the Digital Storytelling for ESP project was designed in such a way that assessment data would be gathered by means of a combination of inter-related activities. These involved a wide range of competences, skills and knowledge, which gave rise to the different stages in which the project was divided. These stages will be dealt with in the following section.

3. Stages of the Digital Storytelling for ESP project

This project was completed by the students in several stages: completing a pre- and post-survey, learning about digital storytelling by completing a WebQuest, making decisions about their digital stories (topic, plot, software and media), sharing their stories with their classmates through the University's Learning Management System (LMS) –*PoliformaT*–, watching their classmates' digital stories, using the forum to write their comments about their own digital stories as well as their classmates', keeping a log and preparing and presenting their description of "the making of" in front of the class, in addition to completing two assessment forms. The students were advised to follow the dates in which they were supposed to complete every stage, trying not to go too fast or too slowly. The different dates and deadlines were shown in the calendar accessible through the PoliformaT LMS. The following table shows all the stages and the time needed to complete each of them (table 1), and the way the students saw it in the calendar (figure 1):

Creating your own Digital Story about Aerospace Engineering: stages		
	Stages	**Dates**
1	Completing the pre-survey	30.03.2012
2	Learning about digital storytelling by completing a WebQuest	04.04.2012
3	Making decisions about their digital stories (topic, plot, software and media)	20.04.2012
4	Writing the script	25.04.2012
5	Making the videos	02.05.2012
6	Voice-over recordings	04.05.2012
7	Editing the video to synchronise voice, music and visuals	09.05.2012
8	Sharing their digital stories in *PoliformaT*	11.05.2012
9	Watching their classmates' digital stories	9 11.05.2012 (to 16.05.2012)
10	Filling in the assessment forms for the digital stories	10 11.05.2012 (to 16.05.2012)
11	Posting their comments about their digital stories and their classmates' in the forum and replying to the comments they received	11.05.2012 (to 16.05.2012)
12	Keeping a log and preparing their presentation of the "making of"	16.05.2012
13	Presenting the "making of" in front of the class	13 18.05.2012 (to 25.05.2012)
14	Filling in the assessment forms for the "making of" presentations	18.05.2012 (to 25.05.2012)
15	Completing the final survey	30.05.2012

Table 1. Stages for completing the Digital Storytelling for ESP project.
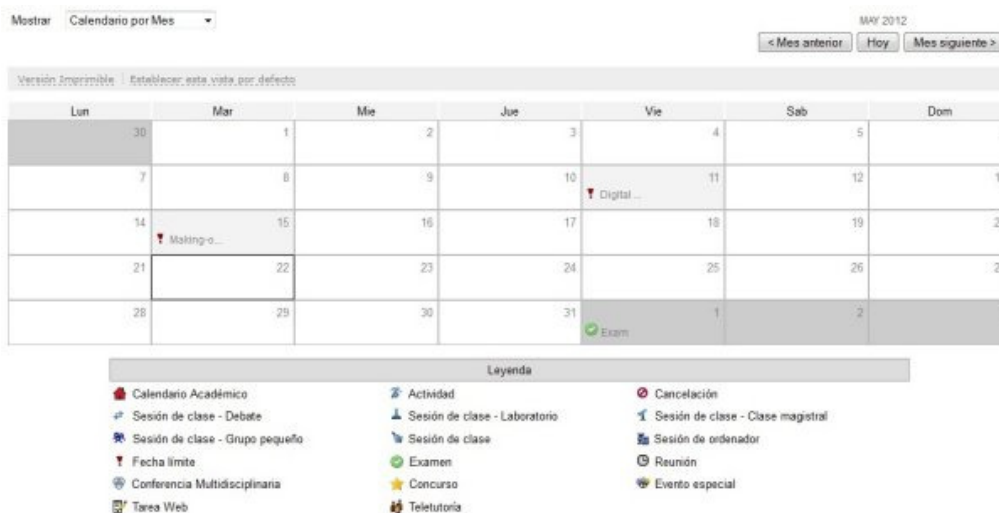

Figure 1. PoliformaT calendar for the tasks carried out in the Technical English subject.

One of the main goals of the initial and final stages, which involved the completion of a pre- and a post-survey, was to gather information about the students' perceptions of their learning and their self-assessment of the development of the skills and competences developed thanks to the project.

As for the second stage, the WebQuest, it was aimed at giving students an idea of what digital storytelling is, what it involves, the kinds of digital stories there are, as well as some examples; at the same time and because this was a group project, the students could start getting to know their partners and the way they worked. They worked autonomously and could select the sources from which to access the information requested. They were encouraged to access various different sources so as to get an idea of the huge variety of digital stories there are. They could also watch two video recordings recorded at the UPV studios, one giving an overview of digital storytelling and the other one explaining the project step by step.

Media 1. Introductory video about digital storytelling.
(Click on the image to watch the 9-minute sequence. It will open up in a new window.)

Having done this, they were told to acknowledge their sources, and they were also asked to write their initial impressions in their log. Since each group worked at their own pace, some of them finished their WebQuest earlier than others. Instead of having to wait until all the groups had finished, they were given the opportunity to move on to the next step, related to the preparation to the digital story itself: they were asked to start discussing, brainstorming and then making decisions about their digital stories, such as the topic, the plot, and the software and media they could use. They were also given class time to take a look at the different free tools available and, once they had done this, they could start looking for relevant visual and auditory elements to use in their story.

Then, the students started to write their scripts collaboratively, using text processing tools that allow for multiple editing, such as Googledocs. Alternatively, they could all sit at the same computer and tell one of the students what to write. Having done that, they uploaded their scripts onto their "shared folder" in PoliformaT so that the teachers could read each of the scripts and correct their mistakes, while giving them suggestions for improvement not only in terms of the language but also regarding the content, the need to narrate the story from a specific point of view and to provide some emotional content, and even to think carefully about how to present it.

The teachers decided that at this stage their feedback would be essential for several reasons. First of all, the correction aimed at avoiding the use of scripts containing mistakes which could be reinforced and memorised not only by the group members – who would be working intensively with the script, reading it several times to prepare their video, and then again for rehearsals and to record the voice-over–; but also by the

other students, who would be the recipients of the stories and therefore could be in danger of acquiring those mistakes once the written output in the form of a script was converted into oral input, this danger being enhanced by the power of multimodality in a digital story. Instead, it was thought that correcting any mistakes could contribute to language acquisition of grammar structures and lexis in context, due to that very same intensive exposure to their peers' input and output deriving from the script. The teachers did not correct every single mistake, but rather pointed out most of the mistakes and their nature, giving the scripts back to the students so that they could correct them themselves. The main difficulties encountered at this stage were: the fact that some weaker students did not write directly in English but decided to write their scripts in Spanish and then translate them into English, very often with the help of online translating tools that distorted the message; and the fact that some other students decided not to follow the schedule shown in the calendar and thus did not wait to get the corrections before recording their stories, with the consequent risks discussed above.

The next stages comprised making their videos; recording their voices; and then editing their videos to synchronise voice, music and visuals. The students were advised to build the story's visuals around the script and voice-overs, letting the script dictate which visuals they included. Moreover, they were given clear instructions about how to complete these steps successfully.

Figure 2. Screenshot of the digital story "Gliders". Click on icon ▶ to watch digital story.

Once they had finished doing this, they were asked to upload their stories onto PoliformaT. The main difficulty encountered at this stage, which had to do with the LMS's 400 MB limit per upload, was easily overcome by using free tools for file-sharing, such as Dropbox. This meant that this stage had to be redefined: instead of uploading their stories onto PoliformaT, the students uploaded them elsewhere and then shared the link to their stories (which could be watched online without the need to download them) in the forum in PoliformaT.

Following that, they had to watch their classmates' stories, fill in the assessment forms that their teachers had previously made available on the LMS, and post their comments in the forum. Additionally, they had to reply to their classmates' comments or questions. In order to prevent some stories being left with no comments, the students were asked to comment and assess at least 4 stories, and a priority order was established in such a way that they had to comment on the stories with fewer or no comments first, instead of leaving their comments for stories that had been previously commented by many other students. At this stage it was noted that, overall, the comments were quite thorough and objective, since most of the students made remarks on both the things they liked and disliked about each story, explaining why and giving their advice about how the stories could be improved.
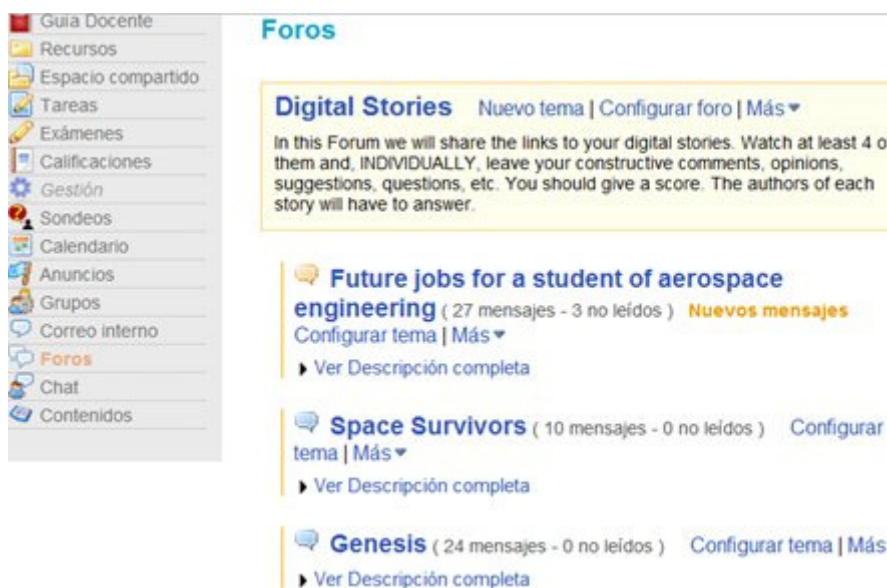
Figure 3. Screenshot of the *PoliformaT* forum of the digital storytelling project.

The stages that follow were interconnected, but there was a difference between both. The one about keeping a log was present throughout the whole process, whereas the preparation of the making-of presentation could obviously only be done once the story was finished. The parts of the log were: a day-by-day report of the group activities and meetings; a report of the individual contributions made by each of the group members every day (including the dates); a glossary in which the students had to write the new words and expressions they learnt, and their definitions; a description of the steps followed when creating their story, the media used and why, the software used and why, the difficulties encountered and how they solved them; and additional materials documenting the whole process (e.g. photos, voice-over recordings, making-of videos, bloopers and outtakes, etc.).
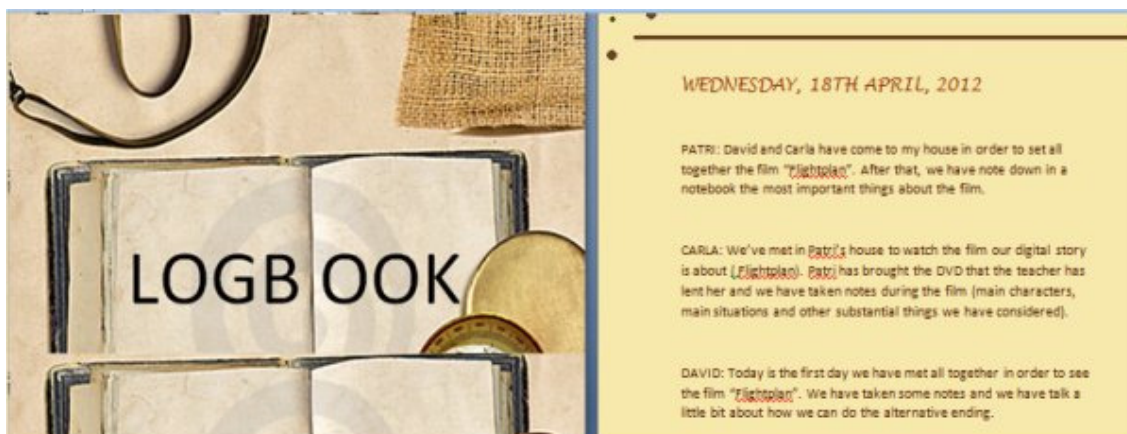

Figure 4. Screenshot of the log of the story "Flightplan: An alternative ending".

As for the making-of presentation, it relates to the oral explanation of the whole process of completing the project and creating the digital stories, based on the students' experience as reflected in their logs. Oral presentations were practiced at the beginning of the term, and the students were given advice and information about them –regarding such things as voice, control of space and time, body language, the importance of using their own words instead of reading, etc. In spite of this, most of the students found this activity challenging and felt anxious about presenting, but managed to overcome their anxiety.

We had some difficulties with the format of the videos we had recorded because their format was .3gp and our software only accepted .avi and .mpeg formats, so we had to change the format of the video with an open source program called Format Factory.

- **Pictures.**

Figure 5. Screenshot of the making-of video of the story "Gliders". Click on icon 📄 to download PowerPoint presentation for viewing.

After the oral presentations, the students were again asked to be active agents of the assessment process, as they had to complete the assessment forms for the oral presentations. The aspects they were advised to bear in mind were the following: structure and organization, time management, originality, clarity, pronunciation, linguistic skills and overall level of English, oral and communication skills, references to the log and creative process. Once they had completed these forms, they had to upload them individually onto their "shared folder" in PoliformaT.

The last stage in the Creating your own Digital Story about Aerospace Engineering project was to fill in the final survey, created in Googledocs and embedded in PoliformaT. The survey was split into two parts. In the first part, the students had to choose the best piece of work in each of the pre-established categories: best digital story, script, music, images, special effects, voice dubbing, oral presentation and emotional content. The groups of students who were the most voted in each category got a certificate acknowledging their hard work and achievement. As for the second part of the survey, it related to their personal experience and opinion about the project, and the students had to assess different aspects such as motivation and the development of different linguistic and non-linguistic skills, both generic and specific.

4. Skills and competences developed

The skills aimed to be developed as a result of the different activities carried out within the project were mainly the following: linguistic, research, writing, organisation, digital, presentation, interpersonal, collaboration, problem-solving and critical-thinking skills. Table 2 shows a description of the different activities and the skills that are developed when carrying them out. Although the completion of each of the activities usually requires a combination of different skills, for the sake of clarity the following table shows the main skill or set of skills promoted in each of the activities:

Activities and description	Skills
All the activities: reading, writing, speaking, listening, vocabulary and grammar.	*Overall linguistic skills*
WebQuest: Getting their own ideas and perceptions about what digital storytelling is, what it involves, the different types, etc. "Making of": Reflecting about the learning gains and about the outcomes of the project. Surveys: Reflecting about different concepts and activities related to DS. DS: making decisions about their digital stories in terms of topic, plot, script, software and media to be used.	*Reflective skills*
WebQuest: documenting the story; finding and analysing pertinent information.	*Research skills*
DS: formulating a point of view and developing a script. Webquest: writing their answers to the different open-ended questions.	*Writing skills*
Calendar and log: managing the scope of the project, the materials used and the time it takes to complete the tasks.	*Organization skills*
DS and "making of": learning to use a variety of tools, like digital cameras, microphones and multimedia authoring software for audio and video recording and editing; learning to critically assess and choose the tools needed to complete every stage of the project.	*Technology/digital skills*
DS and "making of": Deciding how to best present the story to an audience.	*Presentation skills*
DS: Working collaboratively within a group and determining individual roles for group members. Forum: Sharing their stories in the forum, writing their comments, reading their classmates' comments, replying to them. Webquest: working collaboratively towards a final group outcome by transforming newly acquired information into a more sophisticated understanding.	*Interpersonal and collaboration skills*
All the activities: learning to make decisions and overcome obstacles at all stages of the project, from inception to completion.	*Problem-solving skills*
Evaluation rubrics for digital stories and making-of presentation, log: gaining expertise critiquing their own and others' work. WebQuest: finding and analysing pertinent information.	*Assessment and critical-thinking skills*
Making-of presentation: learning how to present their work in front of the class.	*Public speaking skills*

Table 2. Skills developed by each of the activities within the Digital Storytelling for ESP project.

A myriad of linguistic skills were developed and practiced in each of the stages and activities of the project. Among those, it is important to highlight the basic linguistic skills developed when learning a new language: reading, writing, listening, speaking, lexis and grammar. Reading and writing were mainly practiced in the WebQuest, scripting, voice-over recording and synchronization, writing the log, preparing and presenting the "making of", using the forum, and filling in the assessment forms. As for

the listening and speaking skills, they were developed in activities such as working collaboratively in groups using English as the communication language, recording their digital story, watching the video recordings about the project, watching their classmates' digital stories, watching other examples of digital stories and delivering their making-of presentations.

An important goal of this project was to make students think critically and self-assess their learning, raising their awareness about the skills and competences to be developed while making them reflect on the way they are developing them and on how useful the different tools used are when trying to develop each of those competences (Sevilla-Pavón et al., 2011). In June 2012, the 52 students filled in a final survey to assess the degree of usefulness of this project for the development of different skills. In this survey, the development of their overall speaking skills obtained 4.82 points; pronunciation obtained 5.52 points; the listening skills got 5.41; reading got 4.82 points; writing got 5.06 points; and grammar and vocabulary got 5.71 points. These results are shown in table 3. These results correspond to a 7-point Likert scale showing the students' opinions concerning the degree of usefulness of the Digital Storytelling for ESP project as far as the development of the different linguistic skills is concerned.
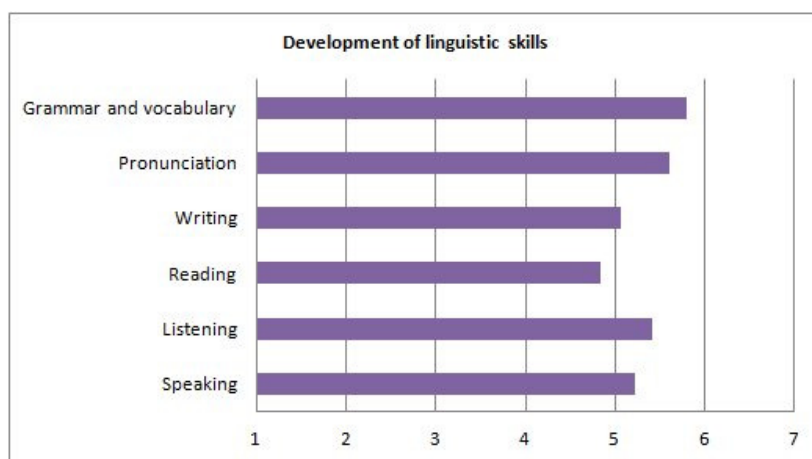

Table 3. Degree of usefulness of digital storytelling for the development of different linguistic skills.

As for the students' written opinions expressed in the open-ended questions, when the students were asked to complete the following statement "Concerning English learning, this activity can be considered as…", different students wrote: "really good" (student A), "I think that I have learnt more English with this project compared to the rest of the class activities" (student B), "very good, because you have to read (looking for information for the script), write (the script, logbook, making of...) and speak (the presentation), so I think it is a very complete activity" (student C), "very good, a great way of learning a language" (student D)".

5. Conclusion

This paper has aimed to contribute toward exploring the possibilities of using Digital Storytelling as a very useful and engaging teaching approach for foreign language learning within a technical university setting. The Digital Storytelling for ESP project, which took place in the second semester of 2012 and was completed by 52 aerospace engineering students enrolled in a subject called technical English, involved the completion of different tasks, split into several stages: completing a pre- and a post-survey; learning about digital storytelling by completing a WebQuest; making decisions about their digital stories (topic, plot, software and media, etc.); sharing their stories with their classmates through the PoliformaT LMS; watching their classmates' digital stories and assessing them, using the forum to write their comments about their digital

stories and their classmates'; keeping a log and preparing and delivering their making-of presentations in front of the class; and assessing the presentation.

The overall results were very positive, as the difficulties encountered were easily overcome. The students' level of satisfaction was expressed in their open-ended answers to different questions concerning the project, as well as in a 7-point Likert scale in which all the values were above 4, showing that the students were satisfied about their learning and the development of different linguistic and non-linguistic skills, both general and specific.

References

Bruner J. (2003). *Making Stories: Law, Literature, Life.* Cambridge, MA: Harvard University Press.

Bruner, J. (1996). *The Culture of Education.* Cambridge, MA: Harvard University Press.

Bruner, J. S. (1987). Life as narrative. *Social Research,* 54: 1-17.

Robin, B. R. (2012). The Educational Uses of Digital Storytelling, http://digitalliteracyintheclassroom.pbworks.com/f/Educ-Uses-DS.pdf. Last accessed 29/06/2012.

Council of Europe (2001). *Common European Framework of Reference for Languages.* Cambridge: Cambridge University Press.

Lowenthal, P. R. (2009). Digital storytelling: An emerging institutional technology? In K. McWilliam & J. Hartley (Eds.), *Story circle: Digital storytelling around the world.* Malden, MA: Wiley-Blackwell, pp. 252-259.

Lowenthal, P. R. y Dunlap, J. C. (2010). From pixel on a screen to real person in your students' lives: Establishing social presence using digital storytelling. *Internet and Higher Education,* No. 13, pp. 70-72.

Rex, L. Al, Murnen, T., Hobbs, J., y McEachen, D. (2002). Teachers' pedagogical stories and the shaping of classroom participation: "The Dancer" and "Graveyard Shift at the 7–11". *American Education Research Journal,* 39(3), pp. 765-796.

Sevilla-Pavón, A., Martínez-Sáez, A., & Siquiera-Rocha, J. M. (2011). Self-assessment and Tutor Assessment in Online Language Learning Materials: InGenio FCE Online Course & Tester. In S. Thouësny & L. Bradley (Eds.), *Second Language Teaching and Learning with Technology.* Dublin: Research-publishing.net, pp.45-69.

Shank, R. C. (1990). *Tell me a story: Narrative and intelligence.* Evanston, IL: Northwestern University Process.

Zull, J. (2002) *The Art of Changing the Brain. Sterling,* VA: Stylus Publishing.

Appendix

Assessment Rubric for Digital Stories

1. Use this rubric in order to assess your classmates' digital stories. Write your constructive comments and questions INDIVIDUALLY in the forum after watching every digital story (you should watch and assess at least four of them). Make sure you address all of the points below.

2. Fill in this form INDIVIDUALLY about each of the stories you have watched (at least, four). You should give a score to each of the following points for each story (from 1 to 10). You can add new points if you like. Upload this document onto PoliformaT.

3. In the forum, read the comments and questions your classmates have written about your story, and reply to those comments and questions. Only one member of the group needs to reply to every comment.

Title:	Score (1-10)
Interest of the topic	
Depth of research	
Originality	
Communicative skills	
Pace (not too fast, not too slow)	
Use of resources	
Variety of resources	
Linguistic skills and level of English	
Pronunciation	
Structure	
Emotional interest	
Synchronisation of narration and resources	

EVALUATING YOUR CLASSMATES: 9-10= Outstanding / 6-8= Satisfactory / 4-5= Needs improvement / 1-3= Very poor

Top

Article

The Challenges of Blended Learning: Critically Evaluating the Chinese Language Case

Bo Hu
Institute for Chinese Studies, University of Oxford, UK

_____

bo.hu @ orinst.ox.ac.uk

Abstract

This article reviews the Mid-Career Development Chinese Language course (MCDCL) funded by the British Inter-university China Centre, a project funded from various public sources in the UK. The discussion focuses on how and why the MCDCL course has adopted the blended learning construct and with what outcomes. Using two frameworks for blended learning – the Community of Inquiry and the Sloan-C Pillars – it offers a thorough examination of the MCDCL course, and discusses the results of a survey which was devised to collect feedback from participants on the course. The article concludes that the MCDCL course throws up particular challenges for the blended learning concept as a whole. A detailed evaluation highlights areas for attention ranging from how the course is organised and workloads are balanced, to the approach of teachers in their level of involvement in distance learning, and the overall management of the course with regard to the use of technology, cost-effectiveness and a host of other considerations.

Keywords: Blended learning; course evaluation; Chinese language course; British Inter-university China Centre; Mid-Career Development Chinese Language Course.

1. Introduction

The Mid-Career Development Chinese Language Course (MCDCL) is a language project sponsored by the British Inter-university China Centre (BICC). The BICC is a joint venture between the Chinese departments at the University of Bristol, the University of Manchester and the University of Oxford and was funded for 5 years (2006-2011) by the Arts and the Humanities Research Council (AHRC), the Economic and Social Research Council (ESRC) and the Higher Education Funding Council for England (HEFCE). This was significant funding, and unique in encouraging national collaboration, especially involving language-based Area Studies, among High Education institutions.

The MCDCL project was established by the BICC to provide language courses to professionals who work in academic or academic-related fields in the UK and who may need to use the Chinese language in their research (i.e. field work). In 2008, after considering the demographics of its potential participants, the MCDCL project adopted the blended learning construct, defined by Sharman and Barrett (2007) as combining a face-to-face (F2F) classroom component with the use of technology such as software applications, online content and a broader virtual learning environment.

During the past decade, blended learning has seen growing popularity in the Higher Education sector. For instance, in 2003, the Educause Centre for Applied Research (ECAR) survey by Arabasz and Baker showed that among its 277 participating Higher Education institutions in the United States, more than seventy percent expected to

increase the number of e-learning courses, while one-third anticipated greater than ten percent growth in blended learning courses in the following year.

In the UK, in response to the fast growing trend of blended learning, the HEFCE approved a five-year project (2005-2010) to establish a Blended Learning Unit (BLU) as a Centre for Excellence in Teaching and Learning at the University of Hertfordshire. The aim was to 'support, promote and share new approaches to Blended Learning practice across the University and more widely in the sector' (1).

It is hardly surprising that recognition for the value of blended learning is on the rise, given the wide documentation of its advantages in the literature on distance learning. Graham, Allen, and Ure (2005), for example, have summarised three primary benefits of blended learning as being 'improved pedagogy, increased access and flexibility, and increased cost-effectiveness'. Hong and Samimy (2010) categorised empirical studies showing a positive link between blended learning and language learning. This brought together multiple aims, such as facilitating linguistic achievement, further motivating learners, expanding knowledge of the 'target' culture and empowering learner autonomy.

It seemed that the complementary characteristics of distance learning and F2F classes have made blended learning an ideal format for today's language learners. On the one hand, computer technology and the internet offer more than just convenience to learners in terms of their flexibility in time and place. According to research, they can also lead to improved cognition as they allow learners to develop their abilities in critical thinking by working independently as well as collaboratively (Newman, Webb and Cochrane 1997; Benbunan-Fich and Hiltz 1999; Garrison, Anderson and Archer 2000). Research has also shown that distance learning helps to create a relatively more socio-emotional relaxing community compared to the F2F classroom (Garrison and Vaughan 2008). On the other hand the importance of F2F classes should not be overlooked. Kvavik and Causo (2005) found that although students enjoy the convenience that technology has brought to them, they do not necessarily prefer technology as a replacement for teachers. In fact, they value the interactions with their teachers and they are worried about reduced verbal communication. Garrison, Anderson and Archer (2000) recognised F2F communication as a rich medium for its provision of multiple paralinguistic cues such as facial expression and tone of voice, not to mention the value of human interaction to the learning process and knowledge acquisition (Hanson and Clem 2007).

Taking advantage of these strengths, the MCDCL course has further implemented a unique model of blended learning, comprising a total of three intensive weeks of F2F classes (held at the Institute for Chinese Studies, University of Oxford during the university holidays (September, January, April), and distance learning, which amounts to 28 weeks over the three university terms, using two online locations (2). In other words, the F2F classes and distance learning alternate between holidays and academic terms to suit the professional work patterns of the participants of the MCDCL course.

This is a unique way of delivering courses of this sort in the UK, with an innovative timeframe, and the model it encourages has yet to be reviewed in any systematic way, with a view to drawing some significant conclusions. This article will therefore examine the MCDCL course firstly using two chosen frameworks of blended learning to account for various aspects of the course, such as its curriculum, assessment and technical support. This is followed by a look at feedback from students, which provides an in-depth evaluation of the course and addresses potential areas for improvement. With all of this in view I argue that despite its strengths and obvious success, the blended learning format poses a number of educational challenges. A more specific aim of my review is to share some experiences in convening a blended learning course, with the intention that this may be instructive for current and potential providers of blended learning courses elsewhere in the sector.

2. Using existing frameworks to explain the MCDCL course

There is a difficulty at the outset in appropriately describing the MCDCL course which is that there are few available evaluative frameworks for approaching blended learning courses in a qualitative and comprehensive way. One such option, however, is provided by the Community of Inquiry and the Sloan-C Pillars. As I show here, for the purpose of this paper these offer different but complementary approaches to examining the MCDCL course – with attention to the Community of Inquiry focusing on the delivery of a blended learning course, and the Sloan-C pillars approaching from the perspective of course management.

2.1. Community of inquiry

The Community of Inquiry (CoI, see Garrison, Anderson and Archer 2000, Garrison and Vaughan 2008) posits the existence of a 'community' in learning environments in which knowledge construction takes place. It is focused on three elements that are considered to be crucial for successful blended learning: cognitive presence, social presence, and teaching presence. Cognitive presence is seen as a vital element in this community with its goal of knowledge construction. It promotes critical thinking amongst learners, as well as increasing their levels of cognitive involvement through sustained but calmly paced communication (Garrison, Anderson and Archer 2001). Social presence refers to the personal emotions and the interpersonal affect amongst participants of the community (Garrison and Anderson 2003). Ideally, the social presence minimises the affective variables such as anxiety and peer pressure, and hence facilitates cognitive presence. The third element –teaching presence, through instructional design and organisation, and facilitating discourse and direct instruction (Anderson, Rourke, Garrison and Archer 2001)– has an important binding role to play for the learning community, in helping to achieve both cognitive and social presence. The following part of the discussion addresses the extent to which the MCDCL course serves to enable a Community of Inquiry.

As far as cognitive presence is concerned, the MCDCL, despite regular communication, relies on learners' autonomy to a large extent (Benson 2001). During the 28-week distance learning over the three academic terms, students are presented with three types of learning material – text (with audio file), text-related vocabulary (Chinese characters illustrated) and text-related grammar. The text-related grammar is briefly explained in the text and also linked to more detailed information in a grammar archive which the Institute for Chinese Studies (ICS), University of Oxford started to publish and update on its website in 1999. The grammar archive on the ICS website lists 60 entries covering most major grammar patterns in Chinese. Each entry elaborates on how and when to (or not to) apply a particular grammar pattern along with examples in Chinese character, Pinyin, English and the sound file. Apart from learning the designated material every week, students also need to complete one listening assignment and one written assignment which involve the vocabulary and the grammar of the designated material of the week. This mode of distance learning is designed to present students with a wider range of cognitive processes, as described by Garrison et al (2001), through a triggering event (such as reading and listening to text); exploration (solving puzzles to access the meaning of the text and decoding the logic of the related grammar based on given information); integration (mapping new information with existing knowledge for comprehension and acquisition); and resolution (encoding learnt vocabulary and grammar into written output).

Regarding teaching presence, although students' individual effort is important in maximising cognitive presence, it does not mean that they are isolated or solely self-supported. The MCDCL course allows students to contact their teachers by email or through submitted work whenever needed during distance learning to propose questions related to the learning material or in response to instructor feedback. This mode of communication has frequently occurred in students' assignments submitted online where comments, such as 'I am not sure if I have used the structure correctly. Is this a case that requires the structure?' or 'I do not quite understand this part. I know the words but why is this particle here?', were highlighted by the students to the teachers. Therefore teaching presence of the CoI is normally realised via written responses to the

completed assignments and the raised enquiries over the period of distance learning in the MCDCL. However, during the three intensive weeks of F2F classes in the university holidays, teaching presence is more active and direct focusing on tasks that students would have difficulties in accomplishing on their own so as to 'counterbalance methodological restrictions' (Neumeier 2005). These tasks particularly include oral activities in the form of communication, discussion and debating and focus on perplexing grammar in Chinese of which comprehension is better achieved through oral negotiation with the teachers (see Hu 2010). During the intensive weeks, training was also provided so as to improve students' autonomous learning (Broady and Kenning 1996) and to raise their metacognitive awareness (Garrison and Arbaugh 2007), in which teachers shared their expertise on aspects of learning strategies and learning management.

Garrison et al (2000) suggested three indicators of a favourable social presence in the CoI: emotional expression, open communication and group cohesion. Garrison and Anderson (2003) further suggested that a cohesive community can be created based upon friendship or common purposes. The students of the MCDCL project are mature professionals whose subjects of research and work range from anthropology and Chinese medicine to business and international relations. Thus as a social group, the MCDCL class shares a common background and has solidarity owing to the social stability and the common interests of its members. In the F2F classes, students express their opinions about their previous and current learning experience (either required as an oral practice or voluntarily) and comment on the performance and contribution of others.

However, social presence among students is substantially lacking in the distance learning element of the MCDCL syllabus. A large number of studies have reiterated the importance of collaborative learning in an online environment, with its uses in improving learning outcomes and student satisfaction (i.e., So and Brush 2008, William, Duray and Reddy 2006). However, in their 2004 study, McPherson and Nunes explored the reasons behind the underuse of their Virtual Social Space, arguing that students, especially part-time students in full-time employment, may simply not have the time or interest to engage in an online social community. Due to problems with the function of its initial interface, the staff convening the MCDCL project did not contemplate the setting up of a virtual social environment. When the project moved to WebLearn, its teachers began using Forum on WebLearn to set topics of current affairs for students' discussion. Here participation by the students was evident but they were not fully active, suggesting similar outcomes to those noted by McPherson and Nunes. This confirms the observation made by Garrison and Arbaugh (2007) that teaching presence is significant in determining a successful learning community, and suggests that the failure of the VSS noted in McPherson and Nunes' and of the Forum in the MCDCL course may have resulted from them not having effective teaching presence.

The Community of Inquiry provides a framework of key elements that ought to be taken into account for a blended learning course. However, it does not define the criteria for how to measure these elements. Precisely speaking, the classification and sub-classification of, for instance, teaching presence is more of a checklist of considerations. Studies using the method of content analysis summarise the ratio of occurrences of teaching presence (i.e., Anderson et al 2001) or the patterns of responses elicited (i.e., Shea et al 2010), but can barely provide guidelines on measuring the quality of the three elements in the CoI.

2.2. The Sloan-C Pillars

The Sloan Consortium (3) has established a framework of the Sloan-C Five Pillars to examine the quality of online education, learning effectiveness, student satisfaction, faculty satisfaction, cost effectiveness and access.

2.2.1. Learning Effectiveness

Most importantly, a course, being traditional or blended learning, needs to result in learning effectiveness. Laumakis, Graham and Dziuban (2009) suggested that a direct measure of learning effectiveness is the scores on an exam or a performance assessment; whereas indirect measures include course evaluations, time spent in active learning or student engagement. As far as the direct measure is concerned, the MCDCL course is highly effective in producing positive learning outcomes. For instance, in the second year of the MCDCL course, all seven students who attempted the assessment were awarded a Certificate of Achievement for successfully fulfilling the requirements of the course which contained the following four aspects:

1. Attendance – students needed to attend no less than two thirds of the F2F classes.

2. Course Work – students needed to complete eighty percent of the online assignments to a satisfactory standard.

3. Exams – a written and an oral exam were set in the third intensive week of the F2F classes.

4. Written Essay – a topic-based essay in Chinese needs to be submitted by the end of the course.

As for indirect measures of learning effectiveness, we have received favourable feedback from the students who have followed the course throughout the year. However, the drop rate of students was as high as half of the initial registration; reasons given were mostly personal affairs or work engagement. Distance learning in general requires disciplinary and organisational skills from the students. We anticipated that the students of the MCDCL would excel in this aspect as they were mature, working professionals. However, the amount of family and work business that these students are committed to seemed to make it very difficult for some of them to manage regular extra time for self-study.

2.2.2. Student satisfaction

Some students have reported how they benefit from the MCDCL course either in conversation with the teachers or by email, with two notable benefits being 'better understanding of the grammar' and 'improved confidence in speaking'. The MCDCL course attempted to address issues of grammar more directly (how and why it is different from the grammar of Latin and Germanic languages) and systematically (sorted by difficulty level). In the F2F classes, the MCDCL focused intensely on organising spoken activities or oral presentations, as these can hardly be achieved by students on their own in the online learning environment.

However, because casual feedback is far from being sufficient in measuring the level of satisfaction of the students, a survey was designed to gather responses from the students about the MCDCL course, the results of which will be discussed later.

It is worth mentioning the professional development that some students have achieved by attending the MCDCL course. Given that the participants of the MCDCL course were mostly working in China-related fields, they naturally formed a social circle for career advice and opportunities. For example, one student who was a doctor in Chinese medicine received an invitation for publication from a student of anthropology through their acquaintance in the MCDCL course. Furthermore, some students also used the language skills or knowledge that they obtained from taking the course to expand their professional profiles. For instance, one student has since set up several projects with relevant organisations in China and has also secured government funding for Chinese language teachers' training at her university department.

2.2.3. Faculty satisfaction

The outlined elements of faculty satisfaction have been defined differently in some of the Sloan-C publications. Lorenzo and Moore (2002) included moral and administrative support by the faculty, however Moore (2005) categorised matters involving faculty support into the cost effectiveness pillar, which hence was amended to be the pillar of cost effectiveness and institutional commitment. Despite the notionality issue, this pillar attempts to address a bilateral relationship between the faculty and the blended learning courses –how the faculty can best support the courses and how the courses can benefit the faculty.

Both the BICC and the ICS have been sharing the responsibilities of faculty support for the MCDCL project. The MCDCL was created and managed by the BICC which offers teaching and administrative support, whereas the ICS has served as the host institution, providing facilities, technical support and learning resources which the ICS already owned. Being an externally-funded project, the MCDCL posed little financial burden to the hosting faculty. However, the experience of running the MCDCL suggests that it was essential for the faculty to have well developed technical facilities and e-learning resources, and to be able to deliver e-learning materials according to the specific requirements of a blended learning course.

2.2.4. Cost effectiveness

Many studies have argued for the cost effectiveness of blended learning courses (i.e., Osguthorpe and Graham 2003, Graham, Allen, and Ure 2005), and many institutions have adopted blended learning courses in lieu of traditional classrooms for this reason. However, cost effectiveness is not necessarily a given with blended learning courses. In the case of the MCDCL course, budgets on administration and technology are minimal as they are largely covered by the existing personnel and technical facilities at the BICC and ICS. However, the academic personnel cost of the MCDCL course alone requires primarily five elements:

1. Teaching F2F classes.
2. Designing materials for distance learning.
3. Transferring learning materials to an online interface.
4. Correcting students' assignments.
5. Communicating with students distantly.

One may argue that (2) and (3) would only be applicable for the initial year of the course, because once the materials are ready and uploaded online, they can be recycled in further years. However, this does not take into account the fact that these materials need regular updating and there are still technical problems with the current interface for online education (i.e. WebLearn) for automatic recycling of previous learning material.

Even elements (1), (4) and (5) alone could each pose challenges to the cost effectiveness of the course. For instance, a total of 60 hours of F2F classes intensively taught during the three university vacations equals to 2.5 hours per week for the 24 academic weeks. Further, for the 28 weekly online assignments during the terms, the correction time by the teacher could vary depending on the number of students. If we assume that it will take an average of 15 minutes to correct one student's assignment, this would accumulate to 3 hours per week in total for a group of 12 students. In addition, the MCDCL project also offers unlimited support for the students to contact the teachers whenever needed for course enquiries or technical problems. Though highly efficient in fulfilling students' needs, this makes it difficult to count the relevant working hours of the teachers. If we assume the contact time to be approximately 0.5 hours per week for the teachers, the above work load concerning elements (1), (4) and (5) would add up to a minimum of 6 hours per week (F2F classes-2.5+Correting assignments-3+Contact-0.5) for a group of 12 students during the academic terms, despite that the F2F teaching actually take place during the university holidays.

2.2.5. Access

The pillar access is a broad category concerning 'reducing all barriers' (Lorenzo and Moore 2002) between students and the blended learning courses. One particular aspect that this pillar addresses is the issue of the media used –computers and the internet– and their associated problems.

Blended learning courses unavoidably encounter the technical issues of distance learning, and the MCDCL has experienced some difficulties in this. For instance there were occasions when students could not complete the assignments in time due to having no or a broken internet connection, students' computers could not play the sound files because they required certain software and there were difficulties in uploading or submitting assignments and work lost due to website malfunction. These types of problems could easily frustrate students and disrupt their learning process, especially for working professionals like those in the MCDCL project who have many other commitments and have to carefully manage their time for study.

Technical support is very important, but an immediate solution can rarely be achieved. Therefore taking measures to prepare the students for such scenarios has proved to be most effective. For example, students were advised that technical problems are likely to occur and assured them of sufficient support and moral understanding from the teachers. Students were also suggested that if technical problems occurred, not to waste time trying repeatedly to solve the problems, but use their planned hours to do alternative tasks. Print-outs of some of the online materials were also made available to the students.

Precautionary measures also included training on how to use the interface to access learning materials and assignments, how to download and use the sound files and other common matters that students may experience during their distance learning. In terms of Chinese language learning in particular, training on how to type in Chinese characters, how to change computer settings to read Chinese texts and how to use online dictionaries was also provided to the students at the beginning of the MCDCL course.

3. Using student feedback to assess the MCDCL course

In the attempt to explain the MCDCL course using existing blended learning frameworks, the previous section has raised a number of questions that await to be answered through students' feedback. Such questions include 'is the cognitive load required by the course appropriate?', 'how is teaching presence?', 'what do students think of the social aspect of the course?', 'how satisfied are students with the MCDCL course?', 'is the issue of access addressed properly and the problem solved promptly?'

In addition to searching for the answers to the aforementioned questions, I am also interested in discovering students' opinion towards the blended learning construct of the MCDCL course. A survey with a similar purpose was used in Garrison and Vaughan (2008) to assess the blended learning courses offered at the University of Calgary, Canada. I adapted some items from the Calgary survey to meet the needs of the current review and also created new items for its particular interest.

The MCDCL course has been running since the start of the 2008 academic year. In the first year of the course there was only one level for beginners and in the second year a higher level of intermediate was added. The review survey was sent to nine students who have successfully completed the course in both years. Two students achieved both the beginning and the intermediate level. Students worked at universities across the UK, i.e., London School of Economics, Oxford Brookes University, University of Bath, University of Cambridge, University College London, University of Essex, University of Warwick and University of Westminster. For reliability reasons, the survey was administered anonymously. Seven of the students filled in the survey, the results of which are presented below.

4. Results

The MCDCL Course Review Survey (see Appendix) consists of five aspects: learning outcome, provision and support, teaching, social and interaction and the course in general.

4.1. Learning outcome

All participants felt strongly that they have made good progress and that the course has met their expectations, indicating a very positive learning outcome from the students' point of view. The students believe that they achieved the most in knowledge of vocabulary and characters, in understanding grammar, and in having improved their ability in reading. This is indicated by comments such as the following:

> *I made progress in knowledge and understanding of Chinese grammar, and also increased my knowledge of Chinese characters. By the end of the course I was able to read simplified newspaper articles, which was my original goal in taking the course.*

> *I feel I made progress with vocabulary, recognising sentence structure and characters and the ability to analyse texts. The course met my expectations and was very suitable for me, both in terms of level as well as the on-line teaching method.*

In contrast, students' responses to the improvement of learning skills were somewhat mixed. This seems to indicate different interpretations students had towards the term 'learning skills'. Some students (n=3) believed that the course equipped them with new 'linguistic skills' such as analysing sentences with complex structures, being more confident in initiating conversations or improved listening skills. However, two students who did interpret learning skills as 'how one learns the language' held different opinions; one of whom believed that he/she started to take a 'more well rounded approach to learning' especially adding e-learning techniques after taking the course, whereas the other thought that he/she had brought with himself/herself the skills needed to the MCDCL course. In other words, this student did not feel that the course equipped him/her with new learning skills, nor that there was any such need for this to be addressed.

4.2. Provision and support

This section asks participants to rate the sufficiency of learning resources, the quality of learning materials, the amount of work load and the support that the MCDCL provided. Overall, the responses to this section were positive. A large majority of the students agreed that the MCDCL course provides not only sufficient (n=6) but also good quality learning resources (n=7). There were also reassuring comments on the administrative, learning and technical support of the MCDCL course, as almost all participants indicated 'Very good' and 'Good'. However, as far as the work load was concerned, the students' opinions were split, with four students considering it 'Moderate', two students 'Heavy' and one 'Too Heavy'.

4.3. Teaching

Students were satisfied with the teaching and their teachers during the intensive weeks at Oxford saying that it was 'well prepared and structured', 'interactive and engaging' and 'knowledgeable and fun'. One student, though, did think that the oral practice during the intensive weeks was not sufficient. Given that oral practice was one of the major tasks during the intensive weeks, this particular comment suggests that there is still some room for improvement on this matter.

As for the teachers' role during distance learning, positive comments include:

> *The teacher played a key role – both in making the material very accessible and also in making sure we were able to understand the content.*

> *The teacher responded well to queries and gave constructive feedback on assignments.*

However, one student appealed for more teacher-initiated contact, saying that

> *I received helpful written comments on my work during the course and it was good to know my teacher could be contacted by email if I had questions. However I did not take advantage of this. It would be nice if the teacher could proactively email students during the distance learning, to check how things are going and offer help with problems. It generally felt quite impersonal.*

4.4. Social and interaction

Some participants (n=4) were content with the social aspect of the course. In particular, they believed that students from different backgrounds formed an interesting group and they could learn from each other. However, some appeared to be somewhat disappointed for the reasons given below:

> *I did not have much opportunity to socialise with other students as we tended to eat lunch independently and I was unable to attend the group dinners because I had to return to London immediately at the end of the course for family commitments. I did not communicate with other students during the distance learning.*

> *I did not socialise as much with classmates as I had expected, however this maybe because many classmates had to travel to class and then leave directly after the class or leave early. I enjoyed the end of course dinner and the opportunity to meet other students from different course levels.*

Nevertheless, feedback on the interaction with the teachers was unequivocally positive. Participants agreed that the interaction with the teachers was very good and the teachers were 'friendly, helpful, accessible, and encouraging'.

4.5. The MCDCL course

This summary section attempts to explore students' opinions on the blended learning construct –whether its two distinct components are effectively combined and how it might differ from traditional teaching. This section also anticipates suggestions from the participants about the MCDCL course and for its potential candidates.

In general all students were satisfied with the MCDCL course. Most students considered the two components of blended learning - F2F and distance learning - being 'complementary, relevant, mutually enhancing and well structured.' However, one report indicated that some knowledge taught during classroom teaching was not practised enough during distance learning.

Students gave very interesting feedback which, on the one hand, acknowledged the value of blended learning for 'wasting less time' and allowing 'learning at one's own pace', but on the other hand, pointed that blended learning posed a challenge to students working full-time. In their own words it 'places more reliance on the student to keep on track and to clear up difficulties as they occur' as well as 'places emphasis on getting ahead.' Students also felt that the F2F classes cannot be replicated by distance learning because as they wrote:

> *F2F classes were very useful for intensive and more structured learning as well as personal interaction which is important for language learning.*

> *There was less opportunity to practice speaking the language during distance learning.*

In students' opinion, the most effective aspects of the MCDCL were the F2F intensive weeks; the teaching staff; and the online materials including both texts and the assignments. However, the students' responses to what they felt were the least effective aspects of the MCDCL were scattered, with points made about the high level of self-management skill required, being unable to stay overnight during the intensive weeks, insufficient oral practice, 'online listening assignment' (no further explanation given). One student also concerned about the technical problems being that

> *The links to the on-line weekly lessons were not always working (however to some extent the resources folder resolved this problem), so it was not always easy to follow which lessons were for which class/week. The web interface could be made more effective/user friendly and it should be easier to print off the materials for each lesson e.g. with the same formatting or in one single document.*

The participants of the survey would also encourage other potential learners to follow the MCDCL course. Nevertheless, their advice comes with a warning that the course demands hard work, and the need for 'setting aside time for the distance learning', while 'being aware of the need for self-discipline', 'being prepared for a demanding amount of work'. It also recommended 'working with a language partner during the course of learning the language.'

Through the last question of the survey, participants have helped to make suggestions for the MCDCL course, which are:

- *To include scheduled Skype sessions with the teacher and other students to practice speaking skills during the distance learning period.*
- *The web interface/access to weekly lessons online could be improved to make it more user-friendly.*
- *It would be good to separate beginners with no experience and those with many years' experience who still consider themselves beginners.*
- *To pair students with native Chinese students in their local universities to improve language abilities of both.*

5. Discussion

This paper has examined and evaluated the Mid-Career Development Chinese Language course, focusing on its construct of blended learning, in which face-to-face (F2F) classes are combined with distance learning in an alternating model.

On a positive note, students were largely satisfied with the MCDCL course. They believed that they have achieved a great deal and that the learning has been effective. They also felt inspired by the teaching during the intensive weeks and the distance learning period. The students were content with the quality of the learning resources that the course offered, as well as the administrative, learning and technical support that they received during the course. In addition to improved linguistic abilities, students' career development has benefited from the MCDCL course in terms of professional contacts and project opportunities.

However, the feedback from the students also indicated that there were areas for improvement. In reference to the Community of the Inquiry, some students' feedback showed that the cognitive presence was to some degree supernumerary, the teacher presence was limited during the distance learning period and the social presence was not entirely satisfactory. For example, half of the responses rated the work load of the course being 'heavy' and several comments were made about the large amount of dedication in time and effort required by the course. Other comments were pertinent to the social aspect. Some students enjoyed contact with their group for its friendly and sharing atmosphere. However, others disliked the fact that opportunity for socialising,

which could have been provided by the course, was compromised by convenience constraint and weak group dynamics. Finally, the presence of language teacher in the context of distance learning was viewed negatively as a rather passive presence, with contributions from tutors taking the form of written feedback alone. Thus, through the survey, the suggestion was put forward that the distance learning element of the course would benefit from greater teacher-initiated contact, such as through proactive communication and web conferences. This suggestion in particular contributes to the previous discussion about teaching presence as a directive and motivational force for the maintaining social presence in an online community.

The students' feedback also highlighted the author's argument that the institute hosting blended learning courses needs to be well prepared in both e-learning resources and technology. Despite positive comments on learning and technical supports, some do appeal for richer resources and a more user-friendly interface for the MCDCL course. This addresses the Sloan-C pillars of Faculty support and Access. This discussion has also taken a view on the cost-effectiveness pillar and its importance when planning self-financed blended learning courses.

All in all, through 2008 to 2010, the MCDCL course has served its purpose to equip British academics with the requisite learning in the Chinese language, presented as a complementary aspect of their professional development. However, the MCDCL, being a blended learning course, also reflects a number of challenges. These challenges echo theories and arguments in relation to blended learning and also demand attention from organisers and teachers of blended learning courses.

References

Arabasz, P. and Baker, B., M. (2003). Supporting e-learning in higher education. Educause Centre for Applied Research. Avalialable from http://www.educause.edu/ECAR/SupportingELearninginHigherEdu/156516 (Last accessed on March 21, 2011).

Anderson, T., Rourke, L., Garrison, D.R. and Archer, W (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks,* 5(2). Available from http://auspace.athabascau.ca/handle/2149/725 (Last accessed on December 15, 2011)

Benbunan-Fich, R. and Hiltz, R. S. (1999). Impacts of asynchronous learning networks on individual and group problem solving: A field experiment. *Group Decision and Negotiation,* 8, pp. 409-426.

Benson, P. (2001). Autonomy in Language Learning. Pearson Education Limited. Blended Learning Unit. Available from http://www.herts.ac.uk/about-us/learning-and-teaching/learning-teaching-institute/blu-cetl/home.cfm (Last accessed on March 21, 2011).

Broady, E. and Kenning, M. (1996) *Promoting Learner Autonomy in University Language Teaching.* London: CiLT.

British Inter-university China Centre. http://www.bicc.ac.uk/ (Last accessed on March 21, 2011)

Garrison, R. D. and Anderson, T. (2003). *E-learning In the 21st Century: A framework for research and practice.* London: Routledge

Garrison, R. D., Anderson, T., and Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education,* 2(2-3): 87-105.

Garrison, R. D., Anderson, T. and Archer, W. (2001). Critical thinking and computer conferencing: A model and tool to assess cognitive presence. *American Journal of Distance Education,* 15(1): 7-23.

Garrison, R. D. and Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *Internet and Higher Education,* 10(3): 157-172.

Garrison, R., D. and Vaughan, D., N (2008). *Blended Learning in Higher Education: Framework, Principles, and Guidelines.* San Francisco, CA: John Wiley & Sons, Inc.

Graham (2006). Blended learning systems: definition, current trends, and future directions. In Bonk, C. and Graham, C. (Eds), *The Handbook of Blended Learning: Global Perspectives, Local Designs*. San Francisco, CA: Pfeiffer Publishing, pp. 3-21.

Graham, C. R., Allen, S., and Ure, D. (2005) Benefits and challenges of blended learning environments. In M. Khosrow-Pour (Ed.), *Encyclopedia of information science and technology*. Hershey, PA: Idea Group, pp. 253-259.

Hanson, K. & Clem, F. (2006). To blend or not to blend: A look at community development via blended learning strategies. In Bonk, C. and Graham, C. (Eds), *The Handbook of Blended learning: Global Perspectives, Local Designs.* San Francisco, CA: Pfeiffer Publishing, pp. 136-154.

Hong, H. K. and Samimy, K. K. (2010). The influence of L2 teachers' use of CALL modes on language learners' reactions to blended learning. *CALICO Journal,* 27(2): 328-348.

Hu, B. (2010). The challenges of Chinese: a preliminary study of UK learners' perceptions of difficulty. *Language Learning Journal,* 38(1): 99-118.

Kvavik, B. R. and Caruso, B. J. (2005). ECAR Study of Students and Information Technology, 2005: Convenience, Connection, Control, and Learning. Educause Centre for Applied Research. Available from http://net.educause.edu/ir/library/pdf/ers0506/rs/ERS0506w.pdf (Last accessed on March 21, 2011).

Institute for Chinese Studies. http://www.ctcfl.ox.ac.uk (Last accessed on March 21, 2011).

Laumakis, M., Graham, C. and Dziuban, C. (2009). The Sloan-C pillars and boundary objects as a framework for evaluating blended learning. *Journal of Asynchronous Learning Networks,* 13(1): 75-87.

Lorenzo, G. and Moore, G. L. (2002). The Sloan Consortium Report to the Nation: Five Pillars of Quality Online Education. The Sloan Consortium. Available from http://sloanconsortium.org/publications/books/pillarreport1.pdf (Last accessed on March 21, 2011).

McPherson, M. and Nunes, M., B. (2004). The failure of a virtual social space (VSS) designed to create a learning community: Lesson learned. *British Journal of Educational Technology,* 35(3): 305-321.

Moore, C.J. (2005) The Sloan Consortium Quality Framework and The Five Pillars. The Sloan Consortium. Available from http://sloanconsortium.org/publications/books/qualityframework.pdf (Last accessed on March 21, 2011).

Neumeier, P. (2005). A closer look at blended learning. Parameters for designing a blended learning environment for language teaching and learning. *ReCALL,* 17(2), 163-178.

Newman, D. R., Webb. B. and Cochrane, C. (1997). Evaluating the quality of learning in computer supported cooperative learning. *Journal of the American Society for Information Science,* 48(6): 484-495.

Osguthorpe, T. and Graham, C. (2003). Blended learning environments: definitions and directions. *Quarterly Review of Distance Education,* 4(3): 227-233.

Sharman, P. and Barrett, B. (2007). *Blended Learning: Using technology in and beyond the language classroom.* Oxford: Macmillan.

Shea, P., Hayes, S., Gozza-Cohen, M., Uzuner, S., Mehta, R., Valchova, A. and Rangan, P. (2010). A re-examination of the community of inquiry framework: Social network and content analysis. *Internet and Higher Education,* 13(1-2), 10-21.

Salaway, G., Caruso, B. J. and Nelson, R. M. (2008). The ECAR Study of Undergraduate students and Technology Information. Educause Centre Applied Research. Available from http://www.educause.edu/ECAR/TheECARStudyofUndergraduateStu/163283 (Last accessed on March 21, 2011).

Sloan-C Consortium http://sloanconsortium.org

So, H. and Brush, T. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education,* 51(1): 318-336.

Williams, E., Duray, R. and Reddy, V. (2006). Teamwork orientation, group cohesiveness, and student learning: A study of the use of teams in online distance education. *Journal of Management Education,* 30(4) 592-616.

Zhao, Y. and Lai, C. (2008). Massively Multi-Player Online Role Playing Games (MMORPGS) and Foreign Language Education. In Ferdig, R. (Ed.) *Handbook of Research on Effective Electronic Gaming in Education.* New York: IDEA Group.

Notes

[1] See http://www.herts.ac.uk/about-us/learning-and-teaching/learning-teaching-institute/blu-cetl/home.cfm
[2] See http://www.ctcfl.ox.ac.uk and https://weblearn.ox.ac.uk
[3] According to its website, the Sloan Consortium, sponsored by the Alfred P. Sloan Foundation, is a consortium of individuals, institutions and organisations dedicated to improving the scale, quality and breadth of online education.

Appendix – The Review Survey of the Mid-Career Development Chinese Language Course

Learning outcome

1. Do you feel that you have made progress in Chinese language by taking the MCDCL course? If so, how much progress do you think you have made? Did it meet your original expectations? Also, please specify in which aspects you have made progress.

2. Do you feel that you have made improvements in terms of your learning skills? If so, please specify in which aspects.

Provision and support

1. Do you agree that the MCDCL course provides sufficient learning resources?

Strongly agree	Agree	Not sure	Disagree	Strongly disagree

2. The quality of the learning materials in the MCDCL course is

Very good	Good	Not sure	Not good	Bad

3. The working load of the MCDCL course is

Too light	Light	Moderate	Heavy	Too heavy

4. How would you comment on the administrative, learning and technical support of the MCDCL course?

	Very good	Good	Not sure	Not sure	Not good	Bad
Administrative						
Learning						
Technical						

Teaching

1. How would you comment on the teaching during the intensive weeks at Oxford?

2. How would you comment on the teachers' role during the periods of distance learning?

Social and interaction

1. How do you feel about the social aspect with other students during the intensive weeks at Oxford and during distance learning?

2. How do you feel about the interaction with the teachers during the intensive weeks at Oxford and during distance learning?

The MCDCL course

1. Overall, are you satisfied with the MCDCL course?

2. How would describe the relationship between the classroom learning and the distance learning in this course (i.e., did they enhance each other? Were they relevant to each other? Was there a clear connection between them or little or not at all)?

3. How does this course (combining face-to-face classes with distance learning) differ from traditional classroom instruction?

4. What was the most effective aspect of this course?

5. What was the least effective aspect of this course?

6. What advice would you give to a student considering the MCDCL course for the first time?

7. What suggestions can you provide to help strengthen the MCDCL course?

Reflective practice

English in class and on the go: Multimodal u-Learning

Soraya García-Sánchez
Departamento de Filología Moderna, Universidad de Las Palmas de Gran Canaria, Spain
_____
msgarcia @ dfm.ulpgc.es

Abstract

This article aims to analyse different ubiquitous learning (u-Learning) platforms used when learning English as a Foreign Language (EFL) as part of the Modern Languages Degree at the Universidad de Las Palmas de Gran Canaria (ULPGC). The combination of face-to-face lessons with multimedia content and digital mediated learning allows today's native students to enhance their independent learning abilities when it best suits them. Successful u-learning takes place when ULPGC students have access to different interactive activities, content videos, screencast presentations and automatic evaluation systems that contribute to improve learners' language learning skills. Students are especially immersed in an EFL learning environment when accessing the Moodle-based Virtual Campus, Prometeo and Picasst multimodal virtual learning environments. The subject considered in this study, English Language II, allowed learners to access authentic cultural and language content not only by means of face-to-face classes but also through reinforcement activities via u-learning platforms.

Keywords: CALL, e-Learning, digital mediated learning, English as a Foreign Language, interactive, u-Learning, virtual learning environments.

1. Introduction and literature review

Today's students are called 'digital immigrants' or 'digital natives' since they speak the digital language of computers on a daily basis not only for learning but for social and entertainment purposes (Prensky 2001: 10). Overflowing e-learning tools are adapted to university degrees in order to encourage learners to be autonomous and successful. E-learning spaces have moved traditional learning environments to approaches that meet the expectations for our digital native students, so that blended learning (b-learning) can take place. Mobile learning (m-learning) has also been a subject of concern for some scholars, such as Uzunboylu, Cavus and Ercag 2009, who have highlighted that portable learning implies that users have an Internet connection and access to digital audio-visual aids via different types of m-learning devices such as a smart phone, a notebook or an iPad (Hwang, Kuo, Yin and Chuang 2010).

Ubiquitous computing (Ubicomp), coined by Mark Weiser in 1991, is well-thought-out as the third movement in computing. It implies that one person has access to many computers or virtual devices which are becoming cheaper, smaller and suitable to have in one's pocket or bag (García-Sánchez, Guerra-Artal and Afonso-Suárez 2012). Bill Cope and Mary Kalantzis underline that 'Ubiquitous computing is interactive' because there is a conversation between users and the machine (p. 5). Ubiquitous learning (u-learning) implies that learners adapt their time to their needs. U-learning promotes the sharing of knowledge and culture (Cope and Kalantzis 2010: 11). U-learning is, therefore, constructive, individual, collaborative, creative, interactive and embedded in our everyday life (Bomsdorf 2005: 2).

The way learning English as a Foreign Language (EFL) is achieved is diverse and has been acknowledged thus over the years. The purpose of this paper will be to consider how learners access English language, culture and literature from anywhere and at any time through different multimodal e-learning, m-learning and u-learning spaces that improve their face-to-face learning as Nadire Cavus and Dogan Ibrahim (2007) also argued in their study. We intend to demonstrate that multimodal e-learning environments such as Prometeo, Picasst and Moodle allow learners to become more persistent and skilful when learning a foreign language. Not only do students attend and participate in an EFL class but they develop independent learning skills through the web in a natural way.

2. Multimodal u-Learning: Prometeo, Picasst and Moodle

This study takes into consideration not only face-to-face interactive lessons in which students improve different language and cultural skills individually or in pairs/groups, but also an analysis of how learners are encouraged to participate in e-learning activities implemented via the University's Moodle-based Virtual Campus, its tool to create and publish didactic contents for digital whiteboards *(Picasst)* and its interactive content manager and authoring tool *(Prometeo),* accessed from any portable device (m-learning) anywhere and at any time (u-learning).

Prometeo, Picasst and Moodle encourage not only electronic learning (e-learning) but also u-learning, which implies that students can access the content and activities at the time, place and way that best suits them. Today's university students are surrounded by computers and portable computerised devices. Because the majority of today's students are linked to ubiquitous computing, they are provided with the most sophisticated machines such as laptops, mobile phones or iPads that have a Wi-Fi connection and outstanding applications. These portable devices are being used anywhere at any time. Students do not need to be in a class to acquire new knowledge, they can choose when, where and how they wish to get connected and do some u-Learning in the right place and at the right time. As Michael Twidale (2010: 77) highlighted: 'Something as seemingly benign as video recording a lecture, drawings, and text question-and-answers can be a great enhancement to learning by enabling students to concentrate on the rich picture and allowing more focused review'.

Prometeo, Picasst and Moodle enable students to access content by means videos and screencast presentations, and by carrying out interactive activities that deal with comprehension questions relating to the clips or activities previously worked on. With Prometeo students are working at their own pace since they can pause and continue later, go back to the beginning, write down any notes on the virtual notebook, and post any question to their teachers. With Picasst, students can watch presentations of previous face-to-face classes, especially those dealing with general feedback, that have been uploaded with the teacher's voice with the intention of reinforcing the work done in class. With Moodle, students focus on the face-to-face teaching plan, content and activities that are to be handed and completed as part of the continuous assessment criteria. Moodle also supports students in their independent and collaborative learning skills with self-evaluation activities and discussion forums or group dictionaries, respectively.

These virtual learning platforms (VLPs) enable students to belong to a community that goes beyond the classroom. A good classroom atmosphere and the constant engagement in these u-Learning environments foster collaboration and create a sense of learning from each other. Most e-learning stages deal with this sense of belonging to a group of contributors. Although Prometeo is mainly focused on interactive activities, content videos and screencast presentations, adapted to specific goals and content, students are asked to be conscious of their learning abilities and progress every time an activity is completed. In this regard, learners participate to complete goals for the course programme and in order to improve their independent learning skills.

Prometeo is a multimedia and interactive web platform implemented at the Universidad de Las Palmas de Gran Canaria (ULPGC) designed to allow university students to improve their competences and learning skills.The main feature that makes this platform different is its streaming media (T. Hartsell, S. Chi-Yin Yuen 2006) to deliver multimedia-rich recorded lessons (H. Samaras, T. Giouvanakis, D Bousiou, K. Tarabanis 2004 and K. Fraser 2006) and the use of interactive software applications (R. Rheeder, R. Diseko, G. Lautenbach 2007). There are subjects from different areas participating in Prometeo and English Language II has participated for two consecutive years.

Picasst is software that can be used by any teacher at ULPGC. It only requires access to a computer and a microphone. At present Picasst Beta is open to the public by registering on http://picasst.com. The site comprises a powerful and versatile tool that allows one to record their classes, explanations or presentations on-line, with great ease and speed. Once finished, students can access this content instantly. With Picasst teachers can record their classes using any digital means (smartboard, a word document, a picture or a PowerPoint presentation and publish it on the platform, or even embed it onto their personal websites or Moodle platforms. Teachers can decide if everyone can view their classes or just their registered students. Students, on the other hand, can instantly watch and listen to the class as many times as they wish. They may also pose open questions to their lecturers or open a discussion with fellow students.
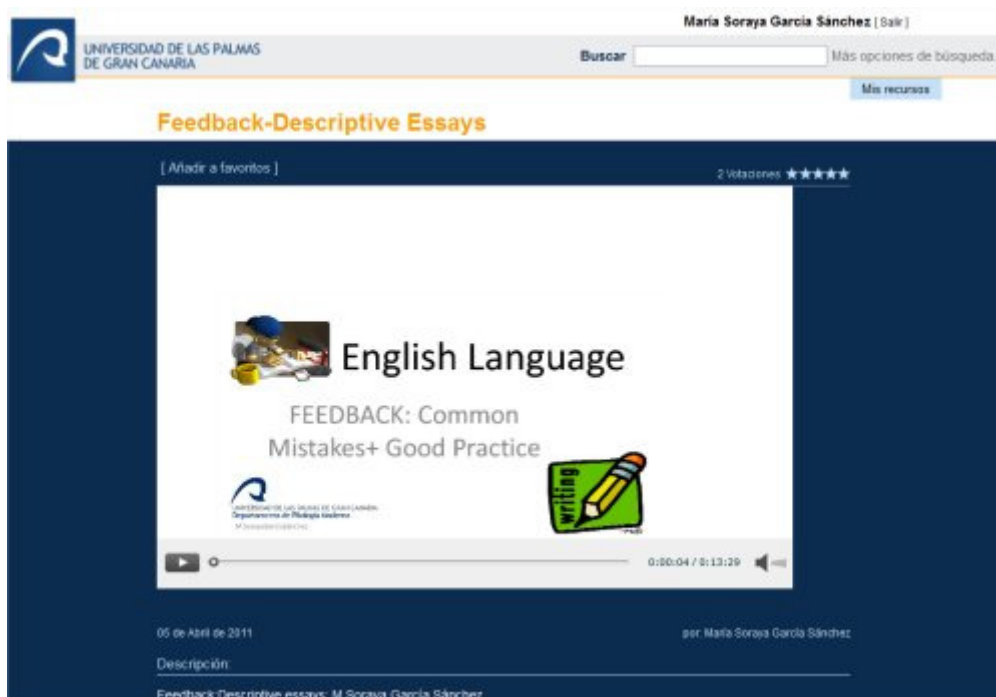

Figure 1. A sample Picasst class. Providing General Feedback on Good Practice and Common Mistakes when writing a Descriptive Essay.

Moodle is the VLE that has been implemented at the University of Las Palmas de Gran Canaria (ULPGC). The Moodle-based Virtual Campus is presented as a learning platform

that consolidates face-to-face teaching at ULPGC. It is the virtual world that engages learners in lifelong learning and community building. Alan Craig et al. (2010: 138) highlight that these 'mentally immersive, massively multiperson, online environments (MMOLEs)' provide better ways of learning since students can have access to 'experiential learning, collaborative learning and creativity'. If experiential learning implies that learners take part in natural learning interactions with real experiences and situations, collaborative learning is about sharing knowledge with a community that is usually based on equality. Likewise, creative learning environments enable users to express themselves by creating and sharing content with the virtual learning community.

This article therefore aims to answer the following key questions:

1. Are EFL teachers adapting their teaching methods to digital natives?

2. Does u-learning benefit the development of lifelong learning?

3. What type of exercises did students enjoy most when accessing multimodal u-learning platforms?

3. Methodology

This study was based on the data we collected after two consecutive years using the above-mentioned multimodal virtual platforms for English Language II. The educational setting in which our research took place comprised a combination of face-to-face teaching/learning and u-learning/m-learning environments that were designed to reinforce class work and to improve lifelong learning in virtual immersive environments.

The methodology was based on the analysis and evaluation of the interfaces created for Prometeo and Moodle with regard to students' learning progress. The way Picasst allows teachers to create online classes will also be briefly presented and discussed. The type of e-learning materials created (videos, screencast presentations, PowerPoint presentations and interactive activities), and the teachers' observation of the activities which are more often used by students will also be considered to be part of the methodology applied.

4. Discussion

4.1. Are EFL teachers adapting their teaching methods to Digital Natives?

The presentation of the material created for English Language II confirms that the answer to this first question is favourable. When designing the content for our subject with Prometeo and our Virtual Campus in mind, the modules were organised paying attention to collaborative learning, independent learning skills and language learning abilities. On most occasions, the online lessons were provided by means of PowerPoint presentations, videos and screencasts which were first delivered in class and then uploaded onto Prometeo for learning reinforcement. Interactive activities were also produced in order to improve our learners' abilities asynchronously.

Class materials in Prometeo can be organised according to different criteria. Firstly, pre-class videos or screencast presentations were viewed by students before coming to class. Secondly, the class materials were uploaded for the learners' future reference. Either by watching and listening to the videos or by carrying out dedicated interactive activities dealing with grammar, listening and reading comprehension, as well as writing skills in English, students were immersed in an EFL environment that contributed toward developing their abilities in a more natural way.
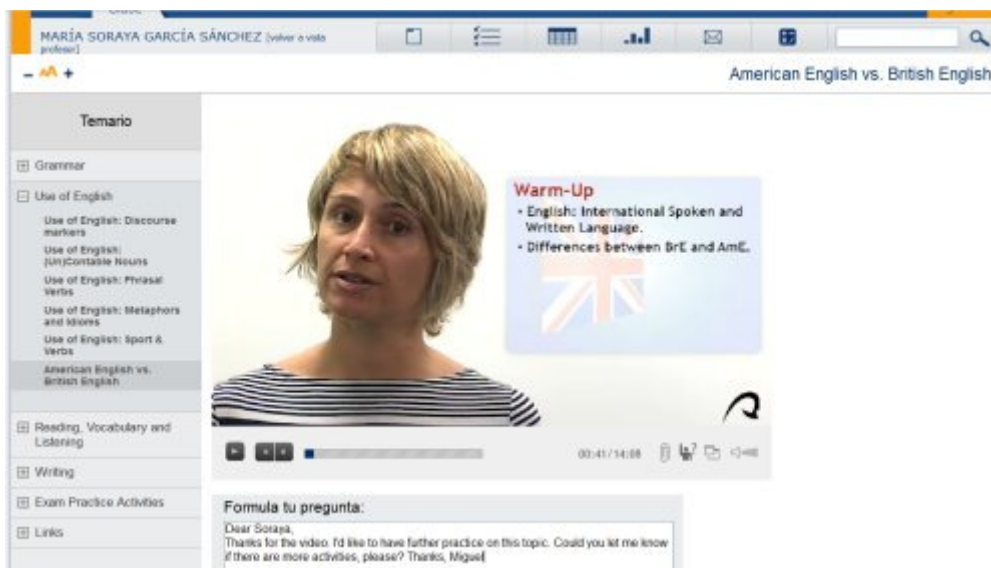
Figure 2. A video sampling differences between British and American English and students' participation by posting a question in Prometeo.

The presentations were all designed following the same structure: introduction, explanation and conclusion. On some occasions, lecturers would elicit questions to their virtual students to confirm that the content was understood. A few minutes would then elapse for them to answer their virtual teacher's questions. The target content was always briefly introduced in the warm-up introduction with a short talk and one or two questions addressed to students relating to their prior knowledge about the topic. After the explanation, the conclusion followed. This last part connected with the warm-up section and with what students should have learnt after listening to the explanation. The language teachers often asked students to continue doing some further reading or extra activities presented on Prometeo.
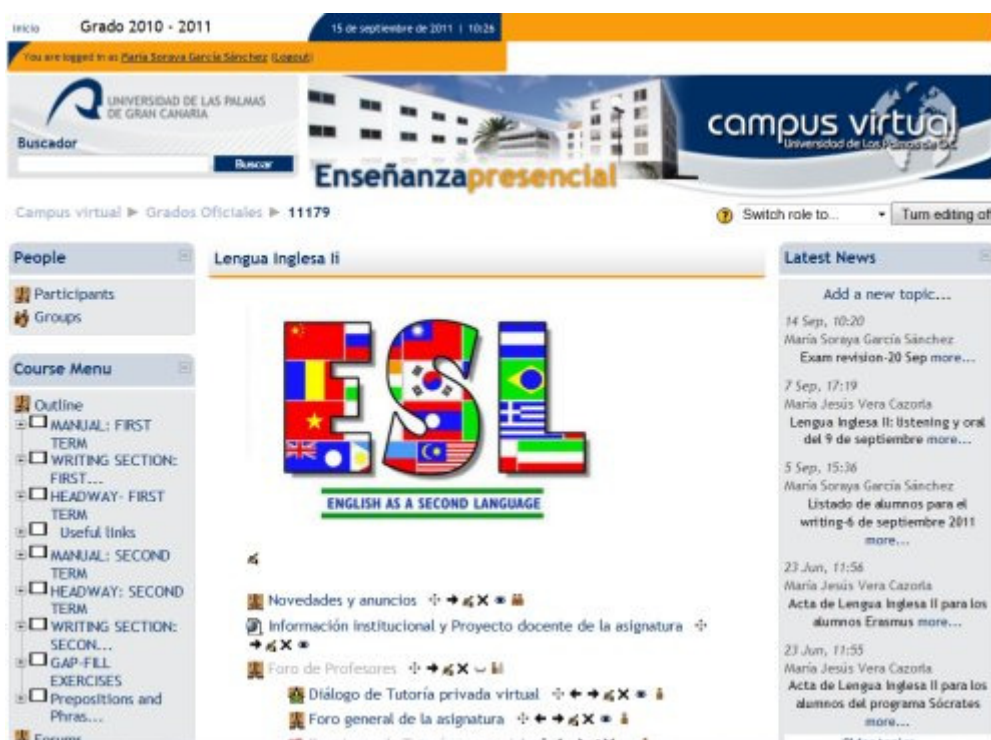
Figure 3. Sample page from the Virtual Campus.

Further practice was offered in a number of additional activities either on the VLE or on Prometeo. Exercises with an answer key were also published on the Virtual Campus to reinforce class content especially in terms of grammar and writing. Moreover, interactive activities were created using Prometeo to consolidate the content delivered both in class and on the VLE. Most of these activities allowed students to check their learning progress by means of the self-evaluation tasks.
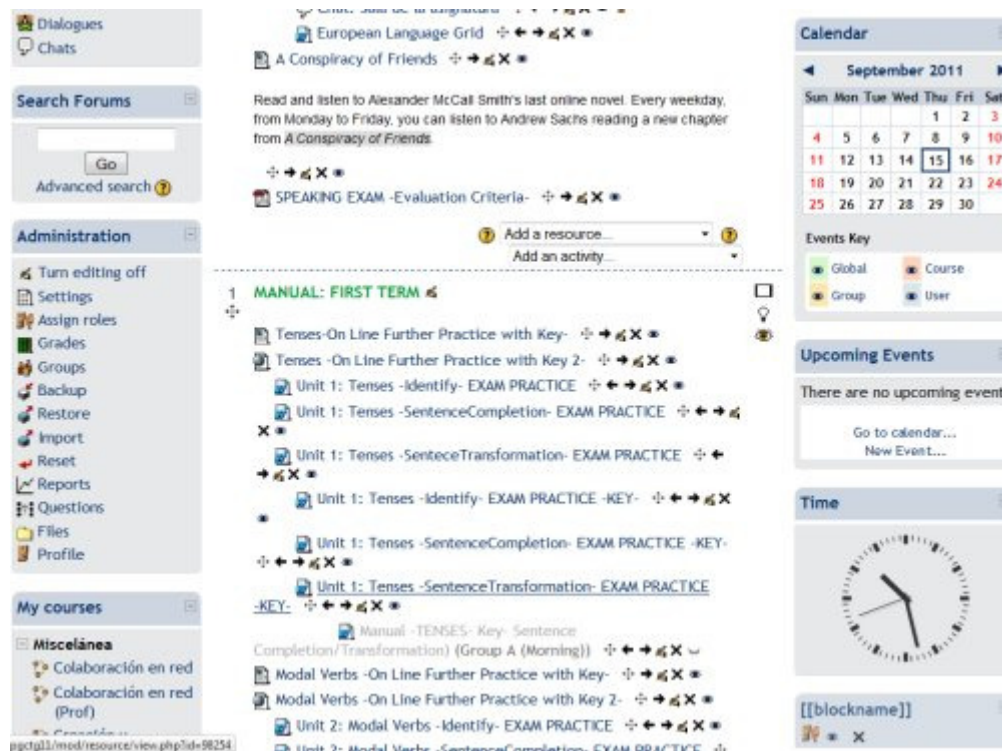
Figure 4. Activities on Virtual Campus with Keys for class reinforcement and independent learning.

4.2. Does u-learning benefit the development of lifelong learning?

The answer to the second question regarding whether u-learning benefits the development of lifelong learning is also favourable. The users of English Language II were aware of the importance of taking advantage of the VLE, Prometeo and Picasst in order to improve their independent learning skills and to consolidate their class work. Students also reported having enjoyed participating in the cooperative tasks and the self-evaluation activities as they found these the most challenging (García-Sánchez 2009: 108). U-learning does not only consolidate course objectives and content but it trains students in developing different ways of being independent lifelong learners. As a result, these virtual learning platforms, programmed according to the course syllabus, contribute to students' prospective abilities.

According to the anonymous feedback questionnaires, most of the students using the VLE, Prometeo and Picasst considered the materials appropriate for the amount of time they could devote and for their expectations in terms of content. All of the students responded favourably to statements such as: 'I have enjoyed the activities and work presented in the Virtual Campus and Prometeo', 'Prometeo, the Virtual Campus and Picasst have helped improve my learning skills' and 'I prefer interactive activities that can be redone in the future'. A total of 80% of the students used a Wi-Fi connection from their laptops, which implies that mobility took place when accessing the platforms (García-Sánchez, Guerra-Artal and Afonso-Suárez 2012).

4.3. Preferred exercises, improved language skills and motivation

Another significant question dealt with the skills students improved when using the VLE and Prometeo. They had the option of choosing among reading, speaking, listening, writing and grammar, since this was the structure of both environments. Grammar was the skill with the highest mark, followed by listening and reading. Speaking, however, was the weakest, understandably because it was the least practised skill through these platforms.
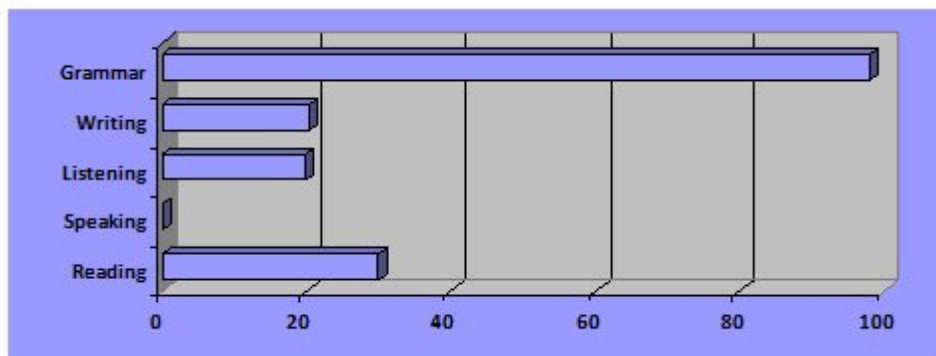

Figure 5. Diagram describing the language skills which were mainly improved by using the VLE and Prometeo.

Students highlighted the fact that the tools used were adequate for their way of learning English in a virtual environment. Moreover, with regard to the Virtual Campus, most students wrote positive comments on the use of forums that helped them discuss current topics regarding EFL culture and also, learn from each other (collaborative learning).

The last two questions focused, on the one hand, on the best feature the learners considered the Virtual Campus, Prometeo and Picasst to have and on the other, on what characteristics they thought these tools needed to improve. Multimodal u-learning users had a number of common favourable answers regarding accessibility whenever and wherever they wished or needed to work; the direct response from their teachers whenever a question was posted either on the VLE or on Prometeo; clear and well-classified grammatical explanations; a back-up of class notes, and wide-ranging interactive activities with instant answers and self-evaluation marks. The way in which the teachers provided feedback to their students first in class and then by means of the Picasst video recorded classes was also valued by our students. They especially appreciated the section on common mistakes because it helped them discover and learn from diverse types of mistakes that the group had. This feedback also helped them to revise for their forthcoming written assignments. The positive feedback underlined at the end of these Picasst videos was also praised by students, who felt that it helped them understand what would be expected of them in each written task, and also, in the final exam.
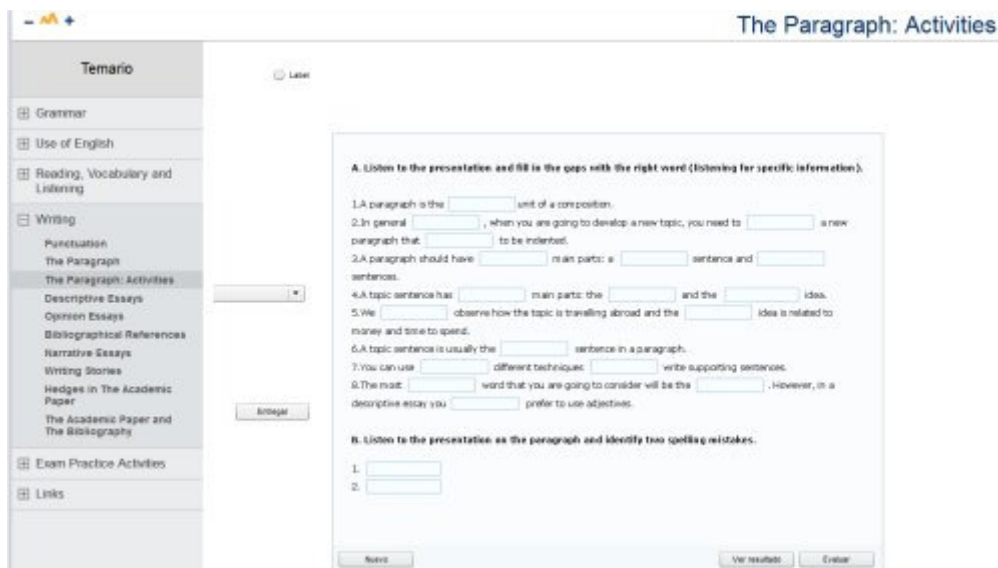
Figure 6. Interactive activity about a video on Prometeo.

5. Conclusions

The University's Moodle-based Virtual Campus, Prometeo and Picasst have proved to be m-learning and u-learning multimodal and multitask virtual platforms that enable English as a Foreign Language students to be immersed in an English language learning environment which comes as natural to them, is individual and encourages collaboration among peers. These tools facilitae e-learning, m-learning and u-learning by using different presentation modes and interactive tasks that aim to reinforce class work and to improve collaborative and independent learning skills. Prometeo offers students the opportunity to watch and listen to a wealth of content presented in videos or screencasts. By using it, learners can also assess their progress and monitor their performance. Additionally, Picasst can be used to provide general feedback focusing on common mistakes and examples of good practice once the teachers have assessed their students' work.

References

Bomsdorf, B. (2005). Adaptation of Learning Spaces: Supporting Ubiquitous Learning in Higher Education. Dagstuhl Seminar proceedings: *Mobile Computing and Ambient Intelligence: The Challenge of Multimedia.*

Cavus, N. & Dogan I. (2009). m-Learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology.* 40(1): 78-91.

Cope, B. & Kalantzis, M. (Eds.) (2010). *Ubiquitous Learning.* Urbana and Chicago: University of Illinois Press.

Craig, A. B. et al. (2010). Immersive Environments for Massive, Multiperson, Online Learning. In Cope B. and Kalantzis M. (Eds.), *Ubiquitous Learning.* Urbana & Chicago: University of Illinois Press, pp.131-143.

Fraser, K. (2006). A Blended Learning Approach to Teaching, Introduction to Multimedia – The E Bit! *AISHE Conference proceedings*.

García-Sánchez, M. S., C. Guerra-Artal, M. D. Afonso-Suárez (2012). Ubiquitous Learning and Prometeo for English Language Learners. *Ubiquitous Learning: An International Journal,* 4(1):65-76. Urbana & Chicago: University of Illinois Press.

García-Sánchez, M. S. (2009) Conscious Learning and Motivation: Online English and Spanish Students Interface. *Annals of Language Learning: Proceedings of the 2009 International Online Language Conference.* Florida: Universal Publishers.

Hartsell, T. & S. C. Yin Yuen. (2006). Video Streaming in Online Learning. *AACE Journal,* 14(1): 31-43. Chesapeake, VA: AACE.

Hwang, G.J. et al. (2010). A Heuristic Algorithm for planning personalized learning paths for context-aware ubiquitous learning. *Computers & Education,* 54(2): 404-415.

Prensky, M. (2001). The games generation: How learners have changed. *Digital Game-Based Learning,* 1-26. Retrieved September 2nd, 2011, from http://www.marcprensky.com/writing/prensky%20-%20ch2-digital%20game-based%20learning.pdf

Prensky, M. (2006). *Don't Bother me Mum, I'm Learning.* New York: Paragon House.

Rheeder, R., R. Diseko & G. Lautenbach (2007). The design of interactivity for a web based learning environment at a higher education institution, *Proceedings of the IADIS International Conference on e-Learning.*

Samaras, H., T. Giouvanakis, D. Bousiou and K. Tarabanis (2004). Towards a New Generation of Multimedia Learning Research. *AACE Journal.* 14(1): 3-30. Chesapeake, VA: AACE.

Syvänen, A. et al. (2005) Supporting Pervasive Learning Environments: Adaptability and Context Awareness in Mobile Learning. *Wireless and Mobile Technologies in Education, WMTE. IEEE International Workshop.*

The European Higher Education Area website. Retrieved February 27th, 2012, from http://www.ehea.info

Twidale, M. B. (2010). From ubiquitous computing to ubiquitous learning. In Cope B. and Kalantzis M. (Eds.), *Ubiquitous Learning.* Urbana & Chicago: University of Illinois Press, pp. 72-92.

Uzunboylu, H. et al. (2009). Using mobile learning to increase environmental awareness. *Computers & Education,* 52(2): 381-389.

Weiser, M. (1996). Ubiquitous Computing. Retrieved August 27th, 2011, from http://www.ubiq.com/hypertext/weiser/UbiHome.html

Top

SIG Report

Learning through Sharing: Open Resources, Open Practices, Open Communication

Teacher Education and Computer-Mediated Communication SIGs joint event

Ana Beaven
Università di Bologna, Italy

_____

anamaria.beaven @ unibo.it

For the third consecutive year (after Lyon and Barcelona), the Teacher Education and CMC SIGs organised a joint annual Seminar, which took place at the University of Bologna on 29 and 30 March. The theme chosen for this year's event was Openness as a way of learning through sharing.

Open Educational Resources (OER) are defined as "materials used to support education that may be freely accessed, reused, modified and shared by anyone" (Downes, 2011). Open Educational Practices (OEP) are practices which "support the production, use and reuse of high quality OER through institutional policies, which promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path." (ICDE, 2011). Open Communication is reciprocal and respectful exchange which contributes to social presence in online learning (Gunawardena & Zittle, 1997), and the development of intercultural awareness and competence in language learning.

One of the affordances of the web is that it provides easy access to knowledge, and this constitutes one of its greatest potential to transform education. "A culture of sharing resources and practices will help facilitate change and innovation in education" (OER Commons, 2011). Open access initiatives to make research publications freely available online or the adoption of open source software solutions, such as Moodle or Mahara, are already having a significant impact on education. Flickr, iTunes U or YouTube, all based on the idea of sharing content openly, can also provide excellent resources for teachers and learners. The web also offers unprecedented access to interlocutors from different cultures and contexts, and open environments with multimodal channels for communication which can be harnessed for language and intercultural development.

The two-day seminar focused on the impact of adopting openness as a key principle in education. Together, we explored how open resources, open practices and open communication can be integrated in language teaching and learning, and in the initial and continuing development of language teachers.

The main themes discussed were:

- theories that underpin openness as a key principle in education

- using of OER in teaching and/or course development, including reusing and re-purposing existing resources for different contexts or resource-based learning

- integrating learner-generated content into language courses

- developing a culture of sharing amongst the teaching community (barriers to and advantages of sharing)

- sharing resources and/or practices in teacher education (e.g. through peer review of resources)

- sharing resources and intellectual capital with others to raise individual or institutional profiles (e.g. through publishing resources on iTunes U, or through a resource repository, open access publishing of research papers)

- promoting learner communication in 'open' environments (e.g. through online gaming, virtual worlds, international discussion boards, blogs ...)

- facilitating open communication in CMC - where 'sensitive' topics can be broached and diverse opinions are valued.

The nearly eighty proposals arriving not only from all over Europe, but also from Japan, Egypt, India and the USA were a testimony to the interest that the two Eurocall Special Interest Groups have raised in the recent years, as well as to the significance that the concept of Openness is acquiring worldwide.

The new format proposed also proved highly successful: the authors of the forty-one abstracts selected were required to prepare short 'working' papers which were made available to all participants one month before the conference. Thus, the presentations – whose purpose was simply to refresh the audience's memory - were reduced to a few minutes, leaving over half an hour per session to the discussion. In addition, each session put together three papers under a common theme, drawing out common issues as well as diverse approaches.

The workshop also included two plenary talks by Eleonora Pantò, who provided an overview of the Openness movement in education, and Russell Stannard, who demonstrated tools that can be used in language teaching and learning.

A selection of the papers will also be published in two Special Issues (one dedicated to CMC and Open Communication, and one to OERs and OEPs) of the open-access Journal of e-Learning and Knowledge Society. An e-book of case-studies of Open Educational Resources and Practices, targeted at practitioners, is also in preparation.

For further information, http://eurocallsigsbologna.weebly.com

References

Downes, S. (2011). Open Educational Resources: A Definition. In *Half an Hour* (blog) http://halfanhour.blogspot.com.es/2011/07/open-educational-resources-definition.html

Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *The American Journal of Distance Education*, 11(3), 8-26.

ICDE (2011). Definition of Open Educational Practices. http://www.icde.org/en/resources/open_educational_quality_inititiative/definition_of_open_educational_practices/

OER Commons (2011) OER Community. http://www.oercommons.org/community

Top

Editorial Board:

The EUROCALL Review is published online biannually by the European Association for Computer-Assisted Language Learning (EUROCALL) and is hosted online at http://www.eurocall-languages.org/review/index.html and at the Universitat Politècnica de València (Spain). Regular sections include:

- *Reports on EUROCALL Special Interest Groups*: up-to-date information on SIG activities.

- *Projects*: reports on on-going CALL or CALL-related R&D projects in which EUROCALL members participate.

- *Recommended websites*: reports and reviews of examples of good practice in language learning website development.

- *Articles*: research, reflective-practice or research & development articles relating to CALL and TELL.

- *Publications by EUROCALL members*: reviews of new books, CALL software, etc. published or edited by members.

The EUROCALL Review is indexed in ERIC (Education Resources Information Center - an internet-based digital library of education research and information sponsored by the Institute of Education Sciences of the U.S. Department of Education.)

Articles submitted to *The EUROCALL Review* are peer-reviewed by members of the Editorial Board.

If you can provide information on any topic of interest to EUROCALL members, please send this directly to Ana Gimeno, email agimeno @ upvnet.upv.es