

DEAL TOI: A Second Language Learning Proposal through E-Learning addressed to Deaf People

Giuseppe Nuccetelli¹, Stefano Penge², Morena Terraschi³, Andrea Villarini⁴

E-mail: gnuccetelli@uniroma3.it, steve@lynxlab.com, morena@lynxlab.com, villarini@unistrasi.it

¹Istituto Statale dei Sordi, ^{2,3}Lynx s.r.l., ⁴Università per Stranieri di Siena (Italy)

Abstract

The DEAL Project was carried out with co-financing from the European Commission (Leonardo Da Vinci Programme). The objective was to create an e-learning model for teaching foreign languages to deaf individuals in professional education. DEAL created an e-learning model and course for learning Italian, Spanish and German languages aimed at deaf students enrolled in professional training programs to become secretaries and who are absolute beginners in the target language. The educational paths designed in DEAL for the insertion of foreign language in an enterprise environment keep in great consideration the specific cultural environment of deaf learners. Started in October 2006, the project ended in September 2008. Just after its conclusion, it received the European Label 2008 for Innovative Projects in Language Teaching and Learning.

The application of methodologies inspired by the lexical approach [1] and enriched using sign language as a mediator in educational communication has produced an evident increase and amelioration in learners competences in the national and foreign written language, and consequently a higher integration with the local hearing community.

In October of 2009 was initiated the DEAL TOI, thanks to funding the European Commission for transfer of innovation.

The DEAL TOI project has two main objectives. The first is to transfer the educational model that has been tested by the first DEAL to the United Kingdom, thereby creating a course in written English for business. This will also use British Sign Language within the teaching interactions. The second objective is to test the DEAL courses thoroughly, so that they can become permanent elements of education for Deaf learners in the partner countries.

In this way an effective response to the needs of Deaf students for foreign language learning can be provided, in particular as regards learning for work purposes. This issue is still far from being resolved, as the research done through the first DEAL project confirmed: Deaf learners generally still cannot find tools, approaches, or materials for language learning that have been put together with regard to their educational needs and the learning resources available to them.

It is very important to create the right conditions for educational authorities to fully use the tools made available - organizations specifically for Deaf people and official bodies.

The decision to extend the project into English was in response to feedback from educational bodies, and national associations of Deaf people. The English language is now an essential element in vocational training for young Deaf people in European countries studying to work in business administration.

The main outcomes expected at the end of the project are:

- 1. full functionality of the e-learning language tools for Deaf students;*
- 2. full functionality of courses in Italian, English, and Spanish for Deaf students;*
- 3. a cohort of teachers in partner countries who have been trained in the use of these tools;*

4.the permanent inclusion of DEAL tools in vocational education for the target group;

5.inclusion of these tools in the strategies both of associations for the Deaf and of official bodies.

The final objective is the complete incorporation of the DEAL project tools and courses within the educational systems of partner countries with the broad strategic aim of expanding the role of e-learning in language teaching for Deaf students.

The system is based on the utilization of ADA e-learning platform and a videoconferencing system. Opportune adaptations were studied and applied to meet the needs of the target group.

1. Context

This paper shows the theoretical results [9] and the practical outcomes of DEAL Project (Deaf people in Europe Acquiring Languages through E-Learning, www.deal-leonardo.eu) and of subsequent Transfer Of Innovation (DEAL TOI Project, <http://toi.deal-leonardo.eu/>), carried out with co-financing from the European Commission, within the "Leonardo da Vinci" Programme. It partnered with some of the most authoritative institutions and associations in Austria, Italy, Spain and United Kingdom in the field of deafness and education. The objective was to create an e-learning model for teaching foreign languages to deaf individuals in professional education.

Started in October 2006, the first phase of the project ended in September 2008. Just after its conclusion, it received the European Label 2008 for Innovative Projects in Language Teaching and Learning. The TOI project was started in October 2009 and is still active.

2. The partnership

The partnership was composed of the State Institute for the Deaf in Rome (lead agency), the University of Barcelona, Spain, the Institute of Cognitive Sciences and Technologies of the Italian National Research Council, Italy, the DCAL Centre at the University College of London, UK, the ENS Foundation, Italy, the State Institute of Specialized Instruction for the Deaf "Magarotto", Italy, Lynx ltd., Italy. The University of Klagenfurt, Austria, and the Illescat Foundation of Barcelona, Spain, were only present in the first part of the project. Euromedia ltd, Italy, produced all animated scenes as a subcontractor.

Both the Region of Latium (Regional Teaching Office of the Department of Social Affairs and the Province of Rome (Council for Social Policies in Schools), collaborated on the project, to enhance its value and to disseminate the results in Italy.

3. The main goals

The project was started after the following considerations:

- all over Europe, deaf people regularly attend vocational and requalification training courses;
- performing a secretary tasks in a firm context is one of the most popular employment chance open to deaf citizens;
- experiences and researches carried out so far shows that the training delivered to deaf learners is not effective enough especially in some employment areas. Among the others, foreign languages skills are not enough developed. These are important to enter the firms labour market and to carry out the secretary tasks to which many deaf people are oriented.

The actions in the DEAL project were meant to significantly operate in this framework, through the introduction of educational tools based on a e-learning strategy, targeting the needs and the specific capacities of deaf adults.

The decision to extend the project into English was in response to feedback from educational bodies, and national associations of Deaf people. The English language is now an essential element in vocational training for young Deaf people in European countries studying to work in business administration.

4. The technology

We chose an e-learning based strategy because of some basic concepts shared in most, if not all, of specialistic literature[4][5]:

- an e-learning platform seemed to be the most appropriate tool for teaching/learning as it operate through the visual channel, that is the main channel used by deaf learners;
- an e-learning platform can be easily used to connect deaf students each other, allowing for mixed conversation, writing or signing;
- an e-learning platform can monitor very closely users' actions, not only to assess students, but also to activate real-time tutoring strategies.

After using, in the first phase, the Moodle platform, and after testing the results, we chose for the TOI phase another opensource system, ADA (<http://ada.lynxlab.com>), because of the need of an in-depth personalization of many aspects. In ADA platform, interface, data and functions are completely separated, as in MVC (Model/View/Control) pattern. This allows for a much more simple personalization of interface without need to change data and functions.

Opportune adaptations were studied and applied to meet the needs of the target group. Namely, the interface was completely redesigned by a deaf graphist in collaboration with communication experts, to take into account the deaf people learning styles. Colours, fonts, icons and elements disposition in the page were carefully chosen to facilitate the finding by the deaf user of the information on the screen.

A full integration of national Sign Language videos with learning objects has also been developed.

Another central issue was the integration of a videoconferencing system. We discarded some seemingly simple solutions like:

- software with a required fee for final users
- free software allowing only for one-to-one videoconference (eg. Skype)
- portals dedicated to deaf people (eg. Camfrog)
- hardware/software solutions
- operating system specific solutions

We needed a system that:

- works on every users' operating system (Windows, OSX, Linux)
- doesn't need special software installed but only a browser with a Flash plugin
- doesn't need special hardware
- simple but with additional tools (textual chat, shared whiteboard, common file repository, survey,...)

allows for recording of all interactions

We finally chose an open system, based upon OpenMeetings / Red5 (<http://code.google.com/p/openmeetings/>), that uses robust and public language and protocols



(OpenLaszlo, SOAP, SWF) and easily integrable within other web application by mean of a plugin system.

5. Main products

The DEAL project has created A) an e-learning model and B) some courses for learning Italian, Spanish and English (partially German) languages aimed at deaf students enrolled in professional training programmes to become secretaries and who are absolute beginners in the target language. The courses are structured in 10 Teaching Units with a goal of reaching a level of competence consistent with level A2 of the Common European Framework of Reference for Language Learning and Teaching.

The products include educational tools, guidebooks for their correct use, and multimedia supports meant to delivery distance training activities to teach/learn the most used European languages to deaf adults. These have been conceived with specific references to the productive dimensions of the written language, in the perspective of the vocational training devoted to the tasks to perform as firm secretary.

The development of the themes tackled by the proposed tools, the selection of the cultural elements introduced and the general organisation of the proposed linguistic path have been supported by the use of information technology tools and aimed at the promotion of professional skills in a transnational perspective.

6. The e-learning model

The tools/contents available to the learner are:

- Animated scenes with subtitles
- Video explanations in national Sign Languages (BSL, LSC, LIS)
- Interactive teaching activities
- Videoconference.

During the teaching activities, at various points the deaf students may use special supports in their own sign languages. There are two kinds of support: unidirectional and bidirectional.

Unidirectional support is given by mean of:

- Presentation of the teaching unit
- Lexical micro-windows about the dialogue
- Grammatical, syntactic and pragmatic support on the key concepts of the unit
- Full translation of the dialogue

Bidirectional support is given by mean of:

- Videoconference / textual chat among students
- Videoconference / textual chat with the teaching team

7. The courses

The courses for the three target languages (Italian, Spanish and English) are designed with the sign language of the user in mind. Consequently, there are six courses created by DEAL with a total of six different languages:

Written Italian	with support in Deaf English Sign Language (BSL)
	with support in Deaf Catalan Sign Language (LSC)
Written Espanol	with support in Deaf English Sign Language (BSL)
	with support in Deaf Italian Sign Language (LIS)
Written English	with support in Deaf Catalan Sign Language (LSC)
	with support in Deaf Italian Sign Language (LIS)

Table 1 Courses and languages

The courses are composed of 10 teaching units, with an assessment at the midpoint and another at the end:

1	A new colleague arrives
2	Let's set up an appointment
3	A break at the restaurant
4	Formal and informal letters
5	A change in the programme
MIDPOINT ASSESSMENT	
6	Renewal of the contract
7	A retirement party
8	Getting to know the firm
9	An important task
10	Booking a trip
FINAL ASSESSMENT	

Table 2 Course structure

Each teaching unit is structured as follows:

1. Contextualization of the sign languages (SL) used in the project
2. Input (animation with dialogue)
3. Text of the dialogue with optional SL windows
4. Activities for the comprehension of the dialogue (with optional explanations in SL support, applicable for the following points as well)
5. Activities for the reworking of the dialogue, structured and semi structured
6. Full translation in SL of the dialogue (optional)
7. Activities for the comprehension and reworking of types of text that are professionally relevant, and found in the dialogue
8. Activities, semi-structured and open, for the production of the types of text proposed

8. Conclusions

Thanks to the results of this project, organisations in each country partner can now deliver distance language training courses to the deaf adults who are involved in courses for being employed in firms in secretary tasks, with the perspective to enlarge this methodology to all the European Union countries.



The products of DEAL will start a strategic action in the area of disabled adults thanks to a transnational e-learning based training offer featured by the unification of curricula, the management and transnational check of the learning processes and by the cross measurement of results.

The partnership also is performing a systematic dissemination of the results of the project to all interested institutions all over Europe.

The products are distributed free of charge with a user license, upon receiving a written request. The courses can be adapted to deaf students of other nationalities by creating the videos in their national Sign Languages. The model, the tools created and the animated pieces produced can be used to create courses for any target language.

In addition to products, DEAL project generated some interesting results in the field of research. In fact, in the partnership different positions and perspectives confronted: thus the research of balanced solutions in relation to products was stimulated, but above all a deep investigation of the themes dealt with and a correct identification of the crucial points.

Patterns and tools of linguistic formation through e-learning for this peculiar group target were developed, as in the following list:

- Definition of the communicative structure (in the plurality of implied codes) of the learning environment;
- Configuration and articulation of the teaching position in the system (between language's teachers and communication mediators in sign language);
- Regulation of communication flows in the learning environment and in the interlacing used codes;
- Balanced regulation of the synchronous and asynchronous dimensions;
- Quantity and quality of the use of students' Sign Language;
- Specification of feedback's articulation;
- Configuration/personalization of tools suited to users' needs and styles.

DEAL gave the first answers to all these questions, but it also suggested new and more research path[10].

More information are to be found on DEAL web site, <http://toi.deal-leonardo.eu>

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