



## Language and Text-to-Speech Technologies for Culture-Embedded Language Learning

**Anouk Gelan**

E-mail: [Anouk.gelan@uhasselt.be](mailto:Anouk.gelan@uhasselt.be)

Hasselt University (Belgium)

### Abstract

In this paper, we will report on the results of the European project TST-ID – “Speech technology integrated learning modules for Intercultural Dialogue”. The European Union promotes language and culture learning and stresses the importance of linguistic diversity and of learning and using not one lingua franca but the language of the other. However, the range of attractive e-learning materials is limited mainly to English, French, German and Spanish. The objective of this project was to increase the availability and quality of learning opportunities for less widely-used and less taught European languages using a barrier-free and highly accessible e-learning environment.

Today, a very wide spectrum of tools for CALL exist, a lot of them web-based. The internet offers a lot of possibilities for communicative culture-embedded language learning. We will discuss the tutorial software - in the definition of Levy dichotomising the computer as tool versus the computer as tutor - for multimedia CALL used in the TST-ID project, based on Otto & Pusack’s model of six characteristics of good foreign language courseware authoring tools. Specific functionalities such as the electronic dictionary and the intelligent correction for writing exercises are described. Special attention will be given to the Text-to-Speech technologies, which enable the conversion of (fragments of) texts into natural sounding speech. These were integrated into the web-based authoring tool and in the developed e-learning modules with a double goal: on the one hand increase the accessibility of e-learning packages for visually-impaired learners, learners having difficulty reading (e.g. dyslexic learners) or having a preference for auditory learning; on the other hand exploiting some new didactic possibilities of this technology, in particular for communicative second-language learning. We will then describe the didactic methodology and contrastive approach used in the e-learning modules developed by the TST-ID project giving some concrete examples. Finally, will highlight some interesting future developments for tutorial software and in particular the exploitation of speech technologies, that, although not much didactic use has been made of them so far, have reached a level of readiness for CALL applications despite certain imperfections remaining at the level of accuracy, naturalness and expressivity (Handley 2009).

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