



# Projecting Language Learning Technology into the Virtual World

## Overview

Traditionally, formal learning spaces have been defined by parameters such as physical space, set hours of use, scheduling requirements, number of seats and established learning patterns such as lectures, discussions<sup>1</sup> or in the case of language labs, formal and specific patterns of practice. Language labs have traditionally been large, hardware-intensive constructs, confined to a physical location, frequently a single classroom.

This type of language lab was usually dedicated to a single subject area, foreign languages, and a single type of student who could be physically present in the language lab at predefined times. It sometimes monopolized precious classroom space for a single discipline.

Today's educational institution is challenged with providing opportunities to an ever-growing population and a variety of students. Today's learners include full-time, part-time, on-campus, and off-campus with various styles of learning. They can be widely spread over a large geographic area, and their varied schedules and needs make it difficult to facilitate traditional language learning. This task is made even more difficult by the need to do more with fewer resources, both human and financial.

As education becomes more computerized and independent, students embrace multiple modalities for learning. "Blended Learning" has become a buzzword describing the current state of learning and teaching which embraces the physical equally with the virtual<sup>2</sup>. Students and teachers are increasingly finding the appropriate software and situations to utilize the communication, collaboration, management and administrative tools to deliver the access to resources and the interactivity they require in the time and space available to them.

As one may expect, this evolutionary process is driving the concepts of teaching and learning far beyond anything imagined in the early days of computer based instruction. The blended result is the use of both environments, virtual and face-to-face in a planned and pedagogically sound way.

**The world of language labs is changing along with the changes affecting the overall educational environment and increasing pressure to do more with less.**

Requirements for language learning are different from those of most other disciplines. By their nature, languages are spoken as well as written, and evaluation must include listening and interaction in addition to traditional writing, testing, etc. Furthermore, comparative listening is by its nature a continuous and contiguous task for which computer network protocols within the virtual environment are not particularly well suited.

A momentary dropout during the transfer of a web page, for example, will never be sensed by the user. A dropout that occurs while listening to a particularly subtle point of spoken pronunciation will either result in the data being lost or the rhythm and meter of the communication being disrupted.

## Virtual Learning Environments

Solutions that are evolving to address these types of challenges have many names; Virtual Learning Environment (VLE), Learning Management System (LMS), Course Management System (CMS), Managed Learning Environment (MLE), Learning Support System (LSS), Learning Platform (LP) and so on. In general, they are all software systems designed to facilitate teachers in the management of educational courses for their students, especially by helping teachers and learners with course administration. VLEs can often track the learners' progress, which can be monitored by both teachers and students. While often thought of as primarily tools for distance education, they are most often used to supplement the face-to-face classroom<sup>3</sup>.

**VLEs have become commonplace teaching technology in the face of declining resources and increasing requirements.**

There are many such systems in use today, although until now, none have been particularly focused on the unique requirements of language learning.

# Projecting Language Learning

## The Totally Software Based Language Lab

The first step in addressing this dilemma was the development of the totally software-based digital language lab by Sony Electronics. The first component was the Sony Soloist® Digital Comparative Recorder software which replaced the analog cassette recorder with a digital product that not only duplicated

**Sony began the liberation of the language lab with the all software based, totally digital language lab utilizing the Sony Virtuoso™ and Soloist® software.**

the features and functionality of the analog product but expanded the capability far beyond what was previously possible. Laptop computers and digital files allowed for the first tentative steps toward an “anywhere/anytime” language-learning paradigm.

The introduction of the Sony Virtuoso™ Instructional Control software for the instructor component “closed the loop” on the digital language lab and gave teachers far more control and many more features than they had previously enjoyed in hardware-based labs. When the Sony Soloist software was teamed with the Sony Virtuoso software, one of the first totally software-based, fully digital language learning systems was created. This system, when deployed on the same network segment, provided real-time student/teacher interaction. Most importantly, it provided the ability for teachers to monitor their students in a very high-quality, real-time audio stream and utilize all forms of digital media including the Internet.

With the elimination of hardware from the language learning equation, Sony determined that the best way to continue to serve its Language Learning Systems customers was to license an outside company to take over continued development and support of its software-based solutions.

In June of 2003, Software and Network Solutions (SANS Inc.) was created as the exclusive worldwide licensor and developer of Sony Language Learning Software Systems.

**SANS expanded on Sony's work with the Concurrent Controller™ license management system, further liberating language learning.**

SANS' next advance in the liberation of the language lab

was the development of the Concurrent Controller™ software. Concurrent Controller allows Soloist licenses to migrate to wherever they are needed, up to the total number of licenses purchased. A teacher can be conducting a class in real time with students in physical or virtual attendance, and additional learners can be engaged in self study with full functionality in the lab, library or dorm room, as long as there are sufficient licenses and an IT infrastructure to support all learners.

While Concurrent Controller represented a major milestone in the liberation of the language lab, it still required the software to be installed on the target computer, which was then enabled by the floating license.

## Requirements of the Virtual Language Lab

A primary requirement of any language-learning system is the comparative recorder. Such a recorder must have the ability to play content as stimulation for the learner and to simultaneously record the student's verbal response to the stimulus for comparison.

**The virtual language lab requires advanced levels of interactivity and accountability.**

Students must be able to listen to the recording in order to compare their efforts to the native speaker's voice. Control over the digital recording (such as play, stop, fast-forward, rewind), and the ability to set and delete bookmarks in the file are also necessary.

The teacher must be able to collect the files for evaluation. Teachers should also be able to annotate, add comments and corrections and then return the file to the students for review.

The teacher must also be able to interact with the student in synchronous and asynchronous modes to monitor and assist the students utilizing both voice and text.

**Virtual language labs have unique requirements.**

A unique requirement of the virtual language lab is in the detail of the tracking required. Most VLEs can track the materials the student accesses and the amount of time the student spends in the file. Most VLEs can only tell that the file is open, not what the student is doing within the file. This level of detail is inadequate for language learning.

Many institutions require that a specific amount of practice time be spent in the language lab with focus on listening and speaking. In order to verify that the student is actually practicing and not just opening the file for specific amounts of time, the system must track how the student interacts with the file down to the discrete operation. This granular level of detail also assists teachers in identifying areas where students might be having trouble.

# Technology into the Virtual World

## SANSSpace™ Virtual Learning Environment

SANS is particularly well attuned to the needs of language learning. With the release of the SANSSpace™ VLE software, SANS has introduced the first VLE type product with features specifically designed for virtual language learning while also bringing a new level of tracking and accountability to the VLE environment.

SANSSpace integrates a virtual comparative recorder and media engine within the interface. The SANSSpace recorder features all the requirements of the traditional comparative recorder plus features unique to the digital world such as the ability to save only the student's responses, place an unlimited number of bookmarks within the file, and many others.

**SANSSpace™ is the first interactive, virtual language lab component. It enhances and expands the reach of traditional language learning.**

The interface runs within the framework of a browser utilizing a one-time downloaded ActiveX™ control. SANSSpace runs on a server that can be accessed directly via the institution's intranet or through the Internet via a portal. The application may be licensed for campus control or managed as a service by SANS.

No software need be pre-installed on the target computer, rather the student is able to access and utilize all of the SANSSpace tools virtually while online. This allows language learning without the restraints of the traditional language lab and moves us closer to the "anywhere/anytime" paradigm.

In keeping with the particular needs of language learning, SANSSpace tracks not only who is online, when and for how long, but also what file they are accessing and how they are interacting with the material.

SANSSpace manages access to the system as well as individual student's access to specific classes and materials. SANSSpace easily integrates with existing database and management systems and can extract student and class data to populate its database without re-keying the information.

Students can see only those materials the teacher designates for them. Materials can be any standard Windows® file type and can be audio (mp3, wav etc.), visual (mpg, avi, jpg, gif etc.), documents (doc, txt, etc.), presentations (ppt, pdf, etc.) and so on.

The student's work, which can be in the form of any standard Windows file format, is saved on the server in a defined hierarchy, usually by teacher, by class, and

**Detailed tracking provides increased accountability. Windows® standard file formats and teacher/student interactivity expands SANSSpace to disciplines other than languages.**

then by student. Since SANSSpace is designed around standard Windows protocols and file formats, it can be used to teach any subject.

## Case Study

A large private university in the New York area has enjoyed continued growth, embracing an increasingly diverse group of learners.

The university's analog Sony Language Labs in the language learning center had provided long, reliable service but were in need of updating. The administration had also decreed that all resources that the university offered must be made equally available to all students, regardless of their presence, on-campus or off-campus, or their status as full or part-time.

**A large private university in the New York area approached the challenges with a unified and cohesive "blended" approach to make all learning resources available to all students.**

The university's solution was to implement all of the Sony and SANS solutions in a "blended learning" scenario. The physical labs in the language learning center were updated with the Sony Virtuoso Major and Sony Soloist software.

SANS Concurrent Controller licenses were installed to allow students to attend to a class from locations other than the language learning center. For instance, a student can "virtually" attend the class from a dorm room, library or another classroom and experience exactly what students in physical attendance are seeing and hearing. Teachers have the same control over the remote student to monitor, pair, or provide guidance as with students in the lab.

The SANSSpace VLE was implemented to project the same learning opportunities available on campus into the community via a portal on the university's home page, thus accomplishing an "anyone/anywhere/anytime" learning paradigm.

Students who want to come into the physical lab may do so, and those who prefer another learning modality are free to use the technology as they like. Teachers also vary the class meetings (Continued on back...)

between physical and virtual based on time, schedules, and type of work to be performed.

Because of the unique interactivity and accountability provided by SANSspace, teachers maintain the control and oversight necessary to provide help and guidance to learners. This increased functionality is attracting attention from disciplines other than languages.

While SANSSpace was developed specifically for language learning, it is by no means limited to that discipline. Under consideration is the use of SANSSpace by the university's law school, for delivery of much of its first-year curriculum, which is very media intensive.

**New challenges demand new and innovative solutions. Time and space are no longer the sole arbiters of effectiveness.**

The high level of interactivity allows instructors to establish "virtual office hours" using the system, providing a much more flexible way of connecting with students in lieu of a fixed, physical location.

## Conclusion:

Teaching and learning will continue to change and the pace of that change will, most likely, accelerate. Budgets will continue to demand more results from fewer resources.

Software like Sony Virtuoso Instructional Control software, Sony Soloist Digital PC Comparative Recorder software, SANS Concurrent Controller Licenses and the SANSSpace VLE can help progressive institutions stay ahead of the curve in areas including, but not limited to, foreign language education.

SANS has always offered choices and scalability of technology in language learning. Now we offer choices in how that learning is delivered, whether in a fixed, virtual or blended environment.

The introduction of SANSSpace allows us to figuratively wrap our arms around a much broader spectrum of the teaching/learning continuum and embrace new disciplines.



### Endnotes:

- 1 Design of the Learning Space, Chris Johnson and Cyprien Lomas, Educause, July/August 2005
- 2 Blended Learning: Education Innovation & Productivity, Karen Vignare, Campus Technology,
- 3 Wikipedia, Virtual Learning Environment.



Exclusive Licensor of Sony Language Learning Software

Windows® and ActiveX are registered trademarks of Microsoft Corporation. Virtuoso is a trademark and Soloist is a registered trademark of Sony Electronics under exclusive license to SANS Inc. Concurrent Controller and SANSspace are trademarks of SANS Inc. Copyright © 2006 SANS Inc. All Rights Reserved. Reproduction in whole or part without written permission is prohibited.

SANS Inc.  
10 White Wood Lane  
North Branford, CT 06471  
[www.sansinc.com](http://www.sansinc.com)