NUS LIBRARIES IN A VIRTUAL LEARNING ENVIRONMENT

WONG KAH WEI

NUS Libraries
National University of Singapore, Singapore

Providing collections of resources – books, journals, videos, CDs, papers – was and still is a major function of what we do to support learning. When resources were offered electronically, libraries responded proactively, integration was done naturally into a virtual environment of learning.

As a result of years of conscientious and practical collection development, our students, now, enjoy rich electronic collections at the click of a mouse. NUS Libraries has in our collection 12,490 electronic journals, 11,350 electronic books and 250 reference databases (*NUS Libraries Annual Statistics, http://www.lib.nus.edu.sg/about/stats04-05.html*).

Leveraging on the convenience and speed of technology to meet the information needs of our students was a challenge we could not ignore. The result of our efforts were tremendously satisfying and the success of one initiative continues to lead us into exploring and implementing new approaches to support research, learning and teaching.

In this paper, we would be highlighting user education initiatives that relate to the support of learning and teaching in the virtual environment.

NUS Libraries started providing electronic readings of Red Spot or RBR (Recommended Books and Readings) materials in July 2002. Hon Sui Sen Memorial Library piloted a service offering students RBR articles electronically via Proquest. Using Proquest's Sitebuilder, we added persistent links to course records created in our online catalog LINC (Figure 1). A student who wanted to know what their readings were for a particular course would search LINC. As not all articles or book chapters recommended by the lecturers were available in Proquest, the student retrieved only some readings electronically.

Title	Readings for BMA5251 (For complete set of readings, please borrow the set at HSSML Loans Desk)			
	Click on the following to:			
	Rosenbloom and Cusuman. Technological pioneering and competitive advantage (Full-text)			
	Henderson and Clark. Architectural Innovation (Full-text)			
LOCATION	CALL #		STACK#	STATUS
HSSML RBR (Loans Desk)	IH01/0001			AVAILABLE

Figure 1. Online catalog record showing persistent links to RBR readings

Integrated Virtual Learning Environment (IVLE) developed by NUS' Centre for Instructional Technology (CIT) is a virtual workspace for NUS students (Figure 2). IVLE is where the lecturers communicate to the students the details of their modules or courses, where students download lecture notes, submit projects and papers, discuss in forums and where they chat. It was a virtual congregation of the mass of our students communicating, interacting and learning. Opportunities abound.
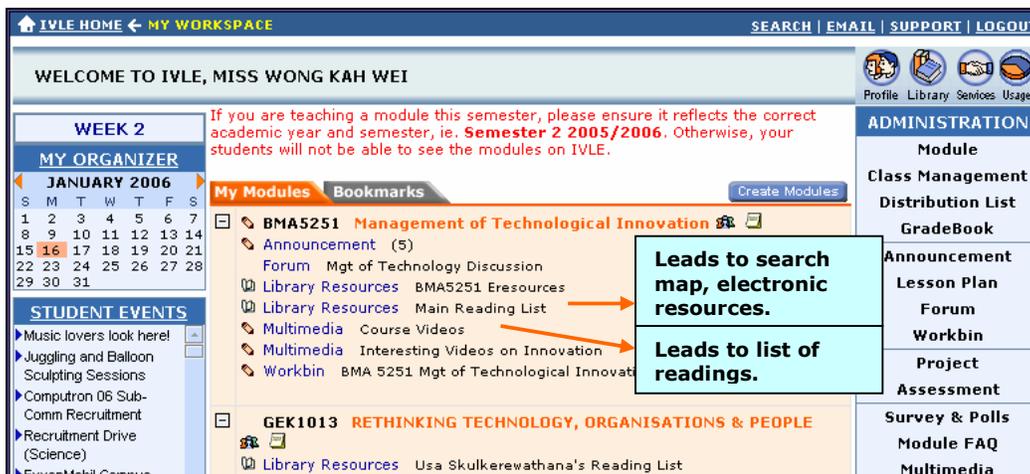
Figure 2. Integrated Virtual Learning Environment (IVLE)

In May 2003, NUS Libraries collaborated with CIT to develop an IVLE service where RBR materials would be provided electronically. The process of providing these electronic readings went through our university lawyers to ensure compliance to copyright regulations. Hence, the Ereserves was born.

A student logging into IVLE would first see, under My Modules, the list of course modules he has registered for (Figure 2). We discovered that students generally do not go beyond the first My Module page as links they use regularly such as Workbin and Forum are placed at My Module. Therefore, to facilitate the convenience of accessing Ereserves we placed the link to Ereserves on the first page (My Module page) and named it Library Resources.

After clicking on the Library Resources link, a student would see a list of their readings (Figure 3). Readings are provided in a mixture of :

- PDF documents and/or
- Persistent links to the HTML or PDF documents and/or
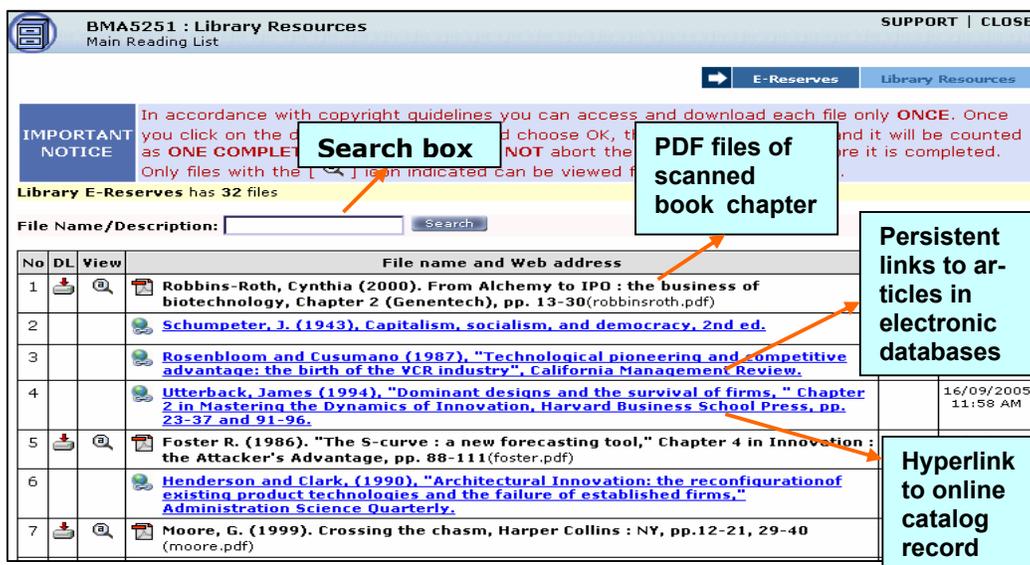- Hyperlinks to the online catalog records of books.

Figure 3. List of readings in Ereserves

PDF documents are book chapters or articles which we scan from the printed copies because they are not electronically available. Persistent links are hyperlinks leading to the full text of articles in electronic resources such ABI/Inform, Business Source Premier, JSTOR, ScienceDirect and so on. The

hyperlinks to our online catalog records were added for the purpose of informing our students the call number of the RBR book. Books are still placed in our RBR collection as some lecturers require their students to read more than 10% or 1 chapter of a book.

Practically the entire RBR collection was brought to the virtual forefront of NUS' virtual space allowing NUS students anywhere and at anytime to download readings for their classes. Students took to Ereserves quickly despite initial complaints of the slowness in downloading files during peak hours. Lecturers who had not jumped on the bandwagon were persuaded by their students to place their readings there.

Since its launch in Semester 1 2003/2004, Ereserves went through several enhancements. The latest enhancement was a search box to facilitate a student searching for a specific article in a long list of readings (Figure 3).

As the use of Ereserves continued to increase, we discovered a growing awareness of the use of our subscribed databases among students who had never used them before. For example, students downloading a Business Source Premier article from Ereserves began to explore Business Source Premier as a source of information for their term papers. Therefore, a trend emerged of NUS students exploring our subscribed databases for their term papers through their use of Ereserves.

To guide students in searching for information for their term papers, NUS Libraries offers library tutorials and classroom demonstrations of databases. To supplement the teaching, librarians provide bibliographies, search maps and online guides.

Search maps are web pages delineating relevant databases, keywords and search strategies (Figure 4). Online guides are usually media files demonstrating how to search in a particular database.

Figure 4. Search map to specific module term paper

With the mass presence of students in IVLE, the high usage of Ereserves and the emerging trend of awareness of our electronic databases, ignoring the opportunity to teach and address specific information needs in IVLE would have been a travesty.

So, we decided to push user education to the virtual frontier. We chose to utilize Emeetings, a service provided by CIT, which allows staff to conduct online meetings over the Internet (Figure 5). Here, the librarian creates a virtual meeting place where she demonstrates searches on databases and answers questions from the students.
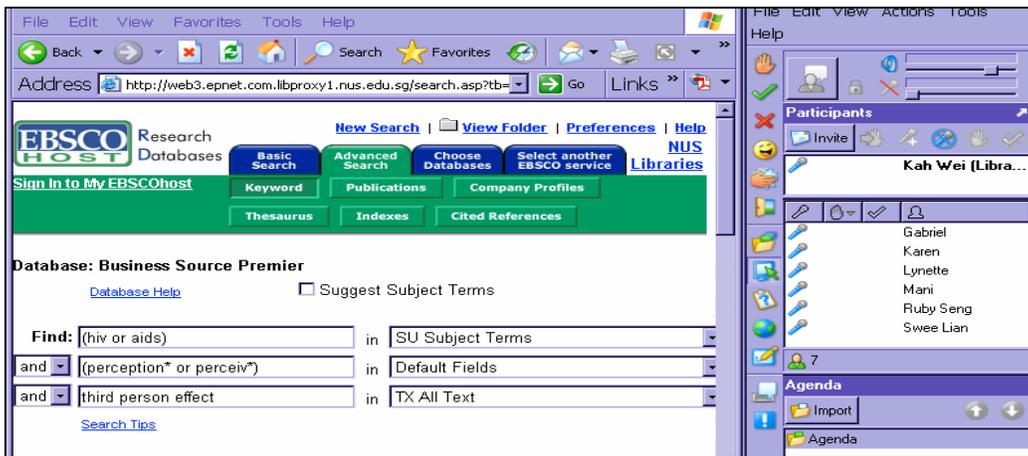
Figure 5. Library tutorial conducted using Emeetings

Students enjoyed the convenience of learning from a librarian without being on campus. Hon Sui Sen Memorial Library piloted this service by conducting a student orientation program for the distance learning students of NUS Centre for Financial Engineering. Students from Great Britain, United States, Japan and the Middle East logged on one early Saturday morning to learn about databases and services and to ask questions. When the orientation program was over, the students continued chatting with each other, sharing notes and discussing upcoming projects.

Librarians collaborated with lecturers to promote this service to their students. Part-time post-graduate students from the NUS Business School found meeting the librarian virtually convenient. Students busy with their jobs during the day, arranged to meet the librarian in the Internet during their lunch hour to learn how to use various databases. Since the launch of the service in Aug 2005, 5 sessions were conducted.

We consider Emeetings merely as a stop-gap measure in addressing the learning needs of our students. NUS Libraries are currently exploring the use of more robust and sophisticated software in meeting the expanding learning needs of our students.

To complement library tutorials – whether held on campus or virtually – bibliographies, search maps and online guides were also placed in IVLE. A virtual space to house links to these materials were created in the module page (Figure 6). An "Ask A Librarian" link directing students to email the librarian when they had any enquiries was also added.

Figure 6. Links to search maps and electronic links are placed at Module Page

Apart from providing services which directly served the students, NUS Libraries also utilized IVLE to build our capacity to serve our students better.

Through the years, we experienced the frustration of being informed rather tardily by our lecturers what RBR books to purchase for the new semester. This, of course, resulted in a mad scramble to get the required readings ready before the students start their classes.

We created an alert system in the "Text & Readings section" of IVLE which automatically sends an email containing the list of RBR readings to the library. When creating his module page, a lecturer would also include a list of readings in the "Text & Readings section".

When the lecturer saves his list of readings, it triggers an email containing the list to NUS Libraries' Technical Services. The alert system gives Technical Services a longer lag time to purchase the books and also saves the lecturer from the inconvenience of completing forms or communicating his RBR book requests to the library.

Future projects with CIT include mining data from IVLE to support better understanding of our students' assignments and term papers and thus, their information needs; increasing access to the librarian via IVLE level and creating a more sophisticated virtual classroom within IVLE to teach information literacy skills, to track search behavior and to interact with our students.

Appreciating our students' information needs, together with our skills, talents and experiences as well as maximizing the potential of technology, NUS Libraries continue its collaborative efforts in our bid to support learning and teaching. Services and collections we have been providing traditionally are being transformed to be utilized in an arena of dynamic information needs and influences. Our challenge is not only to meet these needs effectively but also to maintain the integrity of our purpose and vision as librarians.