

# ***Using the World Wide Web in the classroom***

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If the booking sheet for the first few weeks of session in the Faculty of Arts Computer lab is anything to go by, teaching staff are increasingly utilising Information Technology (IT) as a teaching tool and a learning resource. One of the main IT skills that students are being encouraged to learn is the use of the Internet, including Electronic Mail, Telnet and the World Wide Web. While staff may be familiar with the use of the Internet for research purposes, they may be less aware of its use in the classroom. In this paper I want to briefly reflect on my own decision to use the World Wide Web as part of my teaching practice in the Sociology Program.

## **The Web as a teaching resource**

I have used the Web for three main purposes – as an additional library resource, as a tool for retrieving materials not generally found in libraries, and as a non-traditional teaching space. Some of these tasks are skills oriented (for example, teaching students how to ‘use’ the Web), while others are more closely linked to the specific learning objectives of individual subjects.

## **Library resource**

One of the important resources that students can access via the University’s Home Page is the University Library Catalogue. The Web Catalogue has many more features than the version that students use in the library. The catalogues of other university libraries in New South Wales can also be accessed from the same page. In addition, it is now possible to access most of the library CD ROMs via the Library Home Page. These are available using the programme Webspirs\* which is very similar to the Macspirs\* programme that many staff access via their desktops. Students can also connect to Current Contents, ABI/Inform, Expanded Academic Index and several other trial databases\*\*. The library has also set up Faculty specific library home pages with information about sites of interest to students in each discipline.

## **Information retrieval**

The Web offers an important site for the retrieval of information generally not available in libraries. For example, students can find information about other universities and research institutions, government and commercial organisations, and non-profit organisations. In addition, there is a large amount of material available

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in the art and entertainment fields. In recent years, there has been a huge increase in the number of journals published electronically, and many scholars are now 'publishing' their own research by placing it on their personal home pages. This is particularly true of the science disciplines.

### **Alternative teaching space**

By developing subject home pages, the Web can provide both staff and students with an alternative teaching space. The subject home page can be used both as a site for information retrieval, as well as an interactive space for student-student, and student-staff contact. For example, lecturers can place their subject outlines, information sheets and lecture notes on the Web so that students who have lost their hard copy, or who missed a particular week's classes can download or print the missing pages. In addition, the Web page can contain links to sites of general interest (for example, an electronic journal or database) or task oriented sites (for example, a dataset). The Web page can also provide a site for the presentation of student materials (including individual or group projects) or the submission of student assignments; and an access point for email, discussion lists and chat sessions.

### **Flexible delivery benefits for teachers and learners**

One of the main benefits of introducing students to the range of resources available on the Web is that it enables remote access. Students are able to access the catalogues and CD ROMs without having to go to the library – they can do it from Faculty based labs, the Berry campus lab, the Shoalhaven library, or even from home. In addition, the Web provides students with a site for the collection of materials that may take time to access via traditional means – for example, information on the aims and objectives of Non-government Organisations in another state, or the latest release figures on employment from the Australian Bureau of Statistics.

For staff interested in using their teaching time more flexibly, the Web may offer a site for the presentation of materials and staff-student interaction outside the traditional classroom. This may include reducing time spent in face-to-face consultation (the student who has lost their assignment sheet can print it off the Web, or send an email to their lecturer) and offer a site for contact between students who have trouble getting together outside of class time (taking part in a chat session to discuss an assignment topic). At the same time, however, the Web does not offer a substitute for going to the library, nor a replacement for the teacher.

### **Technical skills versus discipline based learning**

While the Web may provide a useful resource for both staff and students, a question remains over the appropriate forum for teaching students to access and use it. Some may argue for example, that learning to use the Web is a technical skill that should be taught outside normal class time. By incorporating it into individual subjects the already limited amount of time available to be spent on discipline based learning may be lost. In my own view, there are important reasons why Web based tasks should be incorporated into the curriculum.

First, it is my experience that by the time students reach tertiary education they have been successfully socialised not to be proactive learners. While the library offers many workshops on using the Internet or using CD ROM, many students do not take part. Some are techno-phobic and will not learn to use the Internet because they are uncertain or afraid of using a computer. Others will not learn any more than is necessary to pass the subject. Getting students into the computer lab in the first few weeks of session and designing assignment tasks around IT skills may be one way of ensuring that all students have a basic level of competency when it comes to using the Web.

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Second, students need to practice these skills in order to master them. Once again, unless students are 'forced to' learn how to use the Web, many will not build on the skills they learnt in the introductory workshop. It is not uncommon for students to comment that, 'We went to the library and did something like that last year but I can't remember how to do it'. For this reason, ensuring that students obtain the generic skills listed under the Competencies and Attitudes of the Attributes of the Wollongong Graduate depends upon the incorporation of skills with discipline based learning.

Finally, I think teachers need to think of IT skills not as something that we 'add on' to our content based lectures and tutorials, but as learning tools that can be made integral to the learning process. Exercises and tasks need to be subject specific, so that while students may be practicing the same skills, they are applying them in different ways. For example, in my third year subjects, students are required to show their competency in accessing library resources via the Web through a series of short exercises designed to gather materials on their major assignment. In this case, because I am assuming that students have already learnt how to 'do it' (in first and second year), they merely have to demonstrate proficiency in the skill. A limited amount of lab time may be set aside for brainstorming and sharing of information among students, or the task may be set as homework.

The Web may also be used as a resource for teaching students to be critical learners. One of the biggest problems with using the Web for information retrieval is the number of hours spent searching the Web versus the quality of the information obtained. One way to address this problem is by teaching students to be critical of the information they access. For example, in a second year Research Methods subject students are required to retrieve information from the Web on a specific topic as part of their homework. In class, students present the information and must assess its usefulness when compared to materials gathered through more traditional means. In this way, the skill

(Netsearching) is combined with a discipline based task (assessing the value of different information).

## **Will the Web replace face-to-face teaching?**

Another important issue raised about the Web as a teaching tool is the potential that it creates for both teachers and class time to be reduced. In other words, as part of a push towards 'flexible delivery', the Web may render traditional face-to-face teaching obsolete. My own experience has shown that placing written lectures, question and answer tutorials, and 'real time' chat sessions on the Web does not necessarily make learning easier, more interesting or more cost effective. We know that on-campus students already want more contact hours and they do vote with their feet. While distance learners may have more reduced expectations about face-to-face contact, they don't expect to be talking to a computer every day. At the same time, while the Web may be used to reduce contact hours, that doesn't mean a reduction in working hours. Placing materials on the Web requires both time and money. Monitoring chat sessions or discussion lists and answering email queries can be time consuming. What needs to be stressed here is that flexible delivery doesn't mean doing it less, just doing it differently.

## **Potential problems or concerns**

For staff interested in incorporating the Web into their subjects there are a number of potential problems that they need to be aware of. The first are technical issues, and the second relate to curriculum development.

### **Technical issues**

We are all familiar with the problems facing us as individual users of the Web. These problems become magnified in the classroom. These include downtime and slow downloading speed. There is nothing worse than setting up a class lab exercise only to find that once everyone has logged on that the links are down,

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or that only a few students can access the same page at the one time. Similarly, it can be extremely frustrating and time consuming to design an exercise only to find that a web page has changed. These are problems that as teachers we have little control over.

Lecturers who have developed their own subject pages face a range of related issues. Foremost amongst them is updating information. Not only is the process of producing a home page time consuming, but staff require technical assistance and training to continuously upload new materials. Additional problems may arise when links are down or software is not working.

### Curriculum issues

The integration of IT, including the Web, into the curriculum involves a review of course content and a sharing of information between staff. Introductory workshops need to be scheduled in first and second year subjects, and staff teaching in later years need to know what has been taught before students arrive in their classrooms. This will avoid problems of repetition and enable the sharing of site information amongst staff. In addition, questions need to be raised about whether in using subject home pages, information is being duplicated unnecessarily, thereby increasing staff time with no tangible benefits in terms of student learning outcomes.

### Conclusion

As with many teaching resources, the Web is time consuming in preparation, it involves continuous updating, and is subject to technical problems. Nonetheless, I think there are many useful applications to which the Web can be put. These include not just providing students with technical skills, but also actively using the Web as a discipline based learning tool. It can provide an interesting alternative to the more traditional techniques that we use as teachers. To be successful, however, Web based teaching and learning needs to be well integrated into the curriculum.

\* Webspirs and Macspirs are both software programs that allow remote access from your desktop to Silverplatter databases. Macspirs is a program that is loaded on to Macintosh machines, and Webspirs is a similar program that is accessed via the library's web page: [[www-library.uow.edu.au](http://www-library.uow.edu.au)]

\*\* Current Contents, ABI/Inform and Expanded Academic Index are all electronic databases that contain a range of disciplinary materials, all with abstracts and some with full-text documents. Expanded Academic Index contains material from arts and the humanities to social sciences, science and technology. It provides access to academic journals, magazines and newspapers, some with full text and images. ABI/INFORM provides citations and abstracts for articles in mainly business and management areas, many with full-text. Current Contents provides access to the tables of contents and bibliographic data from current issues of the world's leading scholarly research journals in the sciences, social sciences, and arts and humanities.