



Technology Enhanced Learning in Research-led Institutions

capabilities of benefit to students in their university studies, future employment and lifelong learning pursuits.

TELRI is a HEFCE-funded collaborative project with Oxford University, managed by the Centre for Academic Practice at the University of Warwick. At its core, TELRI advocates developing curricula that encourage a research-orientated approach to learning. The project aims to help departments to make effective use of educational technologies to develop research skills and

How well do you understand these phrases in the context of your teaching approaches?

- ❖ **Research-orientated curricula**
- ❖ The culture of the discipline
- ❖ **Meaningful learning objectives**
- ❖ Explicit assessment criteria
- ❖ **Integrating technology into course design**
- ❖ Understanding the institutional ethos
- ❖ **Engaged learning**
- ❖ Student research capabilities

These are just some of the buzz phrases that the TELRI Project team, like other educational developers, has engaged with during the first six months of working with academic staff and departments. But they appear not to be universally understood and mean different things to different people. This is explored in a viewpoint report from Mick Roach, one of the project officers on the TELRI Project, entitled *Learning or Education?* in this issue of *Forum*.

The team is finding that some patterns seem to be emerging from working with groups of academic staff to date. The following comments are tentative and may require revision in due course, but it is believed that they form a valuable part of what the project is exploring.

Engaging with the discipline language

In the first stages of the Project, the TELRI team consulted with individual lecturers across a wide range of departments about what the development of research capabilities meant in terms of their subject area and their own teaching approaches. On reflection, it is clear that a significant period of the initial discussions with lecturers was actually spent in establishing a common "language" so that the dialogue about teaching and learning approaches could be open and meaningful. The team needed to acquire understanding of the unique aspects of each discipline. Likewise, the lecturers need to find ways to rationalise their teaching approaches they face in educational "speak".

Ironically, this difficulty in understanding the "language" of a discipline or set of course objectives is faced by most *students* in realising what is expected of them. Many students do not acquire insight into what the specified learning outcomes mean until the end of a course and therefore from the outset are often task and assessment driven. Since this approach relies heavily on continuous tutor input, the TELRI Project is assisting lecturers in developing course designs that support students in acquiring the "language" of the course at an earlier stage. A large part of the TELRI contribution involves a joint consideration with staff of the student perspective in terms of what is expected of them. In this sense, course designs have benefited from an initial consideration of the student's starting point. Making learning objectives and assessment criteria explicit helps to

guide students through the course towards the appropriate learning outcomes, provided that the students share a common depth of understanding of the meaning of the terms.

An important motivation factor for students involves providing opportunities for them to engage in the use of the subject language, to gauge their performance against other students, and to place fundamental principles into the context of their application to a topic, discipline or 'real world' situation.

TELRI progress in departments

In most departments, courses or learning tasks have now been identified in which research capabilities exist and might be enhanced using technology-assisted teaching and learning approaches. Existing courseware materials have generally been found to be inappropriate to the level and nature of study at Warwick and Oxford. The materials investigated are in most cases not only pitched too low, but also incorporate very little scope for developing higher cognitive abilities. In general, it appears to be technological *methods* and *facilities* that best provide new possibilities for teaching and learning approaches, rather than provision of CAL-type materials per se.

The exception to the above scenario is where courseware can provide an appropriately tailored resource base, the components of which can support other teaching and learning activities. As we found with the School of Law at Warwick, where such a knowledge base is available, the nature of traditional modes of teaching can shift away from passive information transfer towards methods that engage learning and from which students' research capabilities can be developed.

Rethinking course designs to provide opportunity for students to place conceptual meaning around a discipline's content base is not only good practice, but is paramount to developing courses that enhance a research-like approach to student learning. From this starting point, technological methods can avoid the "bolt-on" approach and be most effectively applied to an integrated learning environment.

In Biological Sciences, we are working with the Department of Zoology at Oxford University to develop a new course in Bioinformatics. The course will run entirely on the web, with the exception of a short introductory lecture, describing the objectives and methods for the course, and a final debriefing drawing together some of the learning gains of the course as a whole. This poses a particular challenge to the course designers, since students need to be able to take responsibility for their own learning and thus, need learning objectives and assessment criteria to be highly explicit.

In working with the Department of Continuing Education at Oxford University, a similar challenge is faced with the on-going development of the Internet-based course on Local History. Oxford University's approach to teaching relies heavily on one-to-one and very small group tutorials. TELRI and the course developers are exploring ways in which the richness of this intense form of interaction can be recreated in an on-line environment

Working with staff from the Language Centre, Italian Studies and History, TELRI are producing a prototype to enable students to publish work on the web and centre discussion around their choice of materials. Course activities are designed to develop student capabilities in the lingual skills and to foster research and IT skills using student web publishing as a working context and to provide a 'live' forum or focus for discussion. For example, a case study into web-supported student-centred learning is being developed for a French language course, which deploys web-supported research and assessment contracts. Students are required to: select an image from the web, present a public discussion of the chosen image to their peers and tutor, participate in the formulation of "follow-up" research questions and, finally, to publish the results on a web site. Both the presentation and

the written dissemination must be delivered in the target language.

The project will investigate the extent to which the research nature of the work, and the personalised forum in which it is negotiated, provides the motivation for students to learn and apply language in a real context. Such approaches are being applied to several courses with a main emphasis being placed upon the student authorship of the web material and the research skills required to develop and use such material.

The majority of courses in which TELRI have become involved have encountered certain obstacles.

- ◆ The technological possibilities are not initially apparent since complementary course designs are not always straight-forward extensions of existing courses.
- ◆ Specific software experience is difficult to attain
- ◆ The availability of specific software support is unclear
- ◆ The level of generic IT support is unclear
- ◆ There is often a lack of direct experience of the possibilities for technology-assisted courses and (as with students) descriptions are frequently not enough to convey the concepts.

Many of these obstacles will change with time and experience and will form part of the outcomes that the Project is aiming to deliver.



Dr Jay Dempster
TELRI Project Manager
Educational Technology Service
Centre for Academic Practice

Email: telri@warwick
Tel: X 24670 Fax: x 72736