

Paper for the TLTP annual conference 10-11 May 2000

The TELRI project is investigating ways in which technology can be used to enhance the quality of courses in research led institutions. It is however difficult to design technological support for learning processes when it is unclear what those processes are. The project team have had to clarify the 'nature' of courses at research led institutions and investigate ways in which the 'quality' of such courses maybe enhanced using C&IT. This has inevitably led into the discussion regarding the relationship between research and teaching. Whilst acknowledging the political nature of such discussion the team was nevertheless required to establish some underlying educational principles. These would form a basis from which academics could relate to their own experience of teaching in research led institutions (in terms of working practice) and also to provide some guidelines for the implementation of appropriate and effective C&IT in such courses.

Academic staff at research led institutions tend to operate within a culture of creativity and inquiry. Such underlying values (although not exclusive to research led institutions) tend to be central to the working practice of academics actively involved in research. The associated courses are therefore considered to instil such qualities in students which we have termed 'research capabilities'. Such cognitive skills go beyond mastering the subject content and tend to be less context specific and therefore more transferable than other more situated skills. As such the nature of the assignments and assessments and indeed the students working practice tend to reflect such an emphasis, when facilitated. The key role of the TELRI project was to therefore clarify the learning processes associated with research led courses and to design and encourage the integration of C&IT in such courses which specifically encourage and support such 'research capabilities'.

The focus to date has been to identify two fundamental learning processes which appear to satisfy the functional criteria required for the development of educational support systems. These have been termed 'adoptive learning' and 'adaptive learning'. Adoptive learning is undertaken by individuals when the operational context is bounded and defined and tends to be associated with closed questioning. Adaptive learning tends to be (indeed has to be) used when the situation is open, less well defined and unfamiliar. In the former case the tendency is for individuals to follow information structure whereas in the latter case the individual is required to form structure from information. This is inherently a more creative process but does encourage the student to operate at higher intellectual levels in novel or unfamiliar situations. It is argued that the majority of true learning situations are of the adaptive kind.

In making this learning process distinction the TELRI team have produced a course design framework (somewhat open in nature) to allow academic staff to clarify the form of their course and the nature of assignments and assessment without resorting to classifications of learning outcomes. The technological support required for both adoptive and adaptive learning has been described with the emphasis being placed on adaptive learning support. To this end an easy to use tool has been developed by Warwick University to assist TELRI in delivering on line publishing and feed back to the students.