

# FLEXIBLE LEARNING: HOW CAN WE GET THERE FROM HERE?

**Tim S Roberts**

Faculty of Informatics and Communication  
Central Queensland University, Bundaberg, Queensland, AUSTRALIA  
*t.roberts@cqu.edu.au*

## **Abstract**

*The term “flexible learning” has been used by many institutions with regard to their methods of course delivery, particularly by those seeking to attract external students. In almost no cases is the use of the term justified, since the flexibility concerned relates only to certain very limited components of the learning process. This paper outlines the very real problems that are faced by institutions seeking to make their courses truly flexible, and proposes a classification scheme to measure the degree of flexibility achieved.*

## **Keywords**

*Flexible learning, web-based delivery, online delivery, online learning, evolutionary model, radical model*

## **Introduction**

There’s an old Irish joke in which a foreign tourist heading towards Dublin has taken a few wrong turns, and as a result finds himself hopelessly lost somewhere in the middle of the Irish countryside. Driving along a winding lane he spots a farmer, and stops the car to ask for directions. “Excuse me”, he says, “but could you possibly tell me the way to Dublin?”. “Oh to be sure, to be sure...” says the farmer (as all Irish farmers apparently do), and then, contemplating a little, continues, “...but if I were you, I wouldn’t start from here”.

We face a similar situation today with regard to, on the one hand, the rules and procedures inherent in most tertiary institutions, and on the other, the ideal of flexible learning, which is to provide students with choices about how, when, and where they learn.

This paper is a roadmap of how to head towards flexible learning. It’s just a pity that we have to start from where we are now.

## **Where we are now**

At the moment, most tertiary institutions are highly bureaucratic organizations, with many rigidities built-in. Applications must be made in a certain way, by a certain date. Enrolments have fixed deadlines. Graduation ceremonies are fixed events for which students need to apply in advance. Lectures, tutorials, and laboratory sessions are scheduled at certain times of the day, on certain dates during the semester. Assessment items are normally composed and scheduled without any prior student consultation, with fixed deadlines for submission.

## **Where we could be?**

If we look at other aspects of learning, such as those outside of the formal education sector, we see a completely different, and less bureaucratic, system, which generally operates at least as effectively.

Learning to play chess? One can read books, one can practice against other human opponents or against expert computer systems, one can see the experts play at tournaments, one can read articles on chess, etc etc. Most of these can be done at times of ones own choosing, and in pleasant company and surroundings.

Learning to drive? Here, students face few of the administrative difficulties inherent in the higher education sector. Choices can usually be made from a number of driving schools; lessons can be booked at short notice over the 'phone; the process of learning to drive can be undertaken in a variety of ways; driving tests can be arranged at a number of locations, at a time to suit the student. What is preventing higher education being equally flexible?

## A classification scheme for flexible learning

One possible classification scheme to measure the degree of flexible learning essentially consists of a 3 by 3 model. On the vertical axis are the three components:

- administrative processes, such as enrolment and completion
- learning processes, such as attending lectures and tutorials, reading texts, solving exercises, etc
- assessment processes, such as quizzes, examinations, or other items which are marked or graded and used to assign the final grade

The horizontal axis identifies whether the flexibility is one of:

- location, or
- time, or
- method

This classification scheme is illustrated in Table 1.

	Location	Time	Method
Administrative Processes			
Learning Processes			
Assessment Processes			

Table 1: The three by three categorisation of flexible learning

### Administrative processes

Administrative processes are often the most difficult to change, because they are enforced or maintained by many disparate groups, from academic and administrative staff within the institution to outside agencies such as Federal or State government departments. The three tests for flexibility in administrative processes can be exemplified by the following questions.

1. *Can students perform the administrative procedures necessary (such as enrolment, changing of course, etc) from remote locations?* Until recently, such processes have required considerable bureaucratic paper-shuffling, in order to ensure that an audit trail can be followed, and the student's signature can be sighted on a piece of paper. This has meant that performing such administrative processes by telephone or email has been impossible. However, many institutions are now moving to make such processes available via the Web; so far often with limited success. However, the movement to make this an area of greater flexibility is encouraging.

2. *Can students perform such administrative procedures at times of their own choosing?* Alas, usually not. For many reasons, timelines are often fixed and non-negotiable. Deadlines for enrolment, for adding new courses, for dropping courses, and for completion are usually beyond the student's control. The missing of any particular deadline can have far-reaching consequences so far as the student's study program is concerned.

3. *Can students perform such administrative procedures by a variety of methods?* It must be recognized that many students are still without adequate access to the Internet, and that therefore the ability to perform administrative procedures by a variety of methods is beneficial. The move from paper-based systems to Web-based systems is to be welcomed; but flexibility of methods should be enhanced so that other possibilities, such as changing courses via telephone, are not impossible.

## Learning processes

The classical face-to-face lecture, exemplified by the now-clichéd phrase “the sage on the stage”, is undergoing dramatic challenges to its ubiquitous place in tertiary education.

Pedagogically, it is doubtful that the lecture has ever been a good medium for learning. In terms of the three different forms of learner interaction (Moore 1989), it relies entirely on learner-instructor interaction, and normally the interaction in lectures is entirely one-way. Students face the continual battle of maintaining a waking state, and/or transcribing the notes from the whiteboard or screen used by the instructor, to the notebooks on their desk.

Whilst tutorials and laboratory sessions are often used to supplement lectures, the advent of the World Wide Web has enabled other forms of teaching and delivery, and thereby interaction and learning, to come to the fore.

It is now commonplace for course materials to be available on the Web, though often in a relatively unsophisticated format, such as Word documents or PowerPoint slides. This at least enables a slightly greater variety of learner-content interaction to take place. Email lists and discussion groups are often used to enable much greater learner-instructor interaction, and also to provide facilities for learner-learner interaction, though more often than not this form of interaction is merely enabled, rather than being encouraged as an integral component of the learning process.

The three tests for flexibility in learning processes can be exemplified by the following questions.

4. *Can students learn from remote locations?* Thankfully, the answer to this is often yes, at least for those courses made available online, with substantial materials on the Web, and an email discussion list.

5. *Can students learn at times of their own choosing?* The answer here is not quite so clear-cut. Providing materials are on the Web, students are no longer restricted to set lecture times, and (theoretically at least) can choose to study at weekends or during the early hours of the morning – providing the relevant technology is operational at these times. However, times are still confined to certain periods during the year, when the course “is available”. Students rarely have freedom of choice with regard to the starting or ending dates of their learning.

6. *Can students learn by a variety of methods?* If a course has been labeled flexible purely because the lecture notes have been made available online, then the answer is clearly no. For a definitive “yes” answer, it is a necessary, but still insufficient, requirement that a variety of resources should be provided, such as lecture slides, audio and/or video recordings of past lectures, still images and animations, worked examples, and so on. The provision of such resources is clearly valuable to students, but is expensive. However, given that such resources can often be used for multiple course offerings, the cost may not be such as to be prohibitive.

Even where a variety of resources is provided, such provision may still be insufficient to ensure a variety of learning methods are available. What, for example, of those students who prefer to learn in a group environment, or those who prefer to learn by grappling with practical cases? While many educators feel that other aspects of flexibility make such provision difficult, there are many suggestions in the literature. Horton (2000), for example, provides a variety of interactive activities such as drill-and-practice exercises, virtual laboratories, case studies, guided research, and others, all of which can be used in an online web-based

environment. Beer (2000, p42) stresses the importance of providing adequately for social learning in such environments. Adelskold et al (1999) describe how collaborative interaction can have a positive impact on learning during problem-solving activities. And so on.

## **Assessment processes**

Processes of assessment are peculiar, in that some assurance must be provided that the students being assessed are indeed who they say they are. This is a more minor consideration with administrative procedures, and almost irrelevant with learning – who cares if other students are doing the learning as well as, or instead of, the students who are supposed to be doing the learning? But in the case of assessment, correct identification is vital. The credibility of an institution could be undermined if the quality assurance processes in this area were found to be less than adequate.

The three tests for flexibility in assessment processes can be exemplified by the following questions.

7. *Can students be assessed from remote locations?* Usually, no. There may well be facility for the submission of some assignment items by email, or via the Web. But often the end-of-term examination must be taken at a particular location, or at a choice of locations. Rarely are students enabled to take examinations from their home – this is just too complicated. And for those courses that do not have end-of-term examinations, it is often the case that quality assurance procedures to ensure submissions are the students' own work are sadly lacking.

8. *Can students be assessed at times of their own choosing?* The answer here is almost always a resounding no. Deadlines are often rigidly enforced, usually for the pedagogically sound reason that non-adherence to set deadlines would disadvantage other students, in the form of being unable to give timely feedback, or release sample solutions.

9. *Can students be assessed by a variety of methods?* No, of course not. Despite the fact that across courses assessment methods are likely to vary considerably, students rarely have a choice of how to be assessed in any particular course. While some may prefer essay-style assignments, and others multiple-choice quizzes, and others take-home exams, almost never is a choice provided. In fact, the provision of such choices is not overly difficult; what is troublesome, however, is the problem of ensuring equity in such cases. How is one to ensure, and be seen to ensure, that students are assessed equably, if they have taken differing forms of assessment? Perhaps the best that can be remarked is that a great deal more research could profitably be carried out in this area.

## **Where have we got to?**

Using the three by three model, how would most current courses on offer by institutions around the world fare? If each category was graded on a pass/fail basis, would they have ticks in all of the nine boxes?

### **The “typical” model**

Most courses advertised as being “flexible” would most likely have ticks in less than half, and perhaps in only a single one, of the nine boxes.

The first column, the geographical location, is likely to have the most ticks, since it could be claimed that putting notes on the web is sufficient for a tick in the “learning processes” box. A tick in the administrative procedures box depends upon the institution rather than the course – can students really enroll and complete online? And a tick in the assessment box depends upon all assessment being able to be taken from a remote location of the student's choice – often not an option with courses having an end-of-semester examination.

With regard to the second column, on time, all three boxes are likely to remain without ticks. At the moment, in the great majority of institutions, timelines are not flexible at all. Students must enroll in courses by certain fixed deadlines, or have to wait for next semester, at best, or one or two years hence, at worst. Once enrolled, the time of learning will depend upon whether resources – and other students – are available at all times, or according to strict timelines. In many courses, for example, overheads from lectures are made available online only after the face-to-face lecture has been delivered. And in terms of assessment, it is still extremely rare for students to have a choice of time free from severe constraints.

	Location	Time	Method
<b>Administrative Processes</b>	?	No	?
<b>Learning Processes</b>	Yes	?	?
<b>Assessment Processes</b>	No	No	No

Table 2: The average score for most “flexible learning” courses

Finally, the third column, on methods. With regard to administrative procedures, there may or may not be flexibility to enroll by letter, or ‘phone, or email, say; but such flexibility is the exception rather than the norm. With regard to learning, much depends upon whether time and resources have been allocated to provide a variety of possible learning methods, such as lecture slides, animations, audio tapes of lectures, books, study guides, and other resource materials. So far as assessment goes, students rarely have any choice as to whether they are assessed in groups or individually, or by assignment work or examinations, or indeed whether the examination is closed book or open book.

#### **Application to various models of delivery**

In the four models of online delivery described by Roberts et al (2000), the *naïve* model, the *standard* model, the *evolutionary* model, and the *radical* model, the *evolutionary* model would score the most highly for flexibility. Counting each “Yes”, the *naïve* model (basically, where lecture notes are provided online) would score one (for being able to learn from remote locations), while the *standard* model (with an email list, and other online resources) would most likely be scored at two or three (since some assessment tasks can be taken remotely, and a large number of resource materials, allowing flexibility in learning methods and time of study, are provided).

#### **The “evolutionary” model**

The *evolutionary* model (Jones 1996) includes the following features:

- a range of electronic resources linked to from the course home page
- electronic copies of all printed course materials
- lecture slides in Powerpoint format
- any notes arising out of on-campus lectures and tutorials;
- workshop tasks and solutions
- assignment marking guidelines
- full contact details of all instructors
- copies of past examinations for the course
- hints and tips for the current examination
- an electronic course discussion list
- a list of updates and additions, in date order
- distribution on CD-ROM of a mirror of the Web site as it pertains at the beginning of semester
- pre-recorded audio lectures available both on the CD and from the Web
- animations to explain many of the concepts
- ‘live’ lectures given only in response to specific student requests
- provision of a “feedback barometer” (Svensson et al 1999).
- web-based archives of mailing list discussions from previous semesters

- electronic assignments submission, recording marking, and return (Roberts, Romm, and Jones, 2000)

	<b>Location</b>	<b>Time</b>	<b>Method</b>
<b>Administrative Processes</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Learning Processes</b>	<b>Yes</b>	<b>Yes</b>	<b>?</b>
<b>Assessment Processes</b>	<b>Yes</b>	<b>?</b>	<b>?</b>

Table 3: A possible score for the “evolutionary” model

The evolutionary model might score as high as four-and-a half, though the model does not attempt to provide any flexibility with regard to administrative procedures, and there is little flexibility in assessment. However, the variety of online resources does provide a fair degree of flexibility, particularly with regard to the learning processes that students can employ.

### **The “radical” model**

The *radical* model (Romm and Taylor 2000) is interesting, because it is largely based on group work. Features include:

- a video sent out to all students prior to the commencement of semester explaining the “way the course works”;
- minimal traditional instruction from the instructor
- an expectation that students will use the set text, and make extensive use of search engines and other facilities to seek out resources available on the Web;
- compulsory use of the course mailing list for communication;
- the replacement of lectures by online electronic presentations prepared by the students themselves, each based on the topic for that week;
- the allocation of students into groups, each of which is responsible not only for providing an electronic presentation at some point during the semester, but also for responding critically to all other such presentations. (Roberts, Romm, and Jones, 2000)

	<b>Location</b>	<b>Time</b>	<b>Method</b>
<b>Administrative Processes</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Learning Processes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<b>Assessment Processes</b>	<b>No</b>	<b>No</b>	<b>No</b>

*Table 4: A possible score for the “radical” model*

It is noteworthy that the radical model scores very poorly in terms of flexibility, since students have almost no choice except in the location from which they study. It would perhaps not be unfair to conclude that learning and teaching methods which incorporate group work as a major component tend not to be particularly flexible.

## **Conclusion**

Of course, the above should not be taken to imply that all institutions and all courses will, or should, seek full flexibility in all of the areas mentioned. Some may still feel that a number of constraints are valuable, and to be retained at all costs. However, in such an event, perhaps the institutions concerned might make explicit the ways in which their courses are flexible, and the ways in which they are not, thus enabling prospective students to make a more fully informed choice of institutions and courses than is currently the case.

## **References**

- Adelskold, G., Aleklett K., Axelsson R. and Blomgren J., (1999), Problem-based distance learning of energy issues via computer network, in *Distance Education*, 20(1), 129-143.
- Beer V., (2000), *The Web Learning Fieldbook*, Jossey-Bass/Pfeiffer, San Francisco.
- Horton W., (2000), *Designing Web-Based Training*, John Wiley & Sons, New York.
- Jones, D., (1996), “Solving Some Problems of University Education: A Case Study”, in Debrecey R & Ellis A (eds), *Proceedings of AusWeb '96*, pp243-252, Lismore, NSW.
- Moore, M. G., (1989), Three Types of Interaction, *The American Journal of Distance Education*, 3(2), 1-7.
- Roberts, T. S., Romm, C. & Jones, D., (2000) 'Current Practice in Web-Based Delivery of IT Courses', In *Proceedings of APWeb 2000*, International Academic Publishers, pp298-302
- Romm, C. T. and Taylor, W. (2000) "Thinking Creatively about On-line Education". In *Challenges of Information Technology Management in the 21st Century*, ed. M.Khosrowpour. Idea Group Publishing , Hershey. PA. pp 1167-1169.

## **Acknowledgements**

Parts of this paper were first presented at the ITiRA conference in Rockhampton in 2001, under the title *A Classification Scheme for Flexible Learning*.

Copyright © 2002 Tim Roberts.

The author(s) assign to ASCILITE and educational non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The author(s) also grant a non-exclusive licence to ASCILITE to publish this document in full on the World Wide Web (prime sites and mirrors) and in printed form within the ASCILITE 2002 conference proceedings. Any other usage is prohibited without the express permission of the author(s).