I focus here on the potential and limitations of flexibility in technology-rich distance education. Flexibility is one of the fundamental advantages that distance education offers over traditional classroom-based higher education. Many students who choose to study “at a distance” are already employed, or their circumstances make it impossible for them to contemplate full-time education, even if they possess the necessary entry qualifications. The UK Open University, the first of the multiple-media distance-teaching universities, proudly proclaims in its mission statement that it is “open to people, places, methods and ideas” (www.open.ac.uk). Most single-mode distance-teaching universities recruit students who need to fit their studies around other responsibilities and demands. They must be able to determine for themselves where and when they undertake their learning activities (within the overall course and assessment schedule) and the pace at which their studies progress.

In recent years, many campus-based universities in Western countries have sought to increase the number of non-traditional students enrolled by offering a growing range of e-learning or technology-enhanced learning (TEL) opportunities. These developments may also serve to increase flexibility for on-campus students. For example, the current “Strategy for E-learning” of the Higher Education Funding Council for England takes a technology-led approach designed to “support the HE sector as it moves towards embedding e-learning appropriately, using technology to transform higher education into a more student-focused and flexible system, as part of lifelong learning for all who can benefit” (Higher Education Funding Council for England 2005, 5).
So here I critically examine the implications for flexibility of the increasing adoption of e-learning or tel methods in distance education. To what extent does e-learning transform distance higher education into “a more student-focused and flexible system”? What adjustments to the practices and behaviours of both learners and teachers might evolve through the increased use of technologies? Also, and more importantly, I consider the potential significance of conceptions and models of learning and teaching.

One very noticeable increase in flexibility relates to the use of terms when technology and education collide. The particular term used in any particular case often seems to be determined more by fashion than by any meaningful definition of the constituent words themselves. For example, over the last fifteen to twenty years, the application of information and communication technologies (ict) to learning and teaching has been called computer-assisted learning, distributed learning, e-learning, networked learning, online learning, tele-learning, and technology-enhanced learning. Each of these terms tends to be applied in a fairly imprecise way to describe a diverse range of educational activities. Although the word learning has usually been an essential part of the term used, in practice the focus has more often been on supporting teaching with technologies.

**Implications of Technology-Enhanced Learning for Learners**

When any significant change is introduced into an educational system, there are likely to be winners and losers. While some students (or potential students) are likely to derive advantages from any particular change, other people will be disadvantaged. Ideally, the overall total gains should more than compensate for the sum of the losses incurred. In higher education, therefore, we need to examine the expectation that technology-enhanced learning in the form of online/Web-based work should form an increasing proportion of student activity. What is gained and what is lost? Who are the winners and the losers? I will also assess how several aspects of increased online activity associated with Web-intensive modules or courses may impact flexibility.
Internet Access
Course modules that are exclusively online or that include a substantial amount of online work severely restrict opportunities for learners to study where and when they choose. Some learners might be able to log on to their course website from many parts of the world, so there is the potential for global course registrations and greater flexibility for those students who travel extensively. On the other hand, dependency on a high-grade Internet connection reduces or rules out access for many learners. Due to cost or personal circumstances, students might have no Internet access, or they may study in a locality that is not well served by the Internet. Many learners may be unable to access the Internet at a preferred time: for example, while commuting between home and work.

Interpersonal Communication
Online communication—particularly the opportunities for interpersonal contact between learners—signalled the move, in many institutions, from “second-generation” to “third-generation” distance education (Nipper 1989) and helped to overcome what Guri-Rosenblit (2005, 475) called “the Achilles heel of distance education.” However, many reports lament the fact that students tend to make much less use of interpersonal communication such as online student forums or conferences than their teachers had anticipated (Erlich, Erlich-Philip, and Gal-Ezer 2005; Fung 2004; Kear 2004). Kirkwood and Price (2006) argue that this often results from poor pedagogic design due to the persistence of inappropriate models of learning and teaching. A highly didactic or transmissive approach provides little incentive for students to learn through discussion or collaboration with peers, especially if such activities do not contribute to the learning outcomes being assessed. If students expect didactic teaching and do not understand why discussion with fellow learners might bring benefits, they are likely to consider communication with peers to be a waste of their time and effort. Opportunities to learn with and from fellow students in the social context of a course cohort may easily be thwarted by resolutely individualistic approaches to pedagogy and assessment.

Synchronous or Asynchronous Contact
While asynchronous communication offers many advantages for distance learners, there are pressures to increase the use of synchronous
communication tools, particularly when language development (Hampel and Hauck 2004) and/or group work are important outcomes. It is claimed that the development of online communities of learners can be encouraged and reinforced by offering real-time “group events” (Weller 2007). However, this strategy may act as another means to diminish learners’ flexibility in the time, place, and pace of study. Such a demand for synchronous discussion is particularly problematic for modules or courses offered internationally, where students might be dispersed geographically across numerous time zones.

Increased opportunities for student-to-student communication have enabled distance-education courses to adopt social-constructivist approaches (Duffy and Orrill 2003; Kanuka and Anderson 1999) to a greater extent than was previously possible. Activities that require cooperation, collaboration, and learning from and with peers need no longer be confined to infrequent sessions when students can be physically co-located; group work can now be undertaken online at any appropriate time. There is greater flexibility in course design and improved possibilities for widely dispersed learners to engage with group-work activities. However, a successful collaborative group—particularly if it requires a sustained or substantial amount of social interaction and/or construction of knowledge—requires learners to progress more or less at the same pace (lock-step) and to remain in frequent contact with other members of their group. Again, this imposed cohesiveness restricts opportunities for learners to progress with their studies in ways that best suit their own circumstances and schedule. Teachers may intend to increase the student-focused nature of learning activities, but in practice, learner flexibility is likely to suffer unless teachers fully consider the implications for learners when designing and scheduling collaborative group work.

Effects of E-assessment

One set of functions that computers have offered in educational contexts for many years involves testing and the provision of feedback to learners almost immediately. Computer-based tests and quizzes have been used extensively in situations where factual recall is being assessed and, to a lesser extent, where more complex responses are demanded: for example, relationships between concepts or factors, evaluative judgments, and so
on. In distance education, the rapid provision of appropriate feedback on Web-based formative assessments can have advantages for both motivation and the development of learning. Of course, the extent to which learners will actually derive benefit from feedback depends on how well that feedback has been prepared and presented.

However, too many multiple-choice tests and quizzes used in a module or course brings the danger of encouraging surface rather than deep approaches to learning (Marton and Säljö 2005). We now have considerable evidence to support the view that assessment is the main driver for student learning, particularly in distance education (Kirkwood and Price 2008). Assessment influences not only which components of a course or module students choose to give their time and attention to but also how they attend to those components. Empirical studies (e.g., Scouller 1998) have found that students tend to adopt different learning approaches or strategies in different situations, according to their perceptions of the assessment requirements. A surface approach to learning is more likely if students anticipate assessment that requires little more than knowledge-based factual recall: for example, a quiz, multiple-choice questions, or a short-answer examination.

Forms of E-assessment
The online submission of summative assignments is another innovation bringing potential advantages for learners. Assignments in digital form can be uploaded to a university’s system right up to the cut-off point, so that students do not have to print and mail their completed assignments well in advance. However, while online submission is highly suitable for essay-type assignments, it does not favour forms and formats that are not as easy to handle electronically. Where symbols, equations, and diagrams are necessary in student-generated demonstrations of learning—as is typically the case in subjects such as science, mathematics, and technology—students wishing to submit their work online face certain difficulties. Sometimes, students’ coursework includes non-written evidence or artefacts—for example, drawings, photographs, audio or video clips, or complex multi-media creations. These, too, may be highly problematic if there are restrictions on the size of files that can be handled by the online assessment system.
Weighing Advantages and Disadvantages

Without doubt, technology-enhanced learning can offer learners many advantages. Many individuals would be unable to pursue their studies or their particular choice of course if online modules were not available. However, as I have outlined, technology-led innovations and/or increased dependency on online working have acted to restrict or disadvantage many learners.

Implications of Technology-Enhanced Learning for Teachers

In recent decades, considerable transformation in the education sector and in wider society has produced impacts upon the higher-education environment. Kirkwood and Price (2006) drew attention to the need to adapt to the following key changes:

- Changing characteristics and circumstances of students
- New demands in terms of the knowledge, skills, and competencies expected of those gaining certification from courses
- Greater diversity in relationships between learners and the providers or sources of learning opportunities
- Expanding participation in the “networked society” with its increased opportunities for interpersonal communication and access to digital resources

Higher-education institutions and their teachers need to develop different ways of working. They are, indeed, responding to some or many of these changes in various ways. However, what is really required is a holistic reappraisal of the complexities of learning and teaching within a markedly different social and economic landscape. Piecemeal measures are unlikely to adequately achieve the required complex and multifaceted adaptations. Attempts to increase flexibility in one aspect of an institution’s practices may, in fact, be undermined by “legacy” assumptions, models, and policies that have shaped and supported the institution in former times and circumstances. Let us dig a little deeper here.
Most single-mode distance-education universities were designed to benefit from economies of scale achieved by applying the “industrial model” (Peters 1983). The preparation of educational materials is separated—by time and place—from the interaction of students with those materials and with their tutor. To a large extent, this approach still underpins the development and production processes for materials and resources in single-mode distance universities. In essence, the industrial model gives preference to the one-way flow of information and ideas—from experts/teachers to learners—with only limited opportunities for dialogue. Because learners are dispersed and separated from their teachers and from each other, the industrial model reinforces the role of institutions and academics as “gatekeepers” who control access to information and knowledge.

This model predated the era of the Internet and the World Wide Web, which make learner-learner, learner-teacher, and learner-resource communications considerably easier to achieve and much more difficult to control. Reducing “transactional distance” (Moore 1993) also increases the complexity of the role of teachers within the learning process. The multiple forms of communication now available for distance education challenge the assumptions underlying systems and procedures that were created for the distribution of learning resources from those who possess knowledge and understanding to those who do not. The industrial model was served well by transmissive media, in forms that enabled mass production, storage, and distribution of materials for multiple presentations: that is, print, broadcast, and disc or cassette. It also concentrated on creating and delivering self-contained educational resources to individual learners, providing everything they needed to successfully complete their studies. In an increasingly networked society, it seems appropriate to question the continued dominance of such an individualistic educational model.

**Structural Inertia**

Despite the fact that distance education institutions are increasingly introducing e-learning or technology-enhanced learning approaches, there remain many “legacy” production and administrative systems that continue to favour the mass production of materials for distribution for...
individual study. These structural factors may significantly hinder the adoption of more flexible approaches. The distinction, for example, between those who develop distance-education modules and courses, and those who tutor students is becoming difficult to sustain with the increasing adoption of online working. Global networking has brought about an information explosion and an increasingly rapid dissemination of new ideas, models, and ways of understanding, with the result that course modules can no longer be produced to remain largely unchanged for several presentations. Regular updating of modules brings budgetary and staff workload implications that make economies of scale more difficult to achieve. Regular updating and increased opportunities for interpersonal communication also challenges the separation of roles and the patterns of working associated with the industrial model, muddying a clear distinction and separation between those responsible for planning and producing course resources and those who interact with students during course presentation.

Assessment Practices and Procedures
Student assessment in distance education is an important area, but it is progressively becoming “unfit for purpose.” Graduates are increasingly expected to develop a range of skills that prepare them for living and working in the twenty-first century. These skills include generalizable attributes such as the ability to cope with complexity, proficiency in information retrieval and evaluation, presentation skills, and the ability to influence others and to work as a member of a team. (For an example of “graduate qualities,” see www.unisa.edu.au/gradquals/default.asp.) However, the commonly used methods and approaches for assessing students rarely enable these skills to be adequately demonstrated. Administrative rules and procedures often hinder teachers’ attempts to make assessment more appropriate. For example, the assessment regulations often remain focused on the individual learner and allow only the work of a single person in any assignment to be assessed. If the development of group-work skills needs to be assessed, students must indicate their own contributions to any jointly produced outcomes and/or must write a commentary on the processes involved. Increasingly, we encourage students to reflect upon their learning and their personal and/or professional development. Various online tools have been developed to facilitate the reflective process: learning journals,
e-portfolios, and so on. However, regulations may obstruct this process if students are not permitted to submit any item for assessment more than once: this rule makes it difficult for individuals to show precisely how their learning or practice has evolved over their program of studies.

Re-versioning Resources
One way to employ technology to increase flexibility is to reuse or re-version course resources, creating “learning objects” for use in various contexts or institutions (e.g., Weller 2004; Littlejohn 2003). Sometimes the emphasis is not on reusing content “objects” in a variety of situations but on developing generic pedagogic approaches or learning designs for application in different disciplines and with disparate types of learner (e.g., Laurillard and McAndrew 2003). Both approaches have been developed not by subject specialists but by people engaged in applying technology to learning. Many instances of these approaches are evident, but they certainly have not brought about substantial changes in the practice of most higher-education teachers.

Let us examine some of the problems here. The “learning objects” approach to increasing reuse and flexibility tends to be interpreted as embracing a fragmented didactic/transmissive model of learning and teaching: it is about delivering component bits of knowledge to learners in a decontextualized manner. How, then, are opportunities given for learners to derive meaning from each new learning object by relating it to their existing knowledge and ways of thinking? How do learners establish the contexts or circumstances within which the object builds their understanding? If learning objects represent content without a specific pedagogic approach, is it realistic to assume that learners in any cohort will achieve similar assessable learning outcomes? How will the learning of individuals be scaffolded? If a generic pedagogic approach is to be reused, might this create dissonance with the existing beliefs and practices of many teachers? The potential for flexibility through reuse and re-versioning might actually prove to be anything but flexible in many regular learning and teaching situations.

Finally, the manner in which technological innovations have been introduced and “embedded” within higher-education institutions has not been an unqualified success! Too often, technologies have simply supplemented and/or reinforced existing teaching practices. Policies
and strategies for e-learning or technology-enhanced learning in both distance and campus-based universities have tended to be technology driven. They have concentrated on developing the technological infrastructure with little or no consideration being given to the implications for appropriate pedagogies and student learning.

Technology-driven policies for ICT adoption reflected in professional development programs for academic staff (full-time and part-time) have tended to flow from the top down. Kirkwood and Price (2006) argue that such programs will never have more than limited success because they fail to address underlying and often idiosyncratic issues relating to the nature of teaching, learning, and pedagogy. Unless teachers are encouraged to re-examine their own beliefs and practices in the light of these essential foundations, technology will never do more than reproduce their existing approaches to learning and teaching, no matter how appropriate or inappropriate these might be.

CONCLUSION

I have examined some of the myths and realities associated with greater use of ICT for learning, teaching, and administration in higher and distance education. I have suggested to you that increased flexibility in certain aspects of the educational process might be counterbalanced by decreased flexibility in other aspects. I have argued that the adoption of technology is very unlikely in itself to result in greater flexibility for learners and/or for teachers. Ongoing debates about the potential for technologies to transform educational institutions can divert attention away from the pervasive structural and systemic constraints and imperatives that determine or limit many aspects of educational practice.

I therefore ask you to consider the following questions in relation to your own context and experience as we all distinguish between myths and realities:

- How has your institution adopted technology-enhanced learning and what have been the main drivers (e.g., widening access, increased enrolments, etc.)?
• How much is known about the implications of adopting technology-enhanced learning for your existing or potential students? How much differentiation is there between students in terms of subject areas or levels of study?
• What types of support are provided to encourage or enable teachers to adapt their teaching and assessment practices in response to greater use of technologies? What has been your own experience?
• How well do the models of teaching and learning implicit (or explicit) within your organization relate to the current emphasis on learning-centred approaches and increased flexibility? What contradictions or incongruities (if any) does the nature of this relationship expose in your own teaching practices?

REFERENCES


**ABOUT THE AUTHOR**

Adrian Kirkwood’s determination to enter higher education grew in inverse proportion to the support he received from his school and, in particular, from its head teacher. Being a member of the first generation of his family to enter post-secondary education, he has always enthusiastically backed increased opportunities for non-traditional students to benefit from higher education. While at the UK Open University, he has been primarily concerned with improving the learning experience of students, especially in relation to the use of media and technologies. He has often described himself as a “skeptical enthusiast.” Rather than being led by technologically deterministic fashions, Adrian’s involvement with numerous evaluation and research studies has enabled him to take an evidence-based approach to helping others make effective use of technologies for learning and teaching. Adrian is currently Senior Lecturer in the Open University’s Institute of Educational Technology. http://iet.open.ac.uk/people/a.t.kirkwood