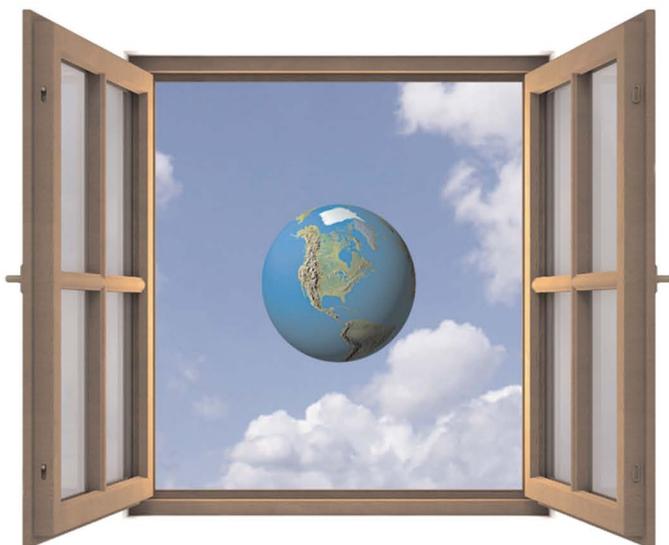


# OPENING UP EDUCATION

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The Collective Advancement  
of Education through Open Technology,  
Open Content, and Open Knowledge



edited by

Toru Iiyoshi and M.S. Vijay Kumar

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*To our wives and sons—  
Hiromi, Rukmini, Ken, Suhas, and Taku  
—whose support and encouragement makes this important work  
possible.*



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## The Gates Are Shut: Technical and Cultural Barriers to Open Education

Stuart D. Lee

In Thomas Hardy's *Jude the Obscure*, Jude Fawley dreams of overcoming the social and cultural barriers of the day by gaining a place at the University of Christminster (Oxford). Jude studies hard but does not enjoy the privileges of class. Despite his hard work, all his attempts to get a place at a college are rejected. In one letter, the Master of Biblioll College declares: "You will have a much better chance of success in life by remaining in your own sphere" (Hardy, 1998). Destroyed by the rejection, one night Jude drunkenly takes to the city: "At ten o'clock he came away, choosing a circuitous route homeward to pass the gates of the college whose head had just sent him the note. The gates were shut, and, by an impulse, he took from his pocket the lump of chalk which as a workman he usually carried there, and wrote along the wall: 'I HAVE UNDERSTANDING AS WELL AS YOU; I AM NOT INFERIOR TO YOU: YEA, WHO KNOWETH NOT SUCH THINGS AS THESE?'—Job xii. 3" (Hardy, 1998). Getting into higher education was a seemingly impossible task for those of a certain social class, despite their obvious ability.

Thankfully, over the hundred or so years since then, the barriers to entering university and education have been systematically removed. Education for all, matched by networks of schools, colleges, and universities has been a major political ambition of most developed countries. The UK, for example, saw early experiments in a different type of Open Education in the 1970s (Giaconia and Hedges, 1982; Holt, 1990; Huitt, 2001; Lessig, 2003; Mai, 1978; Rathbone, 1971). The recent target by the UK's Labour Government to reach a 50 percent participation rate by all school-leavers in higher education illustrates this.

As access and opportunities opened up, the next fortress to attack was that of the mono-disciplinary approach—the barriers this time were to be found within the institution. Traditional degrees focused on single subjects, and it proved extremely difficult to cross these boundaries. Yet this has changed over the years with the proliferation of joint honors, foundation degrees, and the rise of interdisciplinary degrees.

The rise of open education, the very subject of this book, seems like the next natural step in this progressive development. By harnessing the new technologies, we are in an unprecedented position to make educational material available to everyone at any time, regardless of social or national background.

Yet all is not well. As we have striven with reasonable success to achieve these goals, technical and political events have overtaken us. Separately these have contributed to an erecting of new barriers. If Hardy were here to update his novel, Jude would surf the Web, come across a university site, only to be prohibited from accessing its resources because he did not have a username or password. How did we get to such a situation? And more importantly, how can we reverse it?

### **The Technical Gates Are Shut**

Technically, the clearest example of the closing down of education lies in the commercial learning management system (LMS, aka the “virtual learning environment” or VLE). The underlying model used by these systems causes concern. First, the user is usually defined as falling into one of three roles—(system) administrator, tutor, or student (or similar nomenclatures)—with the limitations of what one can do in the system defined by this role. These are rigidly observed: Once a student, always a student, and never a tutor be. For many people, this may not present a concern. However, if you wish to turn areas over to students so they can lead their learning, create their own learning experiences, or peer-review, it can be problematic. The systems are driven by the Student Record System (SRS) or some external identity management application that then populates the LMS. Understandably, these favour robustness and accuracy over flexibility, but above all simplicity—and a single role per user—is as simple as it comes. These are notorious for running into issues with the variant roles people play in a higher education institution.

This is then perpetuated by the LMS. Taking its feed from the SRS, the pigeonholing becomes established across all areas and functions of the system. Although some commercial systems now claim to accommodate multi-roles for users, this can only be said to be true if a user can choose or be given different access privileges at any point in the system. To simply say you can be both a student and tutor is not enough. Privileges do not map neatly to roles. For example, a “tutor” can wear many hats: teacher, mentor, examiner, administrator, etcetera. In one area tutors may be allowed to do whatever they want (their own area related to their course, for example), but in others it might be more secure to allow them only to read some material, such as exam results, rather than to have editing rights. This complexity is not the exception to the rule; consider these potential privileges:

- see the title of a resource
- view or download a resource
- upload a resource
- alter the information about an area
- post a message
- fill in a questionnaire
- analyze the results of a survey
- change access rights

Now consider the various roles people occupy in a university: lecturer, tutor, personal mentor, course designer, head of subject area, head of department, committee member, financial controller, research project manager, pro-vice chancellor, dean, graduate, teaching assistant, undergraduate, student project leader, student society head, etcetera. Mapping these with the previously listed privileges one might want in areas within the LMS effectively illustrates how complicated the concept of multi-roles truly is.

Additionally, although these systems may have originated from academic projects within universities, many are now multi-million dollar international companies. Higher education is a large part of their market, but that is not the sole, or necessarily prime, driving force. One can also see that commercial online training is the main customer base being targeted—bringing training courses and modules to the workplace (including the military). Here the problems arise. Online training profits from

courses where access is controlled and where access is only granted if money changes hands. Unless access to the modules can be restricted to specific cohorts, such as those who have paid, the system will be of little to no use.

How does this manifest in higher education? Apart from the issue of set roles, noted above, it is common to find students logging onto their LMS and being presented with a list of the modules they are registered on. This is presented as “personalization,” which in the confusion of most higher education syllabi can be seen as a good thing for students (who immediately see the information most relevant to them). What would happen, though, if in a seminar the tutor (who may have greater access to the system) detects an opportunity for an interdisciplinary approach and directs the student to resources in other departments? When the student logs on they may well find their way barred, the gates closed, because the system only recognizes them as a student of one discipline. Educational resources then, even within the institution, are not “open.” They are controlled, managed, restricted, and channeled.

The situation can become even worse when we look at opening education up beyond the walls of the institution. Again we need to examine the economic factors. Primarily this is a case of licensing. LMS systems are usually licensed according to the number of full-time equivalents (FTEs) who will use the system. Therefore, if the institution wants to expand access to members of the public (like Jude), or share areas with another institution, it may well need to renegotiate the license (usually at a higher cost). At what point, the vendor may ask, does allowing accesses from other institutions to a single LMS go beyond the extension of an individual licence and actually become two separate licenses? It is true that most systems do allow some means of making areas publicly accessible or usable as “tasters,” but these are just hints of what might be available: an *ersatz* experience.

That “controlled access” is sold as a virtue of the system is understandable when we start to consider cultural barriers, but these issues are now beginning to filter into the procurement process of LMSs. In a recent survey on the UK’s relevant discussion list ([vle@jiscmail.ox.ac.uk](mailto:vle@jiscmail.ox.ac.uk)), several respondents noted that they would have to renegotiate their license if they wished to expand the number of FTEs, and suggested that this was increasingly making them look at an open source solution

(predominantly Moodle). As one respondent argued: “There will be a need to open up the VLE to ‘non-students’—parents, students 14–16 in schools, employers—which won’t be covered by our current license . . . it is something we’ll have to deal with at some stage.”

As noted above, one possible solution is the adoption of open source software. Here the licensing restrictions are not aimed at limiting use or development (outside of commercial exploitation). This is not a panacea though. It is perfectly feasible to build an open source product with all the restrictions noted above concerning the tyranny of the SRS. Open source solutions can just as easily pigeon-hole users into defined roles with set functions, and create barriers to access just as capably as their commercial counterparts.

Perhaps conscious of the fact that it was our college walls that Jude scribbled on, when selecting the LMS for Oxford University ease of access and exploration was paramount. The teaching system necessitates this in that the important educational relationship is built up in the tutorial (often on a one-to-one basis). The individual student gets a personalized, albeit human, education through the tutor; it is the latter’s duty to guide the student to appropriate material, but more importantly to provide encouragement if the student wishes to research other areas. Every student is entitled to attend any lecture, and in many cases is positively encouraged to explore outside of his or her traditional discipline. This is a guiding principle of the original thinkers in open education.

When looking to procure an LMS, Oxford needed an inherently flexible and open system. We are increasingly looking to alternative forms of assessment, like peer review, or to encourage our graduate students to gain teaching experience. Thus the traditional roles of student/tutor/system administrator which are the *de facto* in many LMSs, including Moodle, were not appropriate. A system was required that broke free of the concept of roles, and also allowed the system to suddenly open up access at key sublevels. It also needed to accommodate the growing pressure to share resources (teaching and research) with colleagues and students at institutions other than Oxford.

This is key. Here the underlying pedagogical principle was one of openness (at least within the university), and this dictated the choice of platform. If the system we were to choose required a change to this ethos and accepted practices, it would be doomed to failure from the outset.

Thankfully, such a system existed: the Bodington LMS, developed at the University of Leeds. This is open source (see [www.bodington.org](http://www.bodington.org)) and is currently being merged with the SAKAI code (see <http://sakaiproject.org/>). For the purpose of this article, however, the underlying design principles behind Bodington helped throw open the gates to education.

Bodington's key assumptions important to this discussion are:

- 1) Rights, such as the ability to perform certain actions, should be attached to resources not people;
- 2) People have different roles in different parts of an institution. In some areas they may only be categorized as standard users, while in others they may need more advanced rights;
- 3) Many institutions are devolved, and central top-down impositions of rights will often jar with the bottom-up realities;
- 4) Institutions stretch beyond the standard central authentication systems to include commercial partners, colleagues, or students at other universities, etcetera. Any system must therefore be able to accommodate these;
- 5) A system should be inherently open, for access to the system and for access across the system, with the ability to restrict access at key points—not the other way around.

In practice, this means the following: Although an instantiation of Bodington will include all members of the institution, the groups themselves are not labeled as student/tutor/admin with associated rights. Instead, at each resource level, like an area of Bodington, the creator is free to select any group or create an *ad hoc* grouping and say “these people will have these rights in this section.” These rights can be cascaded, but do not affect the rights that the group or individual has elsewhere in the system. Thus by adopting this model, you can easily open the whole system to all users. At other areas you can close it down to specific, controllable cohorts like committee members or tutorial groups. More importantly, you do not need to log on to the system until you reach a place with restricted access. Pointing a browser at [www.weblearn.ox.ac.uk](http://www.weblearn.ox.ac.uk), for example, allows you to immediately access Oxford University's instantiation of Bodington, and browse until you reach a restricted area. This provides two benefits. First, it allows search engines like Google to index the site up to the point of restriction. Second, suddenly in the same system you can easily have an “open education” area (making certain

modules open to visitor access) and a “closed education” area (restricted to students or staff within your institution).

### **The Pedagogical Gates Are Shut**

Some of the above clearly goes beyond the limitations of the technology, however. It points to more fundamental issues. First, the pedagogical practices of the institution, which have nothing to do with any system purchased or developed, may impose barriers between disciplines. If the institution does not support interdisciplinarity, for example, then a closed system might be acceptable. Or if lecturers feel that an open system where all the resources are available may confuse students, a “locked-down access by module” approach would be appropriate. Neither, however, in the view of this author could ever be defended as open.

### **The Cultural Gates Are Shut**

Cultural barrier(s)—an even greater hurdle—must still be overcome if we are to achieve the vision of openness. This includes both the policy decisions (local, national, and international) and attitudes of individuals.

Many longstanding issues surround the sharing, or opening up of access to, resources or content via electronic means. The most prominent and often-cited is that of copyright and intellectual property, which works adversely in two ways. First is the obvious infringement of copyright in teaching material. In the analogue world, lecturers undoubtedly photocopied handouts with copyright material contained therein under the assumed umbrella of fair use and educational use. For them to consult a legal adviser at each point would have been impossible; regardless, the chances of getting “caught” were slim. Even when lecturers moved into the digital world by assembling teaching material electronically for presentation (PowerPoint slides, for example) they undoubtedly copied images and other digital objects without ever fully considering the copyright issues. Again though, as the presentations were not circulated as such (unless on paper handouts), the chances of having legal action issued against them were often nonexistent. When we move into the open education arena, however, the chances of being on the wrong

end of a legal settlement soar, and thus increase reluctance to go “open.” This has certainly been one side effect of the Copyright Licensing Agency’s (CLA) Higher Education Trial Licence in the UK (see [http://www.cla.co.uk/support/he/HE\\_TrialPhotocopyingandScanningLicence.pdf](http://www.cla.co.uk/support/he/HE_TrialPhotocopyingandScanningLicence.pdf)). This is a worthy attempt to tackle the issue of staff digitizing or reusing copyrighted material for teaching without clearing it, but at the same time recognizing that this goes on and will continue to go on. Under this proposed agreement, lecturers can digitize up to 5 percent or one chapter (whichever is greater) of a book, and up to 5 percent or one article (whichever is greater) from a single journal issue. This material can be made available in the LMS, but:

- 1) the institution must keep detailed records of all items scanned;
- 2) the scanning may only be carried out by the person(s) designated to do so;
- 3) material must be held in a password-protected environment accessible only to students on the relevant course;
- 4) material needs to be presented in a form as close as possible to the typeset original;
- 5) a specific disclaimer at the beginning of each item must be included;
- 6) the licence does not cover material already in digital form.

One can only imagine the messages the above will send to academics, and especially the effect that point 3 has on open education. One also questions how realistic the above is, and why there is such concentration on the already impoverished area of education when the millions of deposits in YouTube show an almost Wild West attitude to copyright laws. Unless the open education process is backed by copyright lawyers, this is a real impediment to academics wishing to embrace the ideals of open education. They will be simply too afraid to do it.

This can also work the other way. In many countries the academic work produced by individuals in their research and teaching remains the copyright of their employer, such as the academic institution. Therefore by giving this away, lecturers may in fact be assigning rights over material they do not actually have control of. If we take the example of the UK’s Jorum national repository (see <http://www.jorum.ac.uk>), the heavily bureaucratic procedure to register and deposit material stems mainly

from the project creators' desire to protect themselves against legal actions by institutions.

Copyright and Intellectual Property Rights (IPR) then present major obstacles that can affect both the willingness to share material in the open education world, and the willingness to assist in disseminating the information deposited by others. This clearly is a policy decision, outside the control of individuals, and can only be addressed at the government level or by controlling bodies of universities.

When we consider individuals, however, and what is within their control, we come across the major problem of attitudes to sharing. Do people really want open education? By "people" we mean the practitioners, the holders of the material, namely the academics themselves. Clearly the Master of Biblioll College in *Jude the Obscure* would have no truck with such nonsense. Yet even with the "democratization" of higher education from the 1960s onwards, can we really detect an appetite for sharing and openness amongst our colleagues?

Authors grapple with this topic throughout the book, but for the purposes of this chapter we will concentrate on the sharing of material between academics. In the UK, at least, this has been high on the agenda. This stems primarily from two perceived advantages: 1) efficiency, since lecturers and teachers can simply re-use material, and 2) proliferation of best practice. Initiatives such as the Design for Learning Programme (see [http://www.jisc.ac.uk/index.cfm?name=elp\\_designlearn](http://www.jisc.ac.uk/index.cfm?name=elp_designlearn)) run by the Joint Information Systems Committee, the growing interest in LAMS (see <http://www.lamsinternational.com/>) and similar tools, and the launch of a national learning object repository (Jorum, see <http://www.jorum.ac.uk/>) all represent a growing interest in concepts of sharing best practice and materials. Yet how substantial are the foundations for this?

As one respondent to the LMS survey noted above stated: "Staff do not like having their materials accessible by anyone else . . . [they] seem to fear the critique that could occur if anyone could look at their work—'Look, they're teaching that all wrong!—and especially fear their line-managers seeing their day-to-day teaching materials. . . . There is a tendency by some staff to do as little as possible to complete their contractual obligations and no more. Sharing work via a VLE is seen as 'helping management.'"

It is undoubtedly true that the concept of sharing lesson plans, etcetera, is promoted in primary and secondary level education in the UK (the schools sector, in other words). Partly this stems from the training teachers get in educational best practice, but it is also driven by the need to achieve common goals usually set by a national curriculum. This is not so clear-cut when one moves into post-16 education and particularly to higher education, however. The diversity one sees between curricula in universities, the prized notion of academic freedom (to teach, research, and say what you want), and the pressure of achieving tenure or a good assessment grade through publications creates a melting pot of individuality. This in turn can lead to a sense of ownership and competitiveness which can be unhealthy in terms of open education. Economic forces driving universities can also worsen the situation. Departments are being pressured into recruiting more students, especially from overseas, and to get better research results. This, despite everyone's best intentions, is creating a feeling of "us vs. them" with *them* being the other universities competing for exactly the same students and the same research funds. Understandably, to try arguing for openness and sharing of material seems to be at best a case of poor timing, at worst like King Lear railing against the storms.

To test this, we conducted a small project to explore attitudes towards sharing amongst literature lecturers across three UK universities: Oxford, Oxford Brookes University, and Leicester University. Not only did we investigate how easy it was to reuse someone else's work (based on LAMS sequences, see <http://www.lamsinternational.com/>) but also attitudes to sharing material, namely making one's lecture notes, slides, reading lists, and so on, freely available to people outside of his or her institution to reuse (see <http://www.english.heacademy.ac.uk/explore/projects/archive/technology/tech10.php>). The results were interesting. In summary, they presented a positive view of sharing in that people were still able to overcome any idea of competitiveness and were willing to make their material available to those inside and outside of their home institutions. The main barrier to this was preparation of the material. Many academics use learning objects as *aide memoires* and rarely have the time to fully decontextualize their material and make it of general use. Additionally, there is no career incentive to do this, and in particular to make the material fit for use.

Nevertheless the willingness was there, if not the effort. When questioned as to why this was so, it arose that academics regularly share ideas and collaborate in thriving communities between institutions. These usually work on the level of the subdiscipline (lecturers who teach Shakespearian studies in different universities all know each other, for instance), and it is as common for a lecturer to say “I’m a specialist in X,” as “I’m a member of X University.” If these subdisciplines can be expanded to include all sectors in education and the general public, and provided with facilities to easily share material, then it is possible that the cultural barriers to open education that clearly are an issue can be prised apart.

Here then we have an opportunity. If people are willing to share resources within meaningful communities to advance their discipline (but not for some common good of education), then if we provide the tools to create these networks that cross academia and open up to the general public (ignoring national boundaries), we can begin to realize our goals. Academics are willing to release their material if they are a) protected from litigation; b) protected from criticism; c) given an incentive to do so; and d) furthering their discipline. This is an emerging philosophy, exposed so readily by the folksonomy community sharing tools that have exploded onto the Web, such as MySpace, Flickr, and YouTube.

## **Conclusion**

So where can we go from here? Considering the discussions above, we could look at pursuing a few goals that would help to push the gates back open and would help to further the cause of open learning:

- 1) Open learning can only work if it has support from both ends—top and bottom—such as policy makers all the way to government level and practitioners, including lecturers and teachers.
- 2) Open learning as a concept is not new. The aspirations of previous scholars show that a deep-rooted desire to pursue this agenda fortunately exists, but the mistakes of the past in terms of over-stretching should be recalled. Moreover, the constraints of the present, which were not as evident perhaps 30 years ago (such as the emerging competitive nature of academia) must be recognized.

- 3) Our IT choices can force the agenda. More worryingly perhaps, if our choices are based purely on technical specifications and finance, we can in fact be unwittingly working against the cause of open learning.
- 4) Therefore, learning management systems, repositories, etcetera, should be built in a flexible manner that allow for the easy exposure of material to all system users and to people external to the system. The key component with such systems is access control and the ability to fine-tune this.
- 5) Such systems must recognize the complexities inherent in educational institutions and the shifting sands of the roles of individuals. The simplistic pigeonholing of tutor and student is about 30 years out of date already, so to see it replicated in IT systems developed this century indicates a major flaw in the design process—namely a gap between system designers and practitioners, or more probably highlighting a different target market.
- 6) Identity Management (IDM) systems that feed the LMS must also recognize this complexity. Increasingly this requires a federated approach to IDM, where the roles of individuals which differ from unit to unit are federated and thus recognized and not reduced.
- 7) Licenses that are based on FTE numbers within the local institution, and demand any renegotiation of this should the unit wish to open up content to others outside of the university or college must be resisted.
- 8) To mitigate against point 3 above, when an LMS or similar system is chosen, the practitioners must be involved in the selection process from the beginning. Selection should be based on their needs arising from their daily workflows.
- 9) Within these systems, academics should be encouraged to share material and make it open at least within the institution. An attitude of openness needs to be engendered at even the local level.
- 10) The existing willingness of the academics to share material wider than their institution amongst existing networks, usually based on a subdiscipline, should be built upon. In particular, using the key lessons from folksonomy applications, simple systems should be developed that allow existing academic networks based on subdisciplines to quickly share and expose their material for others to use.

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