JISC

Hacking the University - Lincoln's Approach to Openness

Case study

March 2012

The University of Lincoln has made Student as Producer central to its teaching and learning strategy in an attempt to improve the relationship between teaching and research, the core activities of the university. By engaging students and academics as collaborators, Student as Producer refashions and reasserts the very idea of the university.

Reconnecting research and teaching

The Centre for Educational Research and Development (CERD) was created in 2007 to lead the University of Lincoln's Teaching and Learning Strategy, run post-graduate courses for the study of education and practice of teaching, and support the academic use of technology across the university. Since its inception, the theme at the heart of the Centre's work has been to reconnect research and teaching, the core activities of universities. Central to this objective is an attempt to reconfigure the dysfunctional relationship between teaching and research in higher education and a conviction that this can be best achieved by rethinking the relationship between student and academic. We call this project "Student as Producer", and since late 2010, Student as Producer (http://studentasproducer.lincoln.ac.uk) has been adopted as the de facto teaching and learning strategy for the University of Lincoln.

Under the direction of Prof Mike Neary, Dean of Teaching and Learning, much of the work of CERD has been informed by this conviction that students should become producers rather than consumers of knowledge and of their own social world. By engaging students and academics as collaborators, we can refashion and reassert the very idea of the university.

Student as Producer – back to the origins of the university

The first substantial piece of writing about Student as Producer was published in 2009, in a book written by CERD staff, called The Future of Higher Education Policy, Pedagogy and the Student Experience. In a chapter called Student as Producer, we began to develop and theorise the idea, offering a historical overview of the development of the modern university and more recent attempts in the USA and UK to work against the growing disjuncture between research and teaching. In the conclusion, we specifically drew on the activities of the Free Culture movement as an exemplary model for how the disconnect between research and teaching and the work of academics and students might be overcome and reorganised around a different conception of "work" and "property", ideas clearly central to the meaning of "openness".

In our conclusion, we asserted that the organising principles of the Free Culture movement could be, and in many cases already were, the organising principles of the university – initiatives such as science commons, open knowledge and Open Access. They ensure that research output is free to use, re-use and distribute without legal, social or technological restriction (www.opendefinition.org). A "teaching, learning and research environment

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which promotes the values of openness and creativity engenders equity among academics and students and thereby offers an opportunity to reconstruct the student as producer and academic as collaborator. In an environment where knowledge is free, the roles of the educator and the institution necessarily change. The institution becomes a landscape for the production and construction of a mass intellect in commons" (Neary & Winn, 2009, 137).

Establishing an "Academic Commons"

Our approach to openness at Lincoln has been to recover and develop the connection between the values of openness and the values of academic life. As such, there is no institutional policy or on-going discussion concerning openness, but rather we have seen Student as Producer as a vehicle for demonstrating how the values and practices of openness are historically grounded in the work of universities and the academic life, which Student as Producer seeks to promote, challenge and develop in a radical way.

"Developments in education technology are most effective when they are connected with a clear sense of purpose – in this case Student as Producer – that goes beyond what the technology can do, to create an entirely new form of academic experience. This is the real challenge and meaning of openness."

Prof Mike Neary,
Dean of Teaching and Learning,
Director of CERD

Around the time we were writing the original book chapter, we began to take steps to establish an "Academic Commons" at the University of Lincoln. This was undertaken, as has always been the case since, through a good working relationship between staff in CERD, the library and the university's ICT services and their respective senior managers.

Having worked on LIROLEM, a JISC-funded institutional repository start-up project in 2007–2008, staff in these departments remained actively engaged in the advocacy of the repository across the university and in the development of institutional policy around Open Access and the use of the repository by staff. The Lincoln Academic Commons (http://commons.lincoln.ac.uk) was and remains an attempt at providing information for staff and students about Open Access, open education, open data and Creative Commons licensing, as well as news about related projects and activities at the university.

By late 2008, we had a progressive pedagogical model under development (Student as Producer) as well as experience of an Open Access project (LIROLEM), which united staff from key central university departments, both in our commitment to openness and in our understanding of the role of technology in this process. Student as Producer embodied the fundamental discussion around research-engaged teaching and learning and became funded by the Higher Education Academy (HEA) in 2010.

The Learning Lab – experiments with open source software

At the end of the LIROLEM project, the repository project officer, Joss Winn, was retained by CERD to work full-time as technology officer from April 2008. He immediately requested a Linux server so as to establish the Learning Lab, a virtual space for experimenting with and evaluating open source software that may be of value to research, teaching and learning at the university. One of the applications we first trialed on the Learning Lab server was the Open Journal Systems (OJS) software, which was installed to help a group of students and staff develop an Open Access journal of Occasional Working Papers (http://ojs.lincoln.ac.uk/owps/issue/archive).

While relatively short-lived due to staff and students leaving, we were able to support those involved by making the technology easily available to them and promoting their work within the context of the Academic Commons. More recently, the platform has been adopted by post-graduate students who intend to re-launch the student journal, Neo (http://ojs.lincoln.ac.uk/neo).

The Learning Lab server went on to allow for much experimentation with and the adoption of different types of open source software, including Mahara (e-portfolios), MediaWiki, Webpa-OS (peer assessment), Xerte (learning materials), feed2js (RSS to Javascript conversion), OpenSim (virtual worlds) and, most significantly, the open source blogging software, WordPress Multi-User.

Although from one perspective, WordPress is simply an open source publishing platform, we intentionally configured it so that it is open for any student or member of staff to create a modern, content-managed website to communicate their work to the public. There is no gate-keeper policy, but rather a set of community guidelines (http://wiki.lncd.lincoln.ac.uk/wiki/Community_Guidelines), similar to other online community guidelines. The university's own ICT acceptable use policy was also revised around this time and explicitly promotes and encourages the use of Web 2.0 applications. Within a year, WordPress was regarded as a technologically sound piece of software and was widely used by teachers, students, researchers and university departments. As such, it was formally adopted by the university and moved to a dedicated domain name and server and now hosts and manages over 500 websites (http://blogs.lincoln.ac.uk).

The freedom we have by running our own server(s) at the university as well as a progressive academic environment in which to work, allowed colleagues in CERD and the library to spend over a year experimenting with the WordPress open source software and use it as a platform for technological enquiry and innovation, rather than simply a blogging tool. In this way, a bottom-up approach to innovation through openness began, which was upheld and concurrently developed both theoretically in our published writing and strategically in the development of Student as Producer as the newly emerging teaching and learning strategy. In essence, as the university was developing a more progressive teaching and learning strategy that promoted the idea of openness, collaboration and that both teachers and students have much to learn from each other, a more progressive use of technology to support research,

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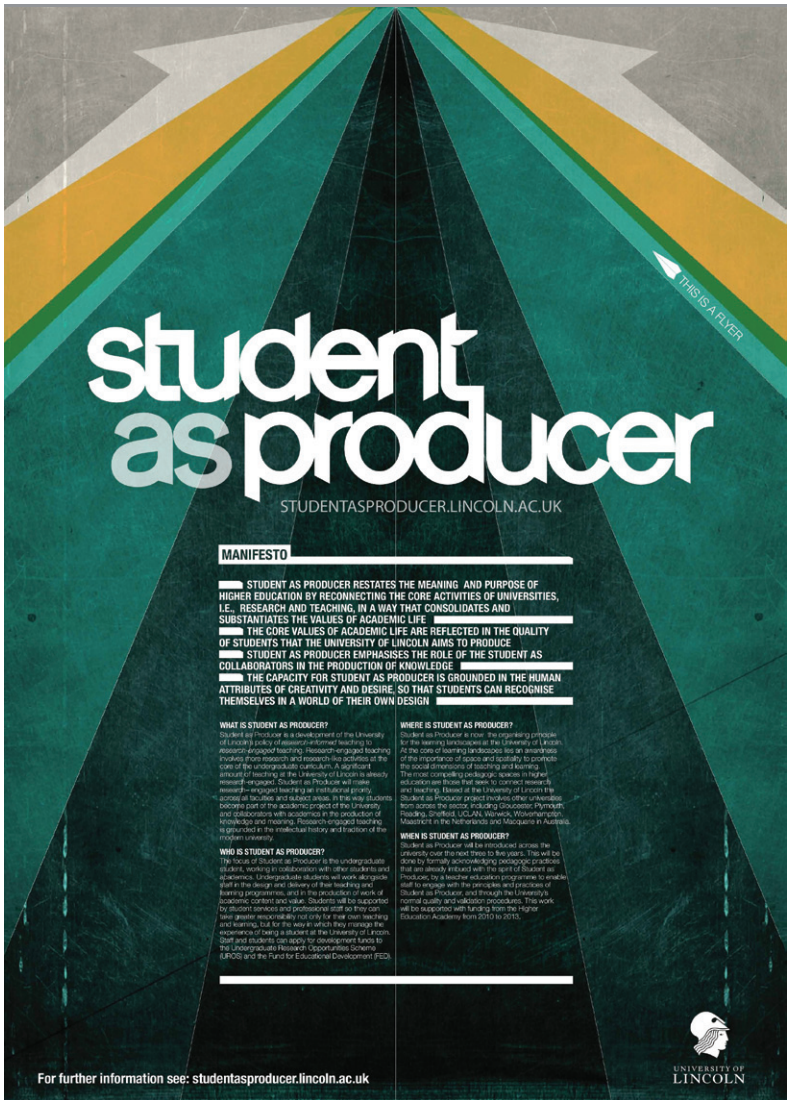

teaching and learning was also being developed through the use of open source software, the principles of Open Access, the promotion of open educational resources (OER) and, most recently, the release of open data. Each tactic supported and challenged the other.

Scaling up

Using Student as Producer as the over-arching framework, CERD began to bid for funds from JISC to work on projects that had openness as their central theme:

JISCPress (2009–2010) allowed us to employ Alex Bilbie, a second-year undergraduate student in Computer Science, to help develop a WordPress-based platform for publishing and discussing documents in detail. JISCPress was based on work that Joss Winn and Tony Hirst from the Open University had done with WriteToReply, a WordPress platform that allowed anyone to publish and comment in detail on government consultations (http://writetoreply.org).

With ChemistryFM (2009–2010), an OER project, we provided bursaries to two students to work with academic staff to develop and release an entire module of OERs for a Level One course in Chemistry for Forensic Scientists.

For the TotalReCal project (2010–2011), we again employed Alex Bilbie, who had now taken a year out of his degree to work in the Online Services Team (OST), and Nick Jackson, a third-year Computer Science undergraduate working part-time in OST. This was another rapid innovation project to develop a "space-time" calendaring service at the university, resulting in

open source code and the creation of a large data store, which became the basis for our institutional open data project (http://data.lincoln.ac.uk).

The provision of Alex's and Nick's posts in ICT was largely the result of the growing interest in Student as Producer at the university, reaching across not only academic departments but also the central service departments, too. Mike Day, then Head of ICT, took on board the values of openness and collaboration between staff and students that Student as Producer promotes and decided to employ students in ICT to act as "critical friends" to the department and work with existing staff on the development of new online services. They were encouraged to use our WordPress platform to blog about their experience in ICT. This intentionally disruptive influence of students working as equals alongside staff, began to change the culture of the ICT department. It led to the development and adoption of a number of online services that promote a more open and transparent environment at the university as well as the introduction of new technologies and a much greater willingness and freedom to engage in research and development projects, such as TotalReCal.

With Alex and Nick in trusted positions in ICT, Joss Winn in CERD and Paul Stainthorp in the library, were able to develop their ideas beyond the Learning Lab server environment and further their experiments with technology at the university, leading to Jerome, a summer "un-project" of 2010, where they explored new ways of exposing, searching and using library information to create a better way of using library services. Jerome was later funded by JISC as our third "rapid innovation" project in just over a year and, like TotalReCal, made a huge contribution to our experience and understanding of new technologies such as MongoDB, the open source NoSQL database software, and the development of APIs we made available from Nucleus, our MongoDB data store.

Both Jerome and TotalReCal contributed large amounts of data to what has become data.lincoln.ac.uk, and in the development of this service, of which the university is the primary "consumer", it also led to the development of a new Single Sign On (SSO) system using OAuth 2.0, which Alex wrote and published as open source code (http://lncd.lincoln.ac.uk/about/how-we-work/tools-we-use/oauth). Alex and Nick also developed the university's new Common Web Design, a HTML5/CSS3 presentation framework for the university. It is used widely across our services, including the default theme for new WordPress sites, and is being used as a presentation layer on top of the APIs available on data.lincoln.ac.uk using extensions available via our OAuth SSO. As such, by working on our JISC-funded projects, Alex and Nick have been able to develop an open source "toolkit" including data storage, authentication and a presentation layer, allowing us rapidly to prototype and implement new services.

This successful working relationship between CERD, the library and ICT services, three key departments in the university, has been fundamental to the success of our approach to openness. It has been supported by senior management such as the Dean of Teaching and Learning, the Head of ICT and the university librarian, but driven by enthusiastic staff and students. As such, it is more a case of management, staff and students mutually recognising how such an approach could be productive and effective, primarily offering benefits not only to the University of Lincoln but also to the HE sector and public as a whole.

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In the setting up of the LNCD group, we have tried to ensure that openness remains a distinct theme throughout our work, both in the tools we use and the way we organise ourselves as a distributed, collegial group: "LNCD is Not a Central Development group!"

"The agenda of the University of Lincoln's library is 'access to information', and as such we recognise the imperative to open up access both to knowledge and to our systems and services. The environment, fostered by Student as Producer and projects funded by JISC, have allowed us to break down barriers and truly involve our users in the development and delivery of library services. The result has been some real innovation and a much greater level of engagement with students and academics." Ian Snowley, university librarian.

This last point is key to our overall approach to openness, which is to afford benefits to the research, teaching and learning environment of the university and contribute to and deliver the Student as Producer Teaching and Learning Strategy. That openness can also be conceived as a "public good" is recognised and valued by all involved, but is not the primary underlying motivation. Rather, the progressive and well developed pedagogical project of Student as Producer has provided us with a framework with which to involve students, situate distinctive projects when writing funding bids and receive recognition within the institution for the recognition we have attracted outside the institution for our approach.

Not a Central Development group!

This recognition has recently led to the university approving the formation of the "Not a Central Development" group (LNCD) a new inclusive group which succeeds the Learning Lab and consolidates all previous open projects. The group is informed by the progressive pedagogy of Student as Producer so as to engender critical, digitally literate staff and students. Core principles of the group are that we recognise students and staff have much to learn from each other and that students can be agents of change in the use of technology for education. LNCD consolidates and furthers ongoing collaborative work between the Centre for Educational Research and Development, the library and ICT services and extends an open invitation to staff and students from across the university to contribute to the group.

A student intern post ensures that the student perspective remains core to the group's outlook. We also continue to employ Nick Jackson and Alex Bilbie. LNCD also has a budget of £20,000, much of which will be dispersed to students and staff who submit proposals for projects around the theme of "technology for education". These will be available on a competitive basis in the form of grants and bursaries and we hope they will provide an incentive to staff and students to get involved in the development, support and critique of how technology is used in higher education. Furthermore, we have recently invited third-year students from the School of Computing to propose dissertation projects based around the use of our toolkit and data.lincoln.ac.uk and have been approached by two students who wish to work with us and develop our work further. This is very gratifying.

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Hacking the university

Work on Student as Producer remains very much at the heart of what we do. It is both an institutional strategy and a three-year project funded by the Higher Education Academy, now in its second year. It has been very well received across the university and the

sector, and is being embedded into the curriculum design process and teacher education programmes we run.

Although internally consistent as a pedagogical theory, Student as Producer is being interpreted and adopted by staff and students at the University of Lincoln in different ways. Some recognise its revolutionary basis, as it draws on the work of Walter Benjamin and other avant-garde Marxist writers, while others appreciate Student as Producer as a framework by which teaching and learning, including curriculum development, can become a much more collaborative effort.

In the case of LNCD and the core contributors of the group from CERD, the library and ICT services, we have framed Student as Producer in both our advocacy of the tools and methods by which the Free Culture movement operates and in a re-examination about the role of students as developers or "hackers" in the university.

We see our work as fundamentally a form of hacking (see Hacking the Academy: http://joss.blogs.lincoln.ac.uk/2011/10/23/hacking-the-academy) using and writing open source software and producing open data with which to "hack the university" and create useful services and positive technological interventions in the research, teaching and learning environment of the university.

Just as we recognised in our original book chapter that the Free Culture movement owes much to its academic origins, we also recognised that "an exemplar alternative organising principle is already proliferating in universities in the form of open, networked collaborative initiatives." The LNCD group is an attempt to develop that and as such understands the origins of much of its work to date is in the hacking culture that grew out of the Massachusetts Institute of Technology, Carnegie Mellon University and University of California, Berkeley in the 1970 and 1980s; the academic culture that developed much of the key technology of today's internet.

When understood from this point of view, LNCD, as an institutional approach to openness, is attempting to develop a culture for staff and students based on the key academic values that motivated the early academic

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hacker culture: autonomy, the sharing of knowledge and creative output, transparency through peer review, and peer-recognition based on merit.

To further recognise this and encourage collaboration with student developers in the design of university life, LNCD has been working with UKOLN DevCSI project to organise DevXS, a national student developer conference held at the University of Lincoln in November 2011. The conference is a response to what the Edgeless University report called a "time of maximum uncertainty and time for creative possibility between the ending of the way things have been and the beginning of the way they will be." DevXS is a disruptive learning experience for students, which challenges the traditional institutions of learning. Over 180 students attended to develop prototype open source web applications using open data provided by the University of Lincoln and other universities working on the anticipated data.ac.uk initiative. It is the latest example of how the University of Lincoln has embraced the different themes of openness, such as open source, open data, open education and Open Access. We are mindful that this contributes towards a greater strategic priority of reconfiguring the nature of teaching and learning in higher education and encouraging students to become part of the academic project of the university and collaborators with academics in the production of knowledge and meaning.

This approach is grounded in the intellectual history and tradition of the modern university and visible in our understanding of and approach to openness at the University of Lincoln. However, for us, it is not the case that we are consciously working towards openness, but rather we work towards defending and maintaining the core academic values from which recent notions of openness are largely derived.

This case study has been produced for JISC.

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Further information and resources

Student as Producer:
http://studentasproducer.lincoln.ac.uk

LNCD:
http://lncd.lincoln.ac.uk

DevXS:
http://devxs.org

Lincoln Academic Commons:
http://commons.lincoln.ac.uk

JISC projects:
LIROLEM (Open Access)
http://wiki.lncd.lincoln.ac.uk/wiki/Institutional_Repository

JISCPress (Open Source/Open data)
http://jiscpress.blogs.lincoln.ac.uk
ChemistryFM (OER)
http://chemistryfm.blogs.lincoln.ac.uk

TotalReCal (Open Source/Open data)
http://totalrecal.blogs.lincoln.ac.uk

Jerome (Open data)
http://jerome.blogs.lincoln.ac.uk

Linking You (Open data/Open Web)
http://linkingyou.blogs.lincoln.ac.uk

Orbital (Open Source/Open data)
http://orbital.blogs.lincoln.ac.uk

http://data.lincoln.ac.uk
(not specifically a JISC-funded project but an outcome of several JISC-funded projects)

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