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Open textbooks – an untapped opportunity for universities, colleges and schools

The pilot phase of the UK Open Textbook project reached completion in April 2018. This article discusses the project, what open textbooks are, and why they are an untapped opportunity for universities, colleges and schools. The North American models of open textbook creation and uptake (adoption) are designed to help reduce university student financial worries and enhance learning opportunities, and provide much-needed resources for schools (or the K12 system in the US and Canada). The ability to repurpose books leads to innovative and engaging pedagogies including students as co-authors. Yet in the UK, the level of discussion and awareness of the opportunities afforded by open textbooks, and the existence of a small number of UK initiatives, is poor.

The aim of the UK Open Textbook project was to raise awareness and host activities to encourage the adoption of open textbooks. The results of the project are discussed, along with the policy, cultural and practice changes required to scale up these approaches. Why should our learners miss out?

Keywords

Open textbooks; OER; open educational resources; higher education; schools

Introduction

An 'open' textbook is a textbook created using an open copyright licence, like Creative Commons,¹ and shared with no or low cost at the point of use for students, teachers and members of the public.² Textbooks are created in a range of digital formats or can be made available in paper form by low-cost print-on-demand services, or for purchase via Amazon.

Notable global initiatives include the South African Siyavula Education project formed in 2002 to share open textbooks to assist education in schools and to widen free access to knowledge.³ Provinces such as British Columbia and Ontario in Canada have funded projects to help scale and support university educators in the use and creation of open textbooks and open educational resources (OER),^{4,5} and Poland has a nationwide programme that provides access to free and open textbooks in schools and for post-secondary education.⁶

Charitable foundations, including Hewlett, Gates and the Saylor Academy, have supported open textbook development, and the work has been transformative. For example, at Tidewater College, courses are promoted as 'Z-Degrees' since students have access to all textbooks for zero (Z) cost.⁷ SPARC, a global coalition aiming to 'make open the default for research and education', has successfully lobbied for US\$5 million investment from the US Department of Education to create open textbooks to further promote use, sharing and building on the content of the books.⁸

Aside from the cost benefits to students, what are the other advantages? A growing number of studies in the US and Canada show that open textbooks are well received by students and teaching staff, offering more flexibility in teaching delivery and up-to-date knowledge to support learning.⁹ Empirical studies demonstrate improved student success in some subject areas (e.g. course grades and completion rates).¹⁰



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2 So, could open textbooks offer opportunities for learners and teachers in the UK? Clearly, student finances and debt are regularly covered in the press, and individual student textbook spending is estimated to be upward of several hundred pounds.¹¹

In the UK, activity is more localised, for example through the Jisc Institution as e-textbook publisher project which has supported participating institutions in creating textbooks through a variety of licensing and distribution approaches and in evaluating the impact and viability of their models. The publishing models feature a mixed economy of purchasable books alongside versions shared under an open licence free from cost to the end user, and under some licence terms, facilitating adaptation of the original work.¹² Mixed models are also the basis of other UK textbook projects.^{13,14}

“participation costs” on top of fees are becoming a serious concern amongst students’

There has been little research carried out to date on UK student use and views on different formats of textbook. The ‘Books Right Here Right Now’ project at the University of Manchester provides students on some courses with their own e-textbook copy via the virtual learning environment. In a student consultation, half agreed they were much more likely to do their course reading when they had their own e-textbook copies, that the books were helpful in their degree, and that they welcomed the affordability and the anytime accessibility.¹⁵ At the University of Plymouth, in partnership with Kortext.com, free e-textbooks worth £200 are provided to most first-year undergraduates.¹⁶ In the Manchester study, nearly 90% of students surveyed stated that textbooks were too expensive to buy, even though the books were core textbooks and essential for study. At the University of the West of England, students shared these concerns about textbook costs: ‘Textbooks are ridiculously priced. They are aimed at students but are completely out of their price range’, and ‘There is no way a student budget would stretch to cover books’.¹⁷ A recent survey conducted by the Office for Students suggested that the ‘participation costs’ on top of fees are becoming a serious concern amongst students, with the utility and price of textbooks seeing significant attention.¹⁸

In contrast with the higher education (HE) sector, schools have always provided textbooks to pupils. But – with rising prices and increasing pressure on budgets – it has been reported that teachers are relying on old, out-of-date books.¹⁹ Many schools are also asking parents to plug the financial gap.²⁰ However, there is a culture of sharing teaching materials within schools. The *Times Educational Supplement* hosts a collection of materials shared by teachers, both as OER and paid-for resources.

UK Open Textbook project

The Hewlett-funded UK Open Textbook project ran from March 2017 to April 2018 and aimed to both raise awareness and encourage a wider uptake of open textbooks in the UK. The project used two successful models from North America. The first approach from the open textbook publishers OpenStax²¹ showcased open textbooks at events and conferences, and the second from the Open Textbook Network (OTN) worked directly with institutions to support the adoption of open textbooks through its curated library, the Open Textbook Library.²² OpenStax published its first open textbook in 2012 and has subsequently funded the development of 29 books in core subject areas like physics, biology and statistics. The texts are peer reviewed and kept up to date and openly available to ensure the content is as reusable as possible. The Open Textbook Library curates around 460 different textbooks from around the globe on its website. The service offers users the facility to provide a review of the book, and 60% of all textbooks have at least one review commenting on their quality.

‘The project used two successful models from North America’

The UK Open Textbook project aimed to address the following two questions:

1. How does the UK context differ from North America?
2. Are methods for uptake used there transferable?

‘60% of all textbooks have at least one review commenting on their quality’

Project outcomes

One branch of the project introduced OTN workshops across universities in the UK and the Republic of Ireland. Participants attending the two-hour workshop received a small financial incentive to write a review of a book (following the US model), and their commitment to 'adopt' – take on a book to use within their teaching – was explored in a follow-up survey. In summary:

- 14 workshops were held at eight institutions and invited staff from 18 universities (including England, Scotland and the Republic of Ireland)
- the 116 attendees included academics and teaching staff, library staff, learning technologists and senior university executive staff
- of those 116 attendees, 33% completed an open textbook review
- nearly half of those attending completed a follow-up survey, which is part of the OTN process, and 37% of respondents answered 'yes' or 'maybe' to whether they would adopt an open textbook.

The workshops themselves aimed to contextualize student experiences through detailing how textbook costs have escalated, and to provide figures and student testimonies on debt and the struggle to afford books. The workshops provided an overview of open licences and open textbook publishing models and provided examples of how books have been created and peer reviewed, and how some of the books have been further adapted, remixed and customized by educators. In North America the workshops are an effective means of engaging with teaching staff (faculty) and have reached over 600 campuses, with estimated textbook savings for students of around US\$8.5 million.²³

'workshops are an effective means of engaging with teaching staff'

The UK Open Textbook team also collaborated with OpenStax and showcased selected science, technology, engineering and mathematics open textbooks at seven exhibitions and teaching events. Conversations with teaching staff and librarians at HE, further education and secondary level gave insight into how textbooks are currently being used and what role open textbooks could play in the UK context. During the course of the project, education staff adopted OpenStax materials and expressed interest in using open textbooks. Views of the OpenStax website from the UK dramatically increased during the time of the project. In summary, as a result of the project:

- there were 85 verified sign-ups to receive further information about OpenStax open textbooks
- nine known adoptions are attributable in whole or in part to UK Open Textbook activity
- there were 16 confirmed UK recommendations of OpenStax resources.

What do UK staff think?

Some reflections on these workshops have been captured on the project blog,²⁴ and case studies by OpenStax textbook users detail how books have been embedded within curricula. In one example, the *Biology* open textbook is used within biomedical science teaching, offering students access to a good quality book, the flexibility and accessibility of using a variety of formats, and reducing the considerable cost burden for students buying proprietary textbooks.²⁵

'Participants of the workshops were largely enthusiastic toward the textbooks'

Participants of the workshops were largely enthusiastic toward the textbooks. Those citing 'yes' to adoption provided the following explanations, with some suggesting they will immediately recommend books to students, or professional service staff suggesting they will incorporate them via electronic reading lists:

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- 'This is a long distance module so online resources are the main platform for learning materials. Student feedback will be sought at the end of the module through a questionnaire.' (Lecturer)
 - 'Two of the *Anatomy and Physiology* open texts will be introduced as part of the students' recommended module reading lists (with links to the URLs) or via the University Library. I expect that this will have a big impact, firstly on student savings due to the absence of costs associated with Open Textbooks. Secondly, I expect that the books will impact on the students' learning experiences, due to the interactive nature of the text books.' (Lecturer)
 - 'We will add to online reading list software and ask for comments from staff and students.' (Librarian).

One individual who answered 'maybe' to whether they would adopt an open textbook commented that they would very much like to but would need to ensure that it was fit for purpose.

More general outcomes of the workshop discussions were synthesized. People were concerned about external forces – that is, open being seen as a solution to the increasingly heavy-handed, restrictive and costly publishing industry, and 'locked-in' partnerships that are often favoured within universities.

Understanding textbook use

As the project progressed, it became clear that there was little research regarding the use of textbooks in general in universities. 'Of all of the aspects of the student experience currently under scrutiny, you'd maybe think that academic textbooks were uncontroversial and their efficacy clearly understood. You'd think that the academic benefits of textbooks would be incontestable, and that both students and staff were clear on how textbooks are used to support learning. You'd be wrong.'²⁶

'There is little understanding on how texts are recommended to students'

In an analysis of social science academic textbooks, Lewthwaite and Holmes concluded that there are gaps in understanding the pedagogical approaches used in academic textbooks and how these can be developed to support learning.²⁷ There is little understanding on how texts are recommended to students although the idea of a 'reading list' seems commonplace. However, this is problematic to students, as shown by comments such as 'One particular book heavily advertised during my first year by lecturers was only beneficial for a single piece of coursework', and 'When six subjects have five to ten books on the "suggested" reading list, it becomes impossible to obtain them all', and 'Due to my caring responsibilities at home, most of my study is done in the evening ...therefore I cannot use the university library to study'.²⁸

Looking forward

Having access to knowledge and participating in sharing and dialogue around subject material is a fundamental part of learning. Open textbooks provide learners with a fair and equitable learning environment through providing access to free resources or low-cost print versions available in a wide range of subjects. The textbook format provides choice to students, particularly as many still prefer a print copy for ease of use, enabling them to make written notes in the book, and for the physical feel of the book.²⁹

'Open textbooks provide learners with a fair and equitable learning environment'

Teaching staff more often recommend a list of books to students to ensure an adequate breadth of reading, but students struggle to purchase and access all of them. In the Broadhurst study, academics consulted felt it worthwhile and reassuring to know that all of their students could access at least one book and they felt more able to use the book during their teaching sessions,³⁰ an aspect that students have criticized when they purchase textbooks that are then never discussed in class.³¹

The UK Open Textbook project is seeking further funding to support its work and to scale up the activities developed in its pilot phase. The adoption of open textbooks holds great promise for institutions as they can pass on significant cost savings for their students and provide a wider range of reading materials in their libraries. For teaching staff, recommending an open textbook to students provides more equitable learning, and the freedom to adapt the books leads to more innovative pedagogy, although institutional support and staff

5 incentives will require exploration in order to scale up use.³² A further project could explore the longer-term impacts of the work to date, continue to raise awareness, advocate for the use of open textbooks, and help understand how open textbooks can best be incorporated for use alongside existing e-textbooks.

Given that many parts of the UK education sector are experiencing a textbook crisis, and given the levels of student debt, it is surprising that open textbooks have gained little traction here, and that they are entirely absent from government policy. 'The UK needs to make a strategic response to the 2017 Ljubljana OER Action Plan set out by UNESCO' to make publicly funded educational resources available to improve the learning experience for all.³³

'many parts of the UK education sector are experiencing a textbook crisis'

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Abbreviations and Acronyms

A list of the abbreviations and acronyms used in this and other *Insights* articles can be accessed here – click on the URL below and then select the 'Abbreviations and Acronyms' link at the top of the page it directs you to: <http://www.uksg.org/publications#aa>.

Competing interests

The authors have declared no competing interests.

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