

# Plan E for Education: open access to educational materials created in publicly funded universities

Plan E for Education is my proposal that a proportion of the educational resources generated in publicly funded universities be made freely available for sharing and use by others. Thus, high quality education, produced through public funding, could be made available to other universities and individual autodidacts and for the development of innovative educational delivery methods. This would be the educational equivalent of initiatives that require publicly funded research to be published in open access journals or platforms. Available educational resources would involve whole or sections of courses including assessments, not just isolated resources.

Plan E would require the establishment and curation of open repositories and might consider a peer review system for educational materials to mirror that already used for research publications. Academic credit could then flow to those who publish and review educational resources and extend to other academic input such as updating the work and creating instructional materials.

There is considerable expertise and enthusiasm for, as well as successful examples of, open access education globally, but this is unevenly spread, and its adoption is hindered by factors at institutional and individual educator levels. Most university-generated educational material is still kept behind institutional paywalls. If we accept the need for change so that, as for research outputs, educational resources become open to access, Plan E might provide the global impetus for such change and make a contribution to reducing inequality in access to higher education.

## Keywords

open access; open educational resources; open educational practices; Plan S; universities; paywall

## Background

Universities usually protect their educational materials behind secure paywalls, as one manifestation of the competitive business model which the higher education sector has evolved.<sup>1</sup> Beyond institutional factors, individual educators may be reluctant to share their courses, or to adapt them so that they can be shared. Access to educational materials produced by faculty in most universities globally is restricted to those who enrol as students, and universities compete amongst themselves for these students. Meanwhile, universities duplicate development of educational materials – which is staff-time intensive and expensive – each university, or the faculty within, thinking that they can do better than and gain a competitive advantage over others.<sup>2</sup> This is despite at least partial public funding of the higher education sector in most countries.<sup>3</sup>

An important question is raised as a result, as to whether it is appropriate that public money should be spent on producing and delivering education that is not made freely available but is being used for competitive advantage by the universities that receive it. Although teachers might prefer to develop their own materials, utilizing high quality educational resources produced by others might have advantages over spending time and money creating their own.



RICHARD F. HELLER

Emeritus Professor of  
Medicine  
University of  
Newcastle  
Australia;  
Emeritus Professor of  
Public Health  
University of  
Manchester  
UK

2 This issue is of particular relevance with the increasing use of online educational resources, which are much easier to share than resources involved in face-to-face teaching. Despite the reluctance of some academics, the movement towards online learning is gaining momentum, even in the context of a hybrid model which combines online and face-to-face delivery mechanisms. My recent open access book<sup>4</sup> suggests structural change from the centralized campus to regional hubs in a distributed model, facilitated by a pivot to online learning. This has many advantages, including a reduction in the university's carbon footprint. Online education can be offered anywhere, hence reducing regional and global inequalities in access to higher education; encouraging collaboration and setting up the higher education sector to adapt to changes in the way we work and learn today and into the future. The book makes the case for Plan E where at least a proportion of educational materials should be made available for sharing online.<sup>5</sup>

'Online education can be offered anywhere, ... reducing regional and global inequalities in access to higher education'

## Open access to research publications

The idea of making educational materials available for open sharing derives from the movement to allow open access to research publications and extends its scope. A discussion of open access to educational materials depends on learning the history of open access to research publications, and there are many similarities. The history and political economy that allows some academic publishers to charge high fees and make extensive profits while academics provide much of the editorial and review functions without payment, has been well described by May<sup>6</sup> who concludes by questioning why the open access model is not ubiquitous. It should be noted that there are also some smaller publishers, such as professional societies and universities, who may use any surplus charges to support other activities rather than to make a profit.

There are various categories of open access, and it has been estimated that since 2010, 47% of the 42 million published journal articles and conference papers are openly accessible, while 53% are behind a paywall, either requiring a subscription or pay per use, although there is an increasing trend towards open publication.<sup>7</sup> Journal articles, as well as books and reports, may be published under a Creative Commons licence<sup>8</sup> making them available for free use by others, subject to various conditions.

Plan S is '...an initiative for Open Access publishing that was launched in September 2018. The plan is supported by cOAlition S,<sup>9</sup> an international consortium of research funders. Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms.'<sup>10</sup>

Although there has been delay in the implementation of Plan S,<sup>11</sup> there is widespread global support for the notion that publicly funded research should be freely available and not hidden behind paywalls.<sup>12</sup> There are already many examples of publications of public importance being made freely available on a voluntary basis – such as many of the publications relating to the Covid-19 pandemic which have been published as open access for the public good. In addition to the philosophical issue of making publicly funded research freely available, there are claims that research citations are greater for open access articles than those requiring payment or a subscription – although the results of studies on this question are mixed.<sup>13</sup>

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In August 2022, the U.S. White House Office of Science and Technology Policy issued a new policy that will require, by 2026, all federally funded research results to be freely available to the public without delay, ending the longstanding ability of journals to paywall results for up to a year.

Open access publishing of research findings has been extended to the concept of open science which, as defined by UNESCO, includes allowing open access to the data collected as part of the research and to software and its source code, relevant hardware and educational resources.<sup>14</sup> Many scientific journals now require the data on which the research

3 is based to be published in an accessible way, as well as the source code for statistical analyses. UNESCO also wants us to consider open infrastructure, open engagement of societal actors and open dialogue with other knowledge systems.

There may be conceptual differences between the finished product of a research publication, and an educational resource which will require update and revision. However, there are enough similarities to suggest an open model of publishing educational resources, Plan E for Education. As discussed in a later section, this can also include a review process as used for research publications and academic credit for review and updating of materials.

## Plan E for Education

This proposal is to create something similar to Plan S for higher education. Plan E for Education would provide a practical method to extend the concept of open publication of research to educational materials produced in universities.

A 2019 UNESCO report<sup>15</sup> encourages member states to consider ‘... developing and implementing policies and/or regulatory frameworks which encourage that educational resources developed with public funds be openly licensed or dedicated to the public domain as appropriate, and allocating financial and human resources for the implementation and evaluation of policies’. However, there does not appear to be an agreed way of implementing or measuring progress towards this suggestion.

‘Plan E for Education would provide a practical method to extend the concept of open publication of research to educational materials’

Increasing open access to high quality education materials produced by faculty within universities would allow their use by a variety of organizations including those in other universities, individual autodidacts and those who might want to develop innovative delivery methods to contextualize open educational materials once access is available. Peoples-uni<sup>16</sup> is such an example, where open educational resources (OERs) were used to populate programmes and courses for academic credit and continuing professional development to build public health capacity in low- to middle-income countries.

Plan E would have three potential delivery strands: students access materials through the university that has produced them as per current practice, individual students outside the university that created the materials access materials for their own learning and third party organizations, including other universities, contextualize and deliver the materials to their students. Access should be global and might make a contribution to reducing global inequality in access to higher education.<sup>17</sup>

As distinct from most OERs, Plan E proposes that whole courses or at least sections of courses that carry assessment, would be provided. This would include all the components such as identified learning outcomes, as well as the resources and formative and summative assessments. An indication of the academic level to which the course speaks, and the amount of credit that might accrue, should also be provided.

Accreditation of learning might also be considered by the university who produced the material when it is offered outside of the creating institution, through grading of assessments. This is the system used by the OERu, where a number of academic partners have come together to offer free access to online courses, with students paying a small amount to submit assessments which can earn them microcredits towards a degree offered by a partner university.<sup>18</sup> There could even be a staging post, where access is provided only to those who can provide an appropriate context for its use. A repository or inventory of ways to access materials would be required, together with metadata to indicate the academic level to which the material would be relevant. Appropriate licensing through a Creative Commons licence would allow reuse and redistribution.

‘licensing through a Creative Commons licence would allow reuse and redistribution’

## 4 Other attempts to provide open access to educational materials

There are many examples of universities putting their materials online for anyone to access. The Massachusetts Institute of Technology (MIT) was an early leader in the field, launching the OpenCourseWare initiative (OCW)<sup>19</sup> in 2002 with 50 of their courses published freely online. This has now extended to all MIT courses. As early as 2003, OCW reported more than 11,000 visitors to the site per day and nearly 250,000 per month: half of these visitors were self-learners.<sup>20</sup> This led to the creation of a consortium of universities that each contributed courses. By 2008 more than 6,000 courses were freely and openly available, with more than two million visits to their website per month.<sup>21</sup> Further evolution has led from the OCW Consortium to Open Education Global (OEG)<sup>22</sup> with hundreds of institutional members globally. As well as providing access to open educational materials, OEG has developed an advocacy and leadership role to support open education globally.

The experience with OCW led to the OER movement<sup>23</sup> where educational resources are made available for sharing with others. Beyond the resources themselves, open educational practices support the production, use and reuse of OERs.<sup>24</sup> Encouragement from UNESCO and funding from the Hewlett Foundation<sup>25</sup> have been crucial in the development of this movement. An evaluation for the Hewlett Foundation in 2021 revealed a vibrant set of activities in the field, as well as a vision to make open education the default option for higher education. It identified 41 open education networks serving the higher education sector, primarily in North America.<sup>26</sup> The size of the networks varied from 50 to more than 500 members, and their roles covered information exchange, professional development and encouragement, research and advocacy.

MERLOT (Multimedia Educational Resource for Learning and Online Teaching) is an international community of educators, learners and researchers offering free access to curated online learning and support materials and content creation tools. It hosts more than 99,000 learning resources which have been curated and clearly documented, and there are more than 4,000 member institutions.<sup>27</sup> With leadership from the California State University in 1988, a number of institutional partners put up funding to support the infrastructure development, but funding for MERLOT now comes through competitive grant income and contracts for services to higher education institutions and commercial providers. Their website includes many examples of the benefits to learners and educators of being able to search for and freely access education, as well as the help given to educators to develop and present their materials in an open online format. Resources are catalogued by volunteer members, and MERLOT is now a grass roots organization with input from, and access by, a large community of individuals and organizations globally.

In the UK, Jisc, previously known as the Joint Information Systems Committee, sponsored the UKOER programme in partnership with the Higher Education Academy from 2008 to 2012.<sup>28</sup> A three-phase programme identified sustainable open practice and worked with many diverse stakeholders to explore the impact of OER and open educational practice on learning and teaching. Designed as a time-limited project to stimulate innovation in the higher education sector, a range of stakeholders benefited, including employers, public bodies, institutions, students, staff and resource developers. The evaluations of each of the phases of the UKOER can still be found<sup>29</sup> and include general and specific recommendations, many of which are still relevant today. Jisc has evolved into a membership subscription service to deliver digital services for the higher (and further) education sectors in the UK. One of Jisc's services was Jorum, a large repository for discovering and sharing OERs, however this was retired in 2016. The UK does not seem to have followed these promising initiatives with the development of a national repository of open resources and practices.

The UKOER programme also claims to have helped establish the use of Creative Commons (CC) licences in education, beyond their use in research publication as described above. As well as providing licences for open publishing of textbooks and other educational resources, Creative Commons has established the Open Education Platform as a space '...for open education advocates and practitioners to identify, plan and coordinate multi-national open education content, practices and policy activities to foster better sharing of knowledge'.<sup>30</sup>

5 There are currently more than 1,000 members from more than 90 countries functioning as a community group democratically run by members and open to anyone interested in open education. Content is shared, as well as opportunities and challenges through global discussions around open education topics. Community meetings and community-initiated activities, such as online talks, are hosted. Activities are determined by community vote each year and are generally unfunded. The Platform is facilitated by staff of CC, whose primary source of funding is through foundation grants and individual donations. The Platform also provides access to a certificate programme for in-depth courses about CC licences and open practices, with over 1,000 graduates to date.

There are large international differences in approach to open education. Among nine countries studied by Marin et al.,<sup>31</sup> China stood out with its aims to build a public system of national digital educational resources and top-down national regulations attempting to drive institutional policies. There are other global initiatives such as OER Africa,<sup>32</sup> funded by the Hewlett Foundation, to support the development of open education and provide a repository for African resources.

It is important to consider massive open online courses (MOOCs) in relation to the open access movement. While most MOOCs are open in the sense that they do not charge for access, although some do make a charge for certification, the courses and their materials are usually neither formatted nor licensed for reuse and redistribution.<sup>33</sup>

'It is important to consider massive open online courses (MOOCs) in relation to the open access movement'

The OERu described previously<sup>34</sup> provides a good example of the open provision of whole courses where credit can be gained towards a degree offered by partner universities. The number of their offerings is growing.

## What are the limitations to open access?

Despite all the activities and enthusiasm in the field and the recognized benefits, neither the production nor use of open resources have been adopted by the majority of educators. There are various systemic and institutional barriers. Individual teachers may have concerns about quality, copyright, technical issues and sustainability,<sup>35</sup> the lack of time to review and adapt open materials and the way that their work in developing open resources is valued and rewarded.<sup>36</sup> Institutional inhibitory factors include funding, cultural/institutional norms and institutional policies.<sup>37</sup> Institutional support is essential, but even where the policy settings have been changed to provide an appropriate framework for the development and utilization of open resources and shown to increase awareness among teaching staff, their use and creation may still be low.<sup>38</sup> The adoption of Plan E might provide a facilitating factor in addressing some of these limitations.

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## Is there really a need for Plan E?

Although I have described the existence of many available open educational materials, the majority of higher education remains behind the university paywall. As with research findings, there is an ethical debate around the notion that public funding should be used for the public good. While of course this happens within the university setting, opening up access will allow the highest quality education to be made available to others.

There remain many regional and global inequalities in access to higher education.<sup>39</sup> As an illustration, by the year 2050, a quarter of the world's population will be African,<sup>40</sup> and there is a global responsibility to assist in the educational needs that this growth represents. Providing educational materials and processes through open access to them has the potential to help address inequity in access to higher education.

## Precedents

There are at least two examples which can point to the feasibility of making public funding of educational materials freely and openly available. In 2015 the U.S. Department of Labor required intellectual property developed under a competitive Federal award process to be licensed under a Creative Commons Attribution licence.<sup>41</sup> The Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant programme with US\$1.9 billion funding by the U.S. Department of Labor resulted in 256 projects. All of the materials developed under that programme were published on the SkillsCommons<sup>42</sup> website created and curated by MERLOT.<sup>43</sup> The SkillsCommons courses are all freely available and showcase examples of the way they have been used by others through revising and reusing them can be seen on the website.<sup>44</sup>

In 2017, the U.S. Department of Education mandated something similar<sup>45</sup> although it was limited only to competitive grant funds, approximately 10% of the Department's total discretionary funding. The U.S. Department of State also requires open licensing on the products of several of its overseas grant programmes.

## Overcoming policy objections

Plan S is driven by research funders who can make open publication a condition of their funding. There is no such driver for Plan E, unless governments who fund universities develop a similar policy. So, this might have to be a voluntary initiative to get it started.

To help assure quality, a peer review system for this material could be created, to mirror research publication peer review and allowing published work to be listed in an academic's CV. This could be extended to other academic input such as updating the work, creating instructional materials and developing test banks. This would allow the publication of education output to be included in the university metrics – considered to be one of the reasons that universities currently value research over teaching, which exacerbates the teaching/research divide within universities.<sup>46</sup> Plan E might thus even have the collateral benefit of increasing the way teachers are valued in the higher education sector.

Rather than creating new journals for the publication of teaching materials, open and networked repositories could be developed as is suggested for research publications.<sup>47</sup> This would allow a similar approach to that of Principle 10 in Plan S, where assessments of research output would value '...the intrinsic merit of the work and not consider the publication channel, its impact factor (or other journal metrics), or the publisher'.<sup>48</sup> Enabling initiatives might include those such as Open EdTech, an exciting global development of a free and open educational platform which, as well as offering repositories for OER, plans to include spaces for teaching and learning.<sup>49</sup>

'open and networked repositories could be developed as is suggested for research publications'

## Getting started

I realize that the implementation of Plan E would be difficult, as universities are autonomous organizations and it would require their agreement.

How about a target for all universities that receive public funding to make at least 10% of their offerings available online in this way within the next three years? While this is an ambitious target, the adoption of the plan has the chance of reducing some of the current reluctance to offer and utilize open resources and to begin the development of the infrastructure and processes required to make the plan work. The choice of materials would be up to each institution and its faculty, but material of major global public interest should be prioritized. Governments, state and national, as well as universities

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- 7 should be encouraged to sign up to this. Would a philanthropic organization provide minimal infrastructure funding to establish an organization to oversee the initiative? Who might take up this challenge?

## Conclusions

A global movement exists to make the products of research open to all, and there are already some examples where those who provide the funding for the development of educational resources require open access to them. There is much, but varied, enthusiasm and considerable expertise amongst educators and their institutions for making educational resources and infrastructure available and licensed for open access and use. However, most educational material is still kept behind institutional paywalls and the sustainability of the open education movement is not assured. If we accept the need for change so that, as for research outputs, educational resources become open to access, Plan E might provide the global impetus for such change and make a contribution towards reducing inequality in access to higher education.

'Plan E might provide the global impetus for ... change and make a contribution towards reducing inequality in access to higher education'

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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 'full list of industry A&As' link: <http://www.uksg.org/publications#aa>.

### Competing interests

The author has declared no competing interests.

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Corresponding author:

Richard F. Heller

Emeritus Professor of Medicine

University of Newcastle, Australia;

Emeritus Professor of Public Health

University of Manchester, UK

E-mail: [rfheller4@gmail.com](mailto:rfheller4@gmail.com)

ORCID ID: <https://orcid.org/0000-0003-3161-5967>

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