

# Foundation Funded OER vs. Tax Payer Funded OER – A Tale of Two Mandates

**Paul Stacey**

Director Communications, Stakeholder & Academic Relations, BCcampus.

## **Abstract**

Compare and contrast foundation funded OER with taxpayer funded OER in terms of global vs. local goals, licensing options, use cases, and outcomes.

## **Keywords**

sustainability, public funding, foundation funding, business models, strategies, adoption, mandates, goals, use cases, license continuum, OER framework

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## **Recommended citation:**

Stacey, P. (2010). Foundation Funded OER vs. Tax Payer Funded OER - A Tale of Two Mandates. In *Open ED 2010 Proceedings*. Barcelona: UOC, OU, BYU.

[Accessed: dd/mm/yy].<<http://hdl.handle.net/10609/5241>>

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# Introduction

Most well known OER initiatives such as MIT's OpenCourseWare or Rice University's Connexions have been funded by foundations such as Hewlett, Mellon, and Gates. Foundation funding has been an essential component of establishing the OER field. However, foundation funding cannot be relied on for ongoing development and operations. Many OER initiatives are struggling to establish and transition to a future independent of foundation funding. A common and critical challenge is planning for and ensuring sustainability. (Baraniuk, 2008)

OER have now been in development and use since 2002. On the technology adoption lifecycle curve (Rogers, 1983) we'd say OER have come through the innovation phase, are striving for adoption, and aspire to cross into early majority.

To the extent that OER are a disruptive innovation we can also consider Geoffrey Moore's variation of this model that depicts a chasm between the early adoption and early majority phase. Many disruptive technology innovations do not successfully cross the chasm and simply disappear (Moore, 1991). Will this be the fate of OER?

OER need sustainable business models and most importantly sustaining funding. One way to think about OER funding is to map it to a traditional start-up financing cycle of investment as represented in Figure 2.

The cycle of investment starts with seed funding provided by what the field refers to as friends, family and fools (FFF). Seed funding is usually a small amount required to kick start the effort. In the context of OER seed funding is the money put up by the institutions and organizations starting OER initiatives. As the development progresses a second round of funding is often sought in the form of angel investment. Angel investors typically invest their own capital to finance a ventures need. Angel investment is high risk. A large percentage of angel investments are lost completely when early stage ventures fail in the "valley of death". Foundations have played the angel investment role for OER. Angel investment is high risk and short term. Angel capital fills the gap between friends and family and third stage funding where venture capital, banks, or initial public offering kick in.

Venture capital, bank, or IPO private investments are unlikely options for OER but the sustained funding need is real. A variety of funding models for OER have been proposed including:

- Endowment
- Membership
- Donations
- Conversion
- Contributor-pay
- Sponsorship
- Institutional
- Governmental
- Partnerships and exchanges

(Downes, 2007)

In a public post secondary institution context traditional sources of funding are:

- public grant funding from taxes
- individual donations
- organizational donations
- advertising
- fees for products or services

(Lane, 2008)

One strategy for sustaining OER developments as they transition from early innovation to mainstream is for government and tax-payer public funding to take over from the early stage funding foundations have provided.

This paper examines some of the factors affecting the growth and sustainability of OER. It compares and contrasts foundation and government publicly funded OER initiatives in terms of global vs. local goals, licensing options, use cases, and outcomes. Emerging from this comparison are strategies and tactics that position OER for public funding, ongoing adoption, and a long-term sustainable future.

## Foundation Funded OER

The OER movement has been dominated by foundation funding. The Hewlett Foundation, the Mellon Foundation, the Ford Foundation, and more recently the Bill and Melinda Gates Foundation have been priming the OER pump with grants.

These foundations each have distinct identities and philanthropic mandates that shape the programs and conditions by which OER funding is provided. Funding awards are not provided in a no-strings-attached fashion. Foundation grants are awarded to initiatives that support the goals of the foundation.

If OER are going to transition to public funding its worth looking at foundation mandates and goals and thinking about the extent to which they match up with public funder mandates and goals.

The Hewlett Foundation based in Menlo Park CA makes grants to solve social and environmental problems in the United States and around the world. The Hewlett Foundation was the first to support OER, has provided large grants on an ongoing basis, and continues to play an active role. Of all foundations Hewlett is by far the most influential and largest investor in the OER field.

Hewlett has funded most of the major, well-known OER initiatives including:

- MIT OpenCourseware
- Rice University Connexions
- United Kingdom Open University's OpenLearn
- Carnegie Mellon University Open Learning Initiative
- Commonwealth of Learning
- Teachers Without Borders
- Yale University
- Monterey Institute for Technology and Education
- Institute for the Study of Knowledge Management in Education
- and many others

The Hewlett Foundation's OER goal is to: "Equalize access to knowledge for teachers and students around the globe through Open Educational Resources" (Hewlett, 2010).

The Mellon Foundation's mandate and goals are largely around supporting higher education and the humanities including research libraries, centres for advanced study, art museums and art conservation, and the performing arts. (Mellon, 2004 pp. 9)

The Mellon Foundation's role in open education has primarily been through awarding grants for initiatives that benefit teaching and learning through the collaborative development of open-source software. From an OER perspective Mellon's focus has been on mass digitization of content in libraries and building archives and sharing content across institutions rather than supporting initiatives to develop open course content. But Mellon has partnered with other foundations to co-invest in large OER initiatives such as MIT's OCW.

The Ford Foundation's goals are to strengthen democratic values, reduce poverty and injustice, promote international cooperation, and advance human achievement. (Ford, 2010)The Ford Foundation has supported OER as part of the Partnership of Higher Education in Africa and IKSME's OER ArtsCollab which is engaging teachers, learners, and practitioners in the collaborative development and use of OER in the arts and social justice.

The Bill & Melinda Gates Foundation makes grants in global development, global health and the United States. The Gates Foundation is supporting OER as a disruptive innovation. The Foundation's Technology in Post Secondary Success background paper states; "We will make investments to test whether community-developed and openly distributed course materials, platforms and technologies can effectively disrupt traditional teaching methods and increase student engagement." (Gates, 2010a)

In Oct. 2009 Gates made a \$5.3 million investment in the Washington State Student Completion Initiative. (Gates, 2010b) Of that total \$1.8 million is going to the Washington State Board for Community & Technical Colleges for an Open Course Library initiative developing 81 high enrolment courses as OER.

In the OER context foundations like Hewlett, Mellon, Ford and Gates are angel investors supporting OER initiatives at a scale and with a volume of financing significantly beyond the start-up seed funding of OER initiators. Most foundations have global and humanitarian mandates and goals.

## Foundation Funded OER Initiative Goals

We've looked at the goals of foundations lets now look at specific foundation funded OER initiatives and see to what extent their goals match those of their funding foundation.

### *MIT OCW Goals*

Advance education around the world by publishing MIT courses as a public good for the benefit of all. (Hockfield, 2010)

### *Rice University Connexions*

Connexions has two primary goals:

1. to convey the interconnected nature of knowledge across disciplines, courses, and curricula
2. to move away from solitary authoring, publishing, and learning process to one based on connecting people into global learning communities that share knowledge.

(Baraniuk, 2008, pp. 233)

### *United Kingdom Open University's OpenLearn*

To make some of The Open University's distance learning materials freely accessible in an international web-based open content environment and, in so doing, to advance open content delivery method technologies by:

- deploying leading-edge learning management tools for learner support
- encouraging the creation of non-formal collaborative learning communities
- enhance international research-based knowledge about modern pedagogies for higher education

(Lane, 2008, pp. 156)

### *Carnegie Mellon University Open Learning Initiative*

The OLI initiative is a research-based approach to OER. The fundamental goal of OLI is to develop Web-based learning environments that are the complete enactment of instruction. This includes developing better resources and practices, cycles of evaluation and improvement, and advancing fundamental understanding of learning. (Thille, 2008, pp. 167)

A second major goal of the OLI is to provide access to high quality postsecondary courses (similar to those taught at Carnegie Mellon) to learners who cannot attend such institutions. (Thille, 2008 pp. 175) To support this OLI's website provides free online courses and course materials that enact instruction for an entire course.

### *Yale University*

Open Yale Courses provides free and open access to recorded lectures of a selection of introductory courses taught by faculty at Yale University. The aim of the project is to expand access to educational materials for all who wish to learn. Registration is not required and no course credit is available.

(Yale, 2010)

Goals like "advance education around the world", "publish courses as a public good" "connect people into global learning communities" and "expand access for all who wish to learn" align well with Foundation goals. But do they align well with government publicly funded education goals?

## **Publicly Funded OER**

Government public funding of OER has not been as widely featured in the OER field as foundation funded OER initiatives. The authors own BCcampus initiative in Canada is one example, but a quick scan of the most highly cited OER initiatives shows just how dominating foundation OER

have been. During the drafting of this paper the author contacted several leaders in the OER field and asked them to identify OER initiatives that are funded by public taxpayer dollars at the state, province or national level. The initiatives that emerged in response are:

- BCcampus OER (Canada)
- Southern Regional Education Board SCORE (United States)
- AShareNet & edna (Australia)
- OERNZ (New Zealand)
- JISC JOURM & OER (United Kingdom)
- Wikiwijs (Netherlands)
- OPAL (European Union)
- Open High School of Utah (United States)
- Utah State Wide OCW (United States)

For comparative purposes the author has chosen initiatives focused on higher education open content as opposed to open educational practices, open source software, or other aspects of the field.

Lets look at the goals of publicly funded OER initiatives.

#### *BCcampus OER*

Funded through an annual Online Program Development Fund provided by the Ministry of Advanced Education the BCcampus OER goals are to increase credential opportunities available to students throughout the province by funding multi-institutional partnerships for the development of shared credit-based post-secondary online courses, programs, and resources.

BCcampus OER goals translate into three metrics:

- partnerships
- credentials
- sharing & reuse

(BCcampus, 2010)

#### *Southern Regional Education Board SCORE*

Funded by the Southern Regional Education Board the goals of SCORE are to improve teaching and learning and achieve cost savings through a multistate K-12 and higher education initiative to share digital learning course content among colleges, universities and schools in SREB states. SCORE:

- establishes school and college relationships to create, license and provide high-quality content.
- provides cost-effective learning resources for K-20 by sharing development costs among states and commercial companies.
- reduces duplication of effort.
- increases faculty and student productivity.
- adheres to e-learning standards.

(SREB, 2010)

#### *AShareNet & edna*

AShareNet is a collaborative system in Australia established by the Australian Ministers of Education and Training to streamline the licensing of intellectual property so that Australian

learning materials are developed, shared, and adapted efficiently. It plays an intermediary role between developers and users and in particular facilitates the transfer of educational resources between educational institutions. Its goal s to provide a process and online system that is streamlined, avoids duplication and increases efficiency. (OECD CERl, 2006 pp. 3-4) AShareNet and other licensed educational resources are distributed through edna's repository.

### *OERNZ*

Funded by the Tertiary Education Commission, the objective of the New Zealand Open Educational Resources project is to develop courseware that will be freely available to all tertiary education institutions in New Zealand. Reduction in the duplication of investment is a primary goal, but without risking the pluralism of ideas and innovation that underpin a vibrant education sector. (New Zealand OER, 2010)

### *JISC JORUM & OER*

The United Kingdom's Joint Information Systems Committee (JISC) funded the JORUM initiative which put in place a repository for content United Kingdom higher education institutions wished to share. More recently JISC launched an OER content initiative to support the open release of existing learning resources for free use and repurposing worldwide. JISC OER will use JORUM as one of the vehicles for sharing.

The goals of JORUM are to enable the sharing, reuse and repurposing of learning and teaching resources through an online, repository service that supports policy, practice and productivity in learning and teaching in the United Kingdom and beyond. (JORUM, 2010)

The goals of JISC's OER program are to explore the sustainability of long-term open resources release via the adoption of appropriate business models. Supporting actions may include modifications to institutional policies and processes, with the aim of making open resources release an expected part of the educational resources creation cycle. JISC's OER program is expected to build the capacity of the sector for sustainable OER release, generate better understanding of OER reuse, and make OER easier to find and use. (JISC OER, 2010)

### *Wikiwijs*

The Netherlands wikiwijs OER initiative goals include:

- stimulating development and use of OER
- creating options for specialized and customized education
- increasing quality of education through more flexible and up-to-date materials
- improving access to both open and 'closed' digital learning materials
- reducing time to find and find resources that are quality and fit curriculum
- increasing teacher involvement in development and use of OER

(Schuwer, 2010)

Goals like "increasing credential opportunities available to students throughout the province", "establish school and college relationships" "develop courseware freely available to tertiary institutions in New Zealand" and "expand access to both open and closed digital learning resources" align well with government public funding goals.

Government publicly funded OER have local goals that serve citizen education access and credential needs.

## OER Licensing

One way OER goals are being achieved is through use of licenses. Figure 3 shows an OER licensing continuum. At the far left of the continuum is full copyright all rights reserved. At the far right end of the continuum is public domain no rights reserved. Licensing options are increasingly open as you move from left to right along the continuum.

Foundation funded OER do not involve license options. Instead a single Creative Commons license is used with the majority of initiatives going with Attribution or Attribution Non-Commercial Share Alike.

In contrast publicly funded OER often involve license options along an open continuum. The authors own BCcampus OER initiative gives developers of OER a choice between local sharing within the province of BC through a BC Commons license or global sharing using Creative Commons. JISC's JORUM initiative has followed a similar path and Australia's AShareNet uses an even more refined approach.

Recent publicly funded OER initiatives such as JISC's OER and Netherlands Wikiwijs are being more explicit about dictating use of Creative Commons. But they still reference and acknowledge a need to support more closed resources. Lack of knowledge and fears around intellectual property, copyright infringement, quality and competitive advantage are still barriers to mainstream adoption and use of Creative Commons only.

It's interesting to note that no OER initiatives are fully open. None are placing resources directly into the public domain.

## OER Use Cases & Outcomes

Foundation OER initiatives mentioned in this paper primarily see OER as an act of publishing content and a form of public philanthropy. Use cases include:

- marketing promotion of the institutions formal for-credit offerings (Wiley, 2010)
- informal non-credit autonomous self-paced study (Lerman, 2008 p. 216)
- academic planning for students enrolled at institution (Lerman, 2008 p. 222)
- international distribution and translation, especially in developing countries (Lerman, 2008 pp 215 & 224)
- assembly of OER into print-on-demand textbooks (Baraniuk, 2009, p. 2)

Foundation funded OER are typically housed on a destination web site or use custom built software resulting in controlled access and use. Most resources are not optimized for online delivery



independent of the OER site. Despite the OER license used by many of these initiatives downloads are often not editable or modifiable given their fixed file formats such as .pdf .

Foundation funded OER initiatives are often more oriented to informal non-credit learning for students than to teachers. MIT is explicit in stating OCW, is not an MIT education, does not grant degrees or certificates, and does not provide access to MIT faculty. Initiatives like Carnegie Mellon's OLI require instructors to ask permission for an account and even then use of the OLI OER must be done through Carnegie Mellon's OLI technology rather than the instructor's own institutions applications. As part of its sustainability strategy Carnegie Mellon's OLI use by instructors even has fees.

The primary use case of publicly funded OER is for formal credit-based academic offerings rather than informal study by students. Publicly funded OER are often a form of curriculum development providing faculty with resources to use in their courses or in development of new for-credit offerings.

Publicly funded OER are typically housed in a repository which provides an access and distribution role but not usually a creation or course delivery role. OER are uploaded, searched for, and previewed on the repository but usually downloaded for use independent of the repository through an institutions own learning management system or other educational technology.

## Conclusion

Comparing and contrasting foundation with government publicly funded OER initiatives reveals commonalities, differences, and a diversity of approaches.

OER goals/mandates, licenses, and use cases can be strategically situated within an overarching OER framework (Stacey 2006) as represented in Figure 5.

This framework can be used to define and refine strategy and tactics associated with any OER initiative. It can also be used as a basis for comparing and contrasting OER initiatives. As an example the following table highlights differences between the BCcampus OER initiative and MIT's OCW initiative.

As shown in this table the publicly funded BCcampus OER initiative has focused on developing new online learning resources through system partnerships and collaboration. The content produced is primarily intended for faculty use in formal for-credit education offerings delivered via their institutions learning management system. The primary mandate for open sharing within the jurisdiction of the public funder is enabled through a BC Commons open license and global participation supported as a choice of the developer through a Creative Commons license.

In contrast the foundation funded MIT OCW OER initiative has focused on publishing a single prestigious institution's existing lectures, course notes, and learning activities associated with campus-based classroom activity. These resources are freely provided as a public good for use primarily in informal non-credit learning. The foundation funded OER meets global philanthropic goals by mandating a single Creative Commons license but requires users to access the OER through MIT's technologies.

Emerging from the comparisons made in this paper the following strategies and tactics position OER for public funding, ongoing adoption, and a long-term sustainable future:

- ensure OER initiative goals fulfil public funder education access and credential needs first before serving global needs
- establish OER development initiatives as multi-institutional partnerships with each institution using the developed resource in for-credit offerings right from the start
- use OER development as a means of generating collaborations between institutions
- offer a range of OER licensing options along the open continuum
- provide cost efficiencies and reduction of duplication by aggregating and distributing quality OER as a service
- ensure OER have a form factor that is modifiable
- support download and autonomous use of OER by institutions using their own technology especially learning management systems
- look for ways to make OER creation and use part of regular operational academic practice

## Figures

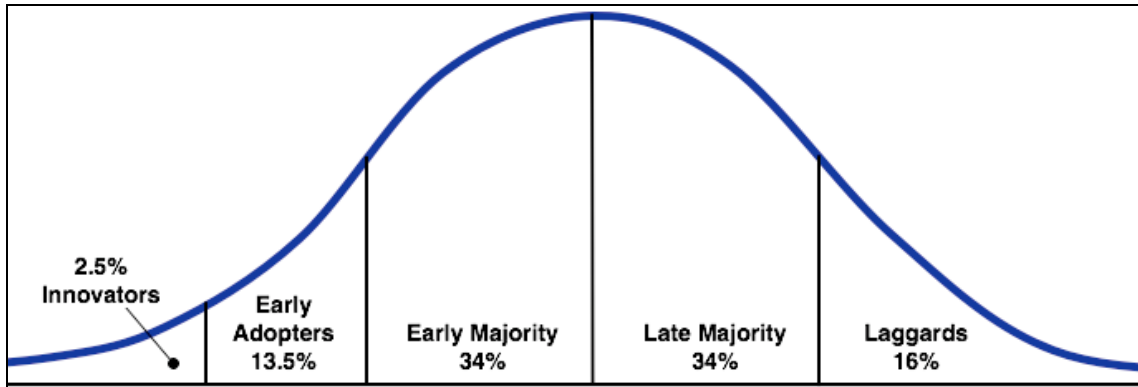


Figure 1 - Technology Adoption Life Cycle  
(Source: [http://en.wikipedia.org/wiki/Technology\\_adoption\\_lifecycle](http://en.wikipedia.org/wiki/Technology_adoption_lifecycle))

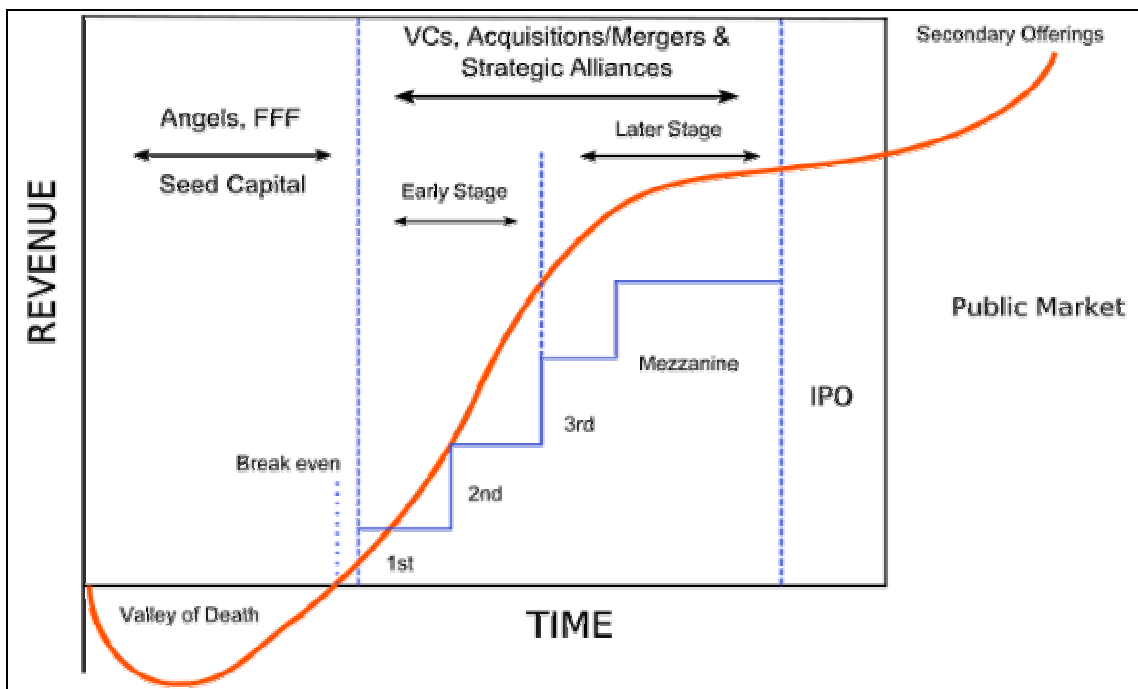


Figure 2 - Financing Cycle  
(Source: [http://en.wikipedia.org/wiki/Seed\\_funding](http://en.wikipedia.org/wiki/Seed_funding))

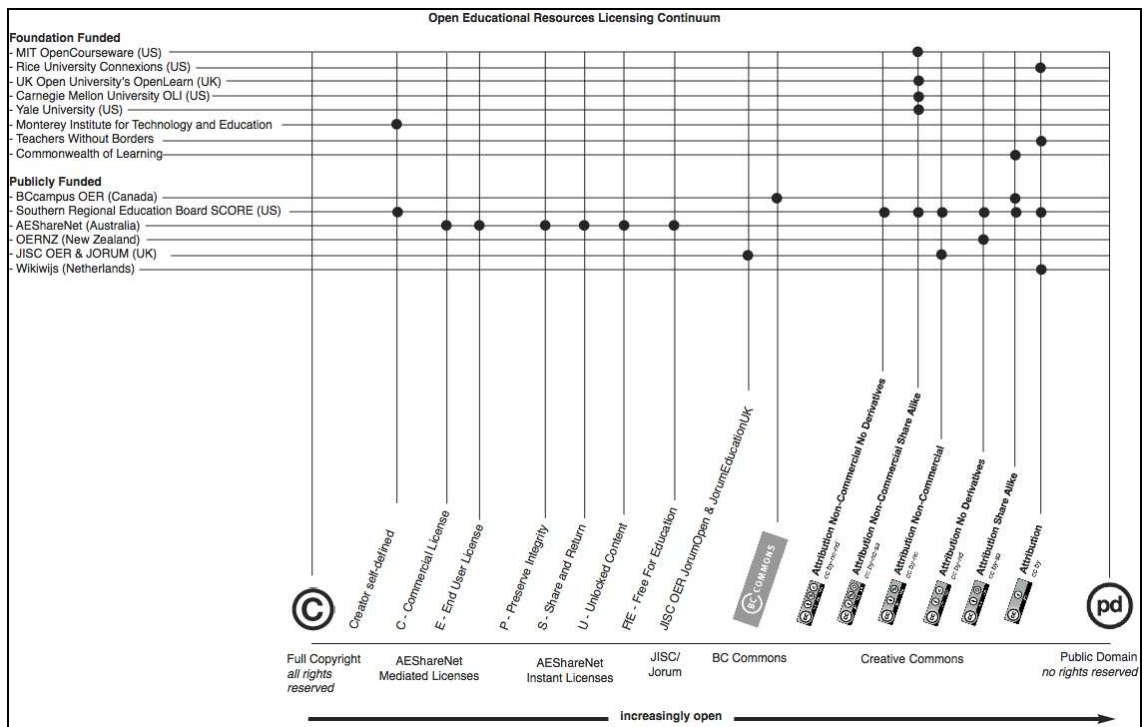


Figure 3 - OER Licensing Continuum

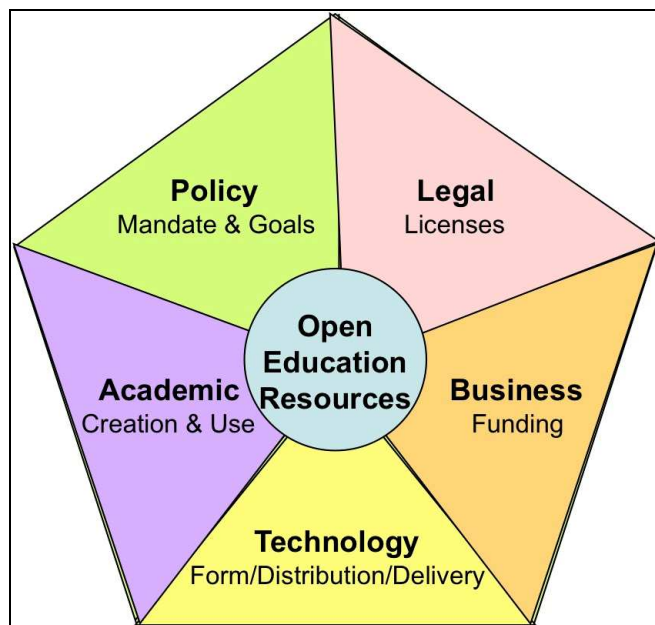


Figure 4: OER Framework

<b>BCcampus OER</b>	<b>OER Framework</b>	<b>MIT OCW</b>
Publicly funded	<b>Business Funding</b>	Foundation funded
License options: Creative Commons BC Commons	<b>Legal Licenses</b>	No license options: Creative Commons
Local	<b>Policy Mandate &amp; Goals</b>	Global
Multi-institutional Develop new Teacher focus Formal (for credit)	<b>Academic Creation</b>  <b>Use</b>	Solo Publish existing Student focus Informal (non-credit)
Digital for online delivery System wide repository Use your own tech LMS	<b>Technology</b> Form Distribution Delivery	Digitize lectures/class notes MIT OCW site MIT OCW site

**Figure 5 - Differences between the BCcampus OER initiative and MIT's OCW initiative**

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## About the author

### Paul Stacey

Director Communications, Stakeholder & Academic Relations, BCcampus.

With over 25 years as an educator in adult learning, Paul has delivered high-tech educational programs in the private and public sector around the world. Working with BCcampus, Paul is responsible for communications, curriculum development and academic growth. His BCcampus work includes support for OER curriculum development, communities of practice, and professional learning for educators. All BCcampus initiatives connect, collaborate, and innovate by generating partnerships among BC's public post-secondary institutions.

In addition to leading development of services to enhance online learning in BC's public post-secondary system Paul is himself an active online learner and online instructor. Paul completed a 100% online graduate program in Adult Learning and Global Change and, as an associate faculty member, co-developed and taught an online International and Global Distance Education course for the Master of Arts in Learning and Technology program at Royal Roads University.

BCcampus  
555 Seymour Street  
Vancouver, British Columbia  
Canada, V6B 3H6  
[pstacey@bccampus.ca](mailto:pstacey@bccampus.ca)  
<http://www.edtechfrontier.com>



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