

CONNECTING VARIOUS FORMS OF OPENNESS: SEEKING A STRONGER VALUE PROPOSITION

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In addition to open education, open access, open source software and open innovation, the open movement has also developed other varieties of 'openness'. Although many types of 'openness' exist, they are all based on the same basic principles. At major open education conferences such as OpenEd2014, OER'15 and Open Education Consortium Global Meeting 2015, it was clearly evident that people are beginning to realise how the connection of various 'open' areas can provide considerable added value, enabling innovation, improvement of quality, expansion of knowledge domains and development of new insights. The next steps in the development of open education require connection with other types of openness (Allen et al., 2015). This issue is therefore high on the agenda of the Unesco OER Chairs Meeting.¹

In an OpenEd '14 [keynote](#), John Wilbanks discussed important growth impulses for open source software that can be realised by connecting with other forms of openness. His educated guess was that this would be conducted in an analogue manner within open education, and this may possibly be the only way in which open education can develop further.

But what value does a more integrated approach to openness add? And what would we miss out on by not adopting this approach? In this article, we will answer these questions in relation to open education and open science, as these are the most important fields for education.

Origins and core values

By now, there is a large number of open fields, collectively known as the '[open movement](#)'. This movement stems from open source software in the 1980s, which in turn originated from the 'free software movement'² in around 1983. All of these fields are based on broad accessibility and the ability to use, reuse, revise and share – free of charge and under certain conditions – for various purposes such as improvement of efficiency and quality. As an example, Table 1 displays the basic principles of [open source software](#) and the [OER movement](#), as interpreted by David Wiley. The table clearly shows the similarities whilst simultaneously giving specific details relating to the field of education. In 1998, inspired by open source software, Wiley created a proposal for open licences for learning materials. This proposal was partly incorporated into the Creative Commons licence structure.³

Basic principles of open source software	Basic principles of OER
<ol style="list-style-type: none"> 1. Free distribution 2. Source code is available and distributable 3. Derived works 4. Integrity of the authors source code 5. No discrimination of persons or groups 6. No discrimination against fields of endeavour 7. Distribution of licence 8. Licence must not be specific to a product 9. Licence must not restrict other software 10. Licence must be technologically neutral 	<ol style="list-style-type: none"> 1. Retain - the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage). 2. Reuse - the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video). 3. Revise - the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language). 4. Remix - the right to combine the original or revised content with other open content to create something new (e.g., incorporate the content into a mashup). 5. Redistribute - the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend).

Table 1. The basic principles of open source software and OER.

Open education and open science

The basic principles of openness have been properly observed in the field of science as a result of hard work to make scientific information available and to share it. Open access, open journals, open data, and open research have resulted from this, which can be categorised as open science. Figure 1 gives an overview of the themes that can be classified as open science and what elements they consist of.⁴

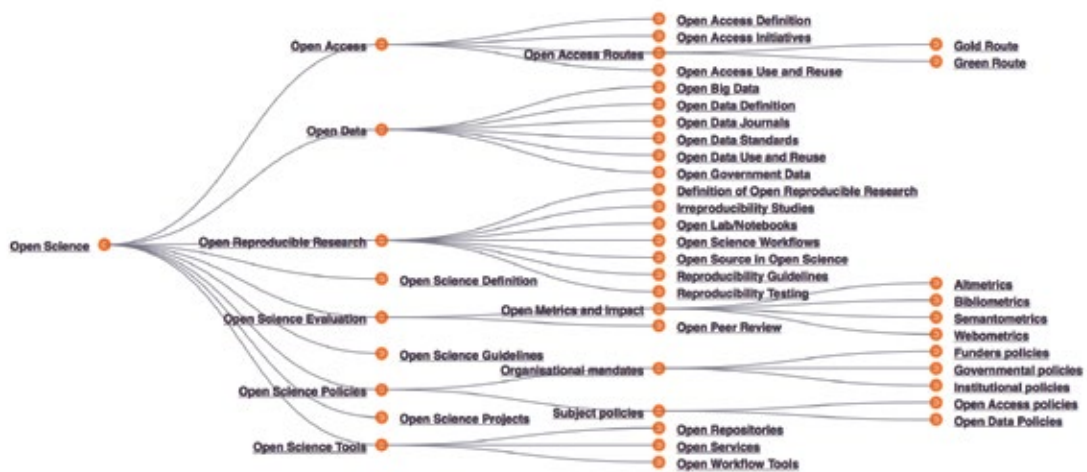


Figure 1. Overview of open science.

The open education movement began to grow in around 2005. Its initial focus was on open educational resources (such as open courseware), and later the focus shifted to the application of these resources (open educational practices, open courses, incorporation into existing education, tapping into new target groups, testing, certification and accreditation, open learning pathways). Figure 2 displays the coherence between open education and open science. In areas where elements of both fields overlap, it can be beneficial to view these as connected elements. The figure displays three types of overlap.

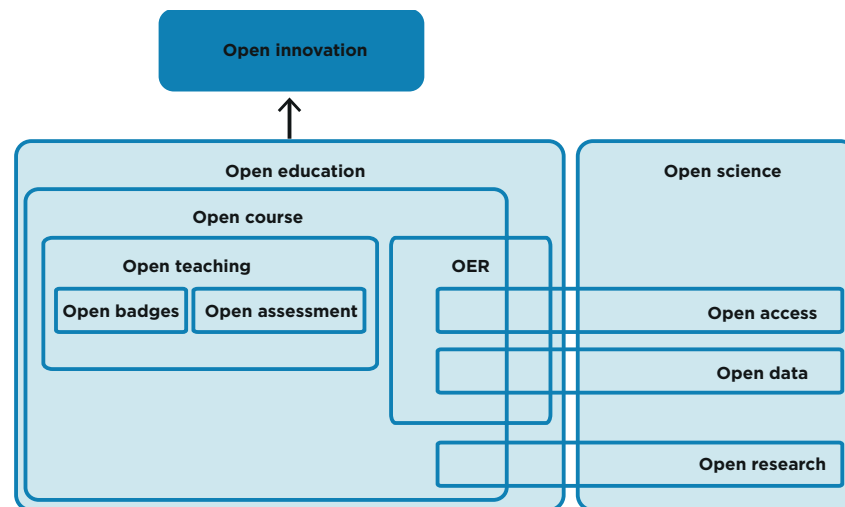


Figure 2. Relationship between open education and open science.

OER, open access and open data

For higher education courses, learning materials often consists of academic publications. In this sense, open access papers can be considered a special form of OER (Anderson, 2013). Repositories of open data offer various opportunities for open education.⁵ They can relate to educational data collected by institutions or the government. Analysis of this data gives greater insight into the educational process and can therefore be valuable to students (enabling them to make better informed choices during their studies), institutions (e.g. via benchmarking) and government bodies (as input for policy decisions).⁶

Sets of open data can also be used as learning materials, e.g. for analysis by students or for use in statistics courses. Histropedia.com is a great example of this. Based on open data/wikidata and Wikipedia articles, this website enables history to be visualised in a timeline and allows lecturers and students to construct their own timeline.

Open courses and open research

According to [Wikipedia](https://en.wikipedia.org/wiki/Open_research), the definition of open research is: “To make clear accounts of the methodology freely available via the internet, along with any data or results extracted or derived from them. This permits a massively distributed collaboration, and one in which anyone may participate at any level of the project.” The collaboration mentioned in this description can also take place by granting users of an online course access to elements of open research, or allowing them to contribute to it. An excellent example of the latter is the ‘Solar Energy’ MOOC by Delft University of Technology. The data that participants in this course provided regarding the quality and cost price of their local electricity supply and the number of hours of

sunshine have given the lecturer a large research database.⁷ A MOOC by the OER Research Hub⁸ gives clear explanation of the forms that open research can take and their significance for research into OER and open education.

Open education and open innovation

In 2003, Henry Chesbrough described open innovation as a form of innovation that transcends the boundaries of the organisation conducting it. This either involves usage of knowledge from outside an organisation (usually in the form of collaboration) or sharing of knowledge with the outside world. In practice, from the perspective of an education institution, this means reusing OER within campus education or making OER available to others. With regard to adoption of open education, education institutions can learn from the experience of other types of organisation with open innovation. Conversely, forms of open education can be a tool with which organisations can realise their ambitions with regard to open innovation (Schuwer, 2015). One example of this is the use of a MOOC by the oil company Total in order to share their knowledge of oil extraction with the outside world.

Enablers of open education and open science

Earlier, we have shown how various types of ‘openness’ within and between education and research can reinforce each other. However, other forms of openness are necessary to facilitate the existence and development of open education and open science. Figure 3 displays a number of these forms of openness, which can be viewed as enablers of open education and open science. We will explain a number of these.

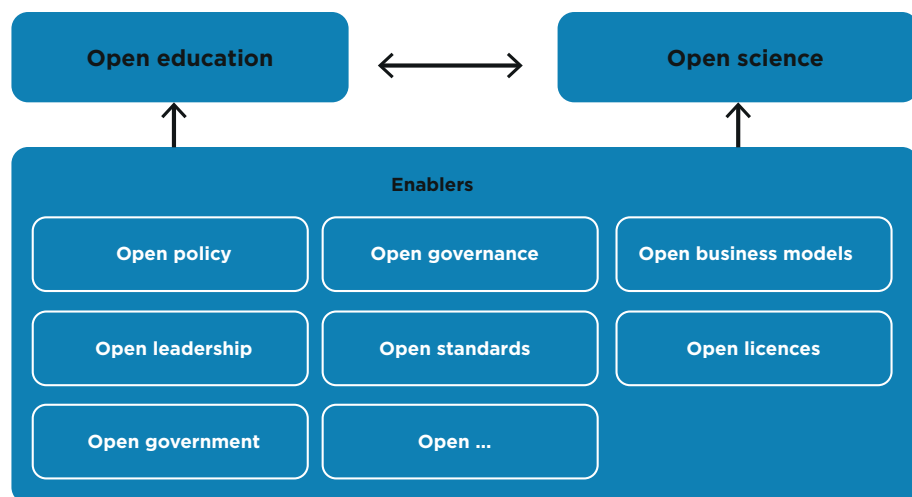


Figure 3: Open enablers of open education and open science.

Open education, open policy and open leadership

The increasing impact and degree of distribution of OER and open education has highlighted the need for open policy. Open policies promote access to – and open licencing of – government-funded resources. Open policy can maximise the impact of public investment in science, data, education, libraries, archives, museums, software and other tools by means of efficient use and reuse of these resources for the benefit

of the public. For this purpose, [Creative Commons' Open Policy Network](#) has spent several years preparing its knowledge bank to be connected and disseminated for the purposes of open policy. The [mission](#) of this network is formulated as follows: "As open advocates, organisations and policy makers recognize the potential for open policies to significantly increase the amount and quality of publicly funded education, research, data, and software, there is a pressing need to provide them with support so they can successfully create, adopt and implement open policies. Open policies promote open licensing of resources financed through public funding in order to maximise the impact of the investment."

The development of open leadership – a vital element for organisations working with open education – has been a recent focus within open education. For example, the annual Standing Conference of Presidents (SCOP) of the International Council for Open and Distance Education (ICDE, the global organisation of open distance education institutions) examined this theme in 2013.⁹ The most important finding was that managing an institution in which openness is a leitmotif requires a different type of leadership. In the Institute for [Open Leadership](#), which is part of the Open Policy Network, these leaders in the fields of education, science and public policy are trained in the values and implementation of openness with regard to licences, policy and practical applications. Experienced open leaders pass on their knowledge to the new generation and provide coaching.

Open education, open governance and open government

Governance in higher education focuses on the manner in which institutions are formally organised and what tactical and operational consequences this has. The rise of OER, open courseware and MOOCs has significantly changed these organisational structures. Open forms of education and other students are calling for different ways of organising educational processes, examination regulations, scheduling, the role of lecturers, educational logistics etc. In the search for effective, efficient and sustainable open governance models, vanguard institutions are gradually finding their way.

Open governance can also play out at the national level, giving it a direct link to open government. Governments from around the world are making the step to openness (see the [Open Government Platform](#)). The objectives for this include boosting the position of citizens in relation to the government, enabling participation, increasing transparency and public accountability and improving effectiveness and services. For example, the combination with open education is manifest in programmes such as [Opening Up Slovenia](#) or [Opening Up Education Europe](#), within which government policy is combined with measures and projects for realising open education. Another example is an online EU policy consultation among scientists and academics in order to gather input on the desired direction of open education policy (Hylén et al, 2012). Governments are also increasingly working together in open government partnerships in order to achieve policy objectives for open education (Allen & Gondol, 2015).

'Openwashing'

The open education movement has a growing number of users and followers. However, it also attracts parties with more private and commercial intentions. In recent years, the term 'openwashing' has been increasingly used (Finley, 2011). Openwashing can be compared with greenwashing, which is when environmentally unfriendly products are positioned as green and eco-friendly in order to boost sales (Weller, 2014). Via openwashing, commercial and private products are labelled as having a more open character despite failing to comply with the openness criteria

established by the open movement. Openwashing practices can therefore be described as tainted, misleading and confusing.

For example, many different parties publish MOOCs under the banner of open education, yet do not enable sharing and revision. It therefore does not comply with the openness criteria applicable to OER. There are also businesses that offer so-called open education, but seek payment for one or more services relating to this education.

To enable coherent development of the open movement in all of its forms and combinations, it is therefore important to establish a coherent set of basic principles: when can you call something 'open', and which forms of openness does the movement recognise? However, a warning must be issued here: by being too much of an 'open purist' and shutting out commerce and the business world, we run the risk of missing out on opportunities for innovation (open or otherwise) and new product combinations. We should therefore seek the right balance between idealism and pragmatism.

Are we heading towards an open culture?

The question for now is whether the entire open movement is on the path towards becoming an increasingly coherent whole, i.e. an open culture, resulting from new combinations of various contributing knowledge areas, all of which are based on common principles such as sharing, innovation, quality improvement and enhancement of efficiency. These combinations provide the coherence and added value required for further evolution, innovation and growth. In Figure 4, this is displayed in a simplified form.

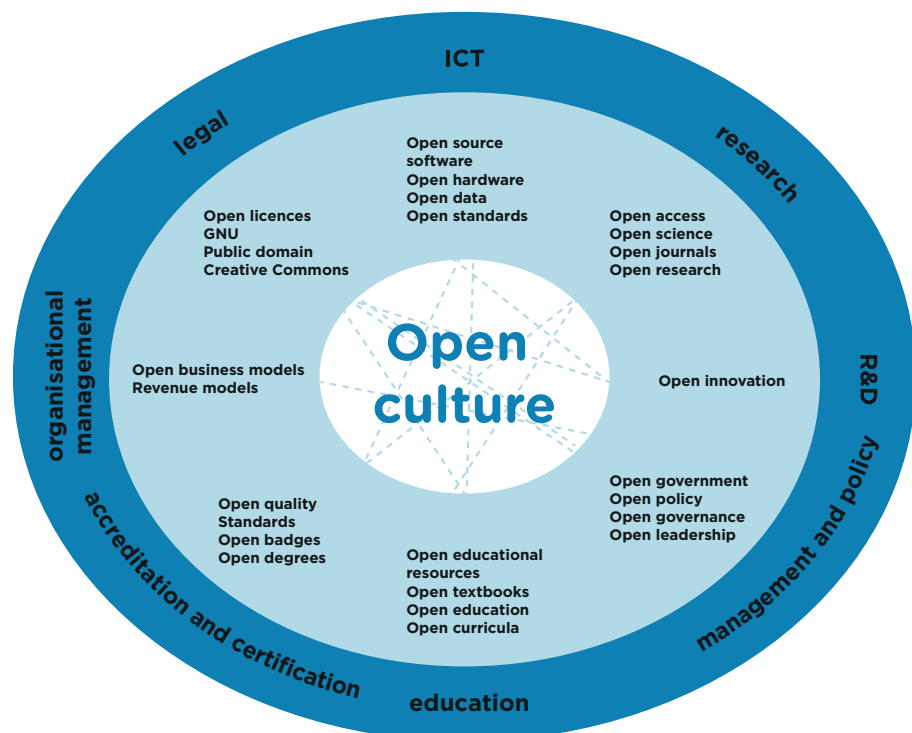


Figure 4: Open culture as a coherent entity of open fields.

Institutions that have 'openness' as their leitmotiv will derive greater value from increasing openness in products and services, and the corresponding business models will also be based on openness. The greater the number of contributing open fields, the more open the culture will be.

We are therefore witnessing a clear trend towards the development of an open culture. This subject was given significant attention during the Open Education Consortium Global Meeting 2015 with regard to the search for connections with open education. Mozilla stated that it is actively developing connections with open education in their efforts to globally take digital literacy to the next level by making use of the connection with open technologies (Surman, 2015). Also, the OECD (via Dirk Van Damme) said that they view OER as a catalyst for change and innovation in education with regard to aspects such as access, quality, distribution, costs, professionalisation and collaboration. He argues that policymakers should also work towards this.¹⁰ Within the open education movement, a great deal of discussion is being conducted about opportunities to further realise an open culture. For example, during the OER15 conference in Britain, it was decided that OER16 in Edinburgh would focus on clarifying the value proposition pertaining to the implementation of open culture into the institutional strategy for learning, teaching and research. A clear trend towards open culture therefore exists, although its manifestation has not been fully crystallised and exploration is still in progress.

Conclusions

The various combinations of openness with open education and open science offer major opportunities to reinforce one another, a process that is further accelerated when enablers of open education and open science are strategically implemented by institutions or government bodies. It may even be the case that an integrated approach to the various open fields is the only way that open education can survive and develop. From a broader perspective, all open fields are an expression of the search for an open culture. The exact manifestation of an open culture is still being discussed and its consequences for open education will become apparent in the years to come. Due to the potential advantages it offers, it is advisable to keep track of this trend and continually consider how developments can be used to benefit your own initiatives.

Finally, caution is called for when determining and safeguarding what is referred to as 'open'. Issues such as openwashing can threaten true openness, although they can also offer opportunities for discovering new opportunities in the open field.

Endnotes

- ¹ For example, see the activities conducted by the chair of the Otago Polytechnic & OER Foundation http://unescochair.oerfoundation.org/?page_id=129.
- ² A good overview of the open source movement's timeline can be found in the Piktochart at <https://magic.piktochart.com/output/2385023-history-of-the-open-source-movem>.
- ³ <http://opencontent.org/blog/archives/329>.
- ⁴ <https://www.fosteropenscience.eu/>.
- ⁵ For example, see <http://okfn.org/>.
- ⁶ An overview can be found at <http://www.slideshare.net/MariekeGuy/edtalk2>.
- ⁷ <http://www.slideshare.net/wfvanvalkenburg/oeglobal-action-lab-moocs>, slide 16.
- ⁸ <https://courses.p2pu.org/en/courses/2377/open-research-2014/>.
- ⁹ http://www.icde.org/filestore/News/2013_July-Dec/SCOP_2013/Newsrelease-ICDE_StandingConferenceofPresidentsmeeting20131205.pdf.
- ¹⁰ <http://www.slideshare.net/oeconsortium/keynote-open-education-global-conference-banff-23-april-2015-final>.



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