Open Educational Resources and Open Science Policies in European Universities

Two Movements, One Infrastructure, and a Great Deal of Unfinished Business

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Open educational resources and open science are usually discussed as separate movements, with separate policies and separate communities. This article argues that they share an infrastructure, a set of incentives and a problem: the institution rewards the production of knowledge and does not reward its openness. It examines the policies in use, distinguishes what a mandate can achieve from what it cannot, and sets out the conditions under which openness becomes a normal practice rather than a personal conviction.

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1. Two Movements With One Problem

The institution rewards production and not openness

Open science addresses the products of research: publications, data and software. Open educational resources address the materials of teaching. The communities are different, the funders are different and the problem is identical.

A researcher who publishes in a closed journal receives the credit that her institution counts. A teacher who publishes a course under an open licence receives nothing that her institution counts and gives away the material that might have been a textbook. Both movements have

therefore depended on the conviction of individuals, and conviction is not a policy.

2. What a Mandate Achieves

The mandates in use are of three kinds, and their records differ.

The first is the funder mandate: a grant condition requires that publications be deposited in a repository. The mandate works where it is enforced by the payment and where the repository exists, and it has produced a large increase in deposit rates.

The second is the institutional mandate: a university requires its staff to deposit and encourages open teaching materials. The mandate for research works where the library operates the repository and reports compliance to the faculties; the encouragement for teaching produces almost nothing.

The third is the licensing requirement: a funder requires that outputs carry an open licence. The requirement is the strongest of the three and it is the one that produces the most conflict, because it removes a choice from the author.

Mandate	Enforced by	Record
Deposit in repository	Grant payment	Strong increase
Open licence	Grant condition	Effective, contested
Institutional deposit	Reporting	Mixed
Open teaching materials	Encouragement	Negligible
Open data	Journal or funder	Growing, uneven

Table 1 Mandates and their records

3. The Cost of Being Open

Openness has a price and a beneficiary who is not the author

The argument for openness is usually made in terms of public value and it is decided in terms of cost. A researcher who publishes open access pays an article processing charge, which is a cost that her grant may not cover. A teacher who publishes a course openly spends the time to clear rights, to write for a public, and to maintain the material.

The distribution is the difficulty. The cost falls on the author and on her institution; the benefit falls on readers who are frequently elsewhere. An institution that bears the cost and receives the benefit elsewhere has a reason to comply with a mandate and no reason to go beyond it.

4. The Infrastructure Question

Both movements depend on infrastructure that an institution does not usually own: a repository, a publishing platform, a metadata standard, a preservation service. The infrastructure is the part of openness that is invisible when it works and that determines whether the practice survives.

A repository that is not maintained loses its content within a decade, and the loss is total: a link that no longer resolves is a publication that no longer exists. The preservation question is the one that neither movement has answered at institutional scale, and it is the question that a library should be asked.



Figure 1 From output to reuse

5. Teaching Materials and the Textbook Economy

The economics of teaching materials differ from the economics of research publications, and the difference explains why open educational resources have spread more slowly than open access.

A publication is written for a community that expects to read it for free and the cost is borne by the funder. A textbook is written for a market, and in several systems the market is a public monopoly in which the institution's own staff are the authors. An institution that adopts open materials displaces a revenue that some of its own staff receive, and no policy addresses that.

Element	Research publication	Teaching material
Author's reward	Credit and reputation	Royalties, sometimes
Cost of openness	Processing charge	Time and rights clearance
Displaced revenue	Subscription budget	Textbook income
Institutional interest	Compliance	Cost saving
Preservation	Repository	Nobody's responsibility

Table 2 Two economies of openness

6. What Institutions Can Do

Four measures are within the competence of a university and each has a record.

The first is to fund the charges from a central budget rather than from the grant, which converts an author's cost into an institutional one and removes the disincentive for the researcher without a grant.

The second is to recognise open outputs in appointment and promotion, with a stated category for a textbook, a dataset or a course released under a licence.

The third is to require a licence for materials produced with institutional funding, which is the teaching equivalent of the funder mandate.

The fourth is to maintain the repository as a service with a budget and a preservation policy, because an unmaintained repository is a promise that the institution will break.

7. Implications

Three implications follow.

The first is that the two movements should be pursued with one infrastructure and one set of incentives, because the problem is the same and the duplication is wasteful.

The second is that the mandate is the instrument that works for research and that teaching requires a different one, because the displaced revenue is internal.

The third is that preservation is the element that determines whether openness is durable, and it belongs to the library.

8. The Author Who Is Also a Teacher

The two movements are usually described as communities, and the people who produce open materials are frequently the same people who produce research. The overlap is the asset that neither movement has used.

Reward use, not production

A teacher who writes a textbook chapter under an open licence and a researcher who deposits an article in a repository are performing the same act of publication with different rewards, and an institution that recognised both in one category would produce more openness than a mandate. The category would have to be defined carefully: a teaching material that is used by other institutions, a dataset that is reused, a course that is adopted, each with evidence of use rather than of production.

The distinction between production and use is the one that the research assessment regimes have failed to make and that the open movements need. A repository full of deposited articles that nobody reads is a compliance statistic; an open textbook adopted by four institutions is a contribution. The evidence of use exists, in download counts, in citations of the material, in the adoption records of the institutions that teach it, and no assessment regime currently collects it.

9. The Institutional Repository and Its Politics

A repository is a technical system and the decision to build one is a decision about who controls the record of the institution's output. A library that operates the repository holds the metadata and therefore the description of what the institution has produced, and the description is used for reporting, for assessment and for the institution's account of itself.

The politics is rarely discussed and it explains some of the resistance that repositories encounter. A faculty that reports its own output in its own categories loses the ability to do so when the library's metadata schema decides the categories, and the loss is felt as an administrative intrusion rather than as a technical change.

The arrangement that works separates the two functions: the repository stores and preserves, and the description is supplied by the unit that produced the output using a schema that the repository accepts. The separation is more work and it is the one that allows the repository to be a service rather than a regime.

A final element concerns the students as producers. A course in which students write materials that are released under a licence, reviewed by the following cohort and improved in the next year, produces both a resource and a competence, and the model has a record in several disciplines. The obstacle is assessment: a student who produces an open resource is producing something that the examination does not measure, and the institution that wishes to use the model has to assess the resource. The institutions that have done it report that the quality of student-produced material is uneven and that the review by the following cohort is what raises it.

9. Conclusions

Openness has advanced where a funder required it and where the infrastructure existed, and it has depended elsewhere on individuals. The two movements share a problem that neither has solved: the institution counts what is produced and not what is shared.

Three conclusions follow. The mandate works for research and its analogue for teaching is a licensing condition on institutional funding. The cost of openness falls on the author and the benefit on others, which is why a central budget is required. And preservation is the con-

dition of durability, because a repository that is not maintained makes openness temporary.

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Biography:

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