

Communities

Reuse of open educational resources

Theme edition

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**Share your
expertise on ICT
innovation**

Colophon

Version

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Preface

This year is exactly twenty years since MIT made the revolutionary decision to make all its educational resources available as OpenCourseWare (OCW). This started a movement that gained a following worldwide: hundreds of universities and knowledge-intensive institutions put selected course materials online as Open Educational Resources (OER). This created scope for lecturers to experiment with reuse, digitisation and the creation of new online and cross-institutional forms of education.

In the Netherlands, which had some early pioneering efforts in the field of OER (OU, TU Delft) and later MOOCs (UvA, Leiden University and TU Delft), the Ministry of Education, Culture and Science expressed the explicit ambition of the Netherlands in 2015 in the Strategic Agenda for Higher Education 2025 to play a leading role worldwide in this field. The objective is that *"(...) all lecturers at Dutch higher education institutions make their teaching materials available in an open way (Open Access Higher Education) (...)"* and *"(...) that Dutch institutions will recognise each other's MOOCs and Open Educational Resources."* Since then, the Ministry, SURF and the higher education institutions have devoted a huge amount of energy to achieving this ambition, in particular through the Acceleration Plan for Educational Innovation with ICT.

Such a large-scale innovation programme has rarely proven to be of such practical value so quickly. The continuing Covid-19 pandemic has forced higher education institutions to switch rapidly and enduringly to almost entirely online teaching. Thanks in part to SURF, the Special Interest Groups (SIGs) and the Acceleration Plan, there is now a solid digital infrastructure in the Netherlands, a great deal of expertise in the digital transformation of education, and strong partnerships have emerged between experts and institutions. These have proved invaluable in sharing experiences and the required expertise, and in making the transition to online teaching as fast and as possible with the best quality attainable.

Despite this leap forward in online teaching, the ambition stated above in the field of Open Education has not yet been achieved. Although the Netherlands explicitly plays a pioneering role internationally in the field of Open Science, Open Access, Open Data and Open Education, reuse and mutual recognition of open educational resources and online education has not yet become widely established. There are certainly inspiring initiatives, such as the planned educational partnership between the university clusters of Eindhoven/Utrecht/Wageningen and Leiden/Delft/Erasmus, but these are still in their infancy. What's more, there is as yet no equivalent of this form of cooperation between universities of applied sciences (hbo) or between a university of applied sciences and a research university (wo).

This theme edition explores the issues and potential solutions for reusing educational resources from the perspective of lecturers, students, libraries, professional development and cross-institutional sharing of educational resources. An essential condition identified by the editors and authors is the level of cooperation that is required. If the Covid-19 pandemic has taught us anything in the past year, it is that while working, studying or maintaining social contacts exclusively online is technically possible – and even has some advantages, such as greater flexibility and efficiency – it is emotionally impoverishing. Good cooperation occurs primarily where physical togetherness, social interaction and emotional connection are possible and come together at the right time.

In this special anniversary year for Open Education, I wish everyone the opportunity to meet each other physically in the near future, and I hope that we can inspire each other with our new experiences in open and online education in order to raise the quality of education to higher planes, and to make it more accessible and more human.



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The reuse of open educational resources: past, present and future

The development of open educational resources (OER) has been a point of interest for a number of years in the Dutch higher education sector: within the Strategic Agenda for Higher Education and Research and the Open and Online Education Incentive Scheme of the Ministry of Education, Culture and Science (OCW), but also within SURF and the higher education institutions themselves. Over the years, many wonderful resources have been developed and shared by various institutions on a range of platforms. Even so, the reuse of these OER remains an issue for many higher education institutions. Does much reuse of OER take place, and what form does this take? Should reuse be encouraged, and how can institutions do this? Where do we stand right now in the Netherlands as far as this is concerned?

In this introduction, we first describe the developments that have taken place in open education in recent years, before looking ahead to future developments and focus areas. We do this based on the following questions: where have we come from, where are we heading, and what are our priorities?

Before continuing with this introduction, we first need to ask: what do we mean by OER? Applying the definition used by UNESCO: *“Open Educational Resources are learning, teaching and research resources in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others.”* (UNESCO, 2019: p. 2).

Important reasons for sharing and reusing educational resources include:

- Lecturers have access to a wide range of educational resources (in different collections), so that they can enrich their online and offline teaching and support students in the learning process (see the next article, on the lecturer’s perspective, in this theme edition)
- More critical feedback from colleagues improves the quality of educational resources (SURF, 2014: p. 5).
- Students have access to a wide range of educational resources so that they can choose a learning method that suits them best. This encourages students to take responsibility for their learning process (Van Trigt et al., 2014: p. 5).

Where have we come from?

The Special Interest Group Open Education has published several trend reports and theme editions over the years (2012 to the present). Here, we take a look back to review these developments. At the beginning, of course, the focus was on clarifying the terminology and concepts about open education: what is OER, and why is it of interest to higher education institutions? The growth in *Massive Open Online Courses* (MOOCs) played an important role in this process and contributed to the interest in open education. Very soon, platforms were developed so that educational institutions could allow anyone in the world to access their MOOCs. These institutions opened up access to their courses for ideological reasons (publicly funded education should be also publicly available), but also for marketing reasons. After all, MOOCs made it easy for institutions to reach new and existing audiences, and they therefore began to think about business models in relation to open education. Open education was not

only about opening up the access to their own teaching, but also about improving the quality of regular on-campus teaching. The role of OER in this and the importance of their adoption therefore began to receive more and more attention. Libraries started to support this adoption process and specific attention was paid to the professional development of lecturers. Attention was therefore paid to topics such as OER, copyright, Creative Commons licences and the quality of the resources, but also to the important question for lecturers: “*What’s in it for me?*” Encouraged to some extent by the Open and Online Education Incentive Scheme of the Ministry of OCW, many institutions started to develop and share their own OER. In doing so, some institutions also developed a policy for OER.

However, little attention was paid to the reuse of OER in these policies. Lecturers often found reuse problematic, as OER are not simple plug & play solutions. Lecturers need to be able to easily find the OER that they need, to evaluate their quality and, if necessary, to adapt them to their own context. Partly as a result of developments such as more flexible and personalised education, the focus on reuse has increased in recent years.

Where are we heading?

Recent years have seen a focus on the development of an institutional OER policy, on raising awareness of OER and on increasing the OER knowledge and skills of lecturers. If we look at the OER adoption pyramid developed by Cox & Trotter (2017), we see that most of the factors in the bottom layers of the pyramid have been provided for and that we can now focus on the upper two layers: the availability of OER and the support for and motivation of the various actors.

As a result of the coronavirus pandemic, lecturers have been forced to provide most of their teaching online. This has led to the development of a lot of new educational resources (such as knowledge clips) and high demand for online (open) educational resources. In turn, this has led to demand for new forms of education: from *emergency remote education* to high-quality online education (Bozkurt et al., 2020). If OER can be adapted, it can be better tailored to the local context. This also increases the number of educational resources available, making it easier to match resources to individual learning outcomes and the teaching method used. OER can therefore play a large role in achieving greater flexibility in higher education.

A trend towards more student-centred learning has been taking place for some time, accompanied by a shift from assessment to feedback. These developments are sometimes grouped under the term *Open Pedagogy*: how can the use of OER improve the teaching process and therefore the learning process of students? This topic is addressed in more detail in a theme edition published by the SIG Open Education in 2019 (Jacobi, Schuwer & Van der Woert, 2019). Lecturers and students use a mix of educational resources that include both open and commercial resources. OER can not only supplement commercial educational resources, but also provide an alternative.

Finally, we see more and more synergy developing between the open science, open access and open education movements. After all, the aim of all three is to maximise access to knowledge by minimising the barriers. Although there are differences between the three movements, there is also sufficient overlap to be able to initiate joint activities and to learn from each other. This will eventually lead to greater access to educational resources, to improve and enrich education and to make it more flexible and more inclusive.

What are our priorities?

To achieve the situation described in the last sentence of the previous paragraph, greater cooperation is required between various levels:

- within the work-education-research triangle, for example in community platforms or labs, for the joint development and/or the sharing of resources from the field of work;
- between the various education support services within an institution, such as the library and educationalists, who can help to redesign education making use of OER;
- between lecturers: on a large scale, such as in interinstitutional community platforms, but also within departments. on a large scale, such as in interinstitutional community platforms, but also within departments. National community platforms can encourage reuse, as they have a large network of lecturers in a certain domain who can find and share suitable, context-specific and high-quality educational resources. Cooperation between lecturers within a department is very valuable as conversations about teaching methods and the role of OER can lead to interesting discussions and insights, certainly given the current growth in online and blended learning, which requires new teaching methods;
- with students. Students search for their own educational resources (sometimes as part of the degree programme, sometimes not), and apply their own standards of quality. However, the student's perspective has not received enough attention in recent years. It is important to know which criteria students apply when reusing OER. Students can also be advocates for OER, as in the example of community colleges in the United States¹.

The main users of OER – lecturers and students – must receive the support that they need from the institution to find and use OER and to incorporate them into their teaching and learning practices. Institutions can draw on national developments in this area, such as the development of the Open and Online Education, the edusources service of SURF (a database of OERs and a search portal), Wikiwijs, and the findings of the Acceleration Plan's Zone Towards Digital (Open) Educational Resources.

This theme edition

The aim of this theme edition is to further our knowledge of the reuse of OER and to encourage activities that promote reuse in higher education institutions. In this theme edition, reuse is considered from the following perspectives:

- **Lecturer** | the lecturer as a re-user of OER. How do lecturers evaluate OER? How much reuse actually takes place?
- **Student** | the student as a user of the resources that are recommended by the lecturer, but also as a seeker of educational resources. What do students think of the reuse of educational resources?
- **Library** | the library as a place for lecturers and students to obtain advice and support in the reuse of OER. How can this be organised?
- **Professional development** | knowledge and skills are needed for reuse to be effective. Which skills are these, and how can they be acquired?
- **National** | educational resources have been developed and shared across higher education institutions for some years within the Open and Online Education Incentive Scheme. What

¹<https://www.cccoer.org/student-impact-stories/>

are people's experiences of the reuse of these resources? What can we learn from these experiences?

If we are to make better use of the potential that the reuse of OER offers, we need to consider this reuse from a variety of perspectives. We hope that you will be inspired!

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Previous SIG Open Education publications

Jaar	Publicatie	Link
Tendrapporten		
2012	Tendrapport Open Educational Resources	Download
2013	Tendrapport Open Educational Resources	Download
2014	Tendrapport Open Education	Download
2015	Tendrapport open en online onderwijs	Download
Thema-uitgaven		
2014	Didactiek van open en online onderwijs	Download
2014	Kansen voor het campusonderwijs	Download
2015	Toetsen in open en online onderwijs	Download
2015	Nieuwe doelgroepen bereiken	Download
2015	Grand Challenges Learning Analytics & open en online onderwijs (i.s.m. SIG Learning Analytics)	Download
2016	Open textbooks	Download
2017	Good practices open leer materiaal binnen vakcommunity's	Download
2019	Open Pedagogy	Download

All publications are in Dutch

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1 Seek and ye shall find! The lecturer as a user and curator of open educational resources



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In many cases, lecturers are the ones who develop, share and reuse open educational resources, but how much reuse actually takes place by lecturers in higher education in the Netherlands? And, how do lecturers evaluate the quality and suitability of these resources? This article focuses on the current use by lecturers of open educational resources, and the support that is required to stimulate their further adoption.

Over the years, much research has been carried out into barriers to the adoption of open educational resources (OER). Cox & Trotter (2017) developed the OER adoption pyramid to identify factors that affect the adoption of OER. This model shows that these obstacles can be categorised as infrastructure (including technical infrastructure), permission, awareness of OER, the ability to find and use OER, and access to relevant, high-quality resources. In the Netherlands, lecturers have sufficient access to infrastructure such as computers and the internet. As far as permission is concerned, institutions in the Netherlands generally support the use of OER, although lecturers are often unaware of the institution's policy in this area (Schuwer & Janssen, 2018). However, it is essential that lecturers are aware of OER and how they differ from other educational resources, which is often not yet the case (Baas, Admiraal & Van den Berg, 2019; Schuwer & Janssen, 2018). Lecturers are often uncertain of what exactly OER are and whether and how they can be used in their own teaching. This makes it more difficult for them to find suitable and high-quality resources, while the use of non-open resources (with or without adaptation) can result in copyright infringement. Awareness of OER is also essential for the reuse of OER; an aspect that is addressed in more detail in the contribution by Raj et al. (2021) to this theme edition. In this article, we consider the reuse process as formulated in the model by Clements & Pawlowski (2012). This model (Figure 1) defines five phases in the reuse of OER: search, evaluate, adapt, use and, possibly, share.



Figure 1. OER reuse process (Clements & Pawlowski, 2012)

We make use of this model to describe the results of recent research, with the aim to optimise support for lecturers in the first four phases.

Search and evaluate

Searching for OER is no simple task. As a lecturer, you need to know where to look, while not all OER are easily recognisable as such, and it takes a lot of time to find exactly what you are looking for among all the resources that are available (Luo et al., 2019; Amiel, 2013). After all, a lot of OER are hidden in a jungle of repositories. Library staff can help lecturers find OER, for example by offering selections of relevant resources per discipline. Even so, it is ultimately the lecturer who determines the relevance of a particular resource. Several organisations and institutes have developed rubrics to help lecturers with this, addressing issues such as ‘Is the resource relevant to the specific teaching practice?’, and ‘What is the quality?’ What is the quality? Although these rubrics can be useful, most have not been tested empirically (Yuan & Recker, 2015). We therefore know little about how lecturers actually evaluate the quality and relevance of OER. This was therefore investigated in a recent study by Baas, Van der Rijst, Van den Berg & Admiraal (submitted). As the evaluation of quality is a subjective process, the following definition of quality was used: high-quality educational resources are *‘characterized by key characteristics which, from the lecturer’s point of view, have an essential significance and determine whether the aid will be included in the teaching process’* (Karolçik et al., 2017, p. 315). Lecturers working in the same discipline (e.g. communication) were asked to evaluate four different OER during a physical meeting. The lecturers were asked the following questions: ‘What is your first impression?’ and ‘Is the resource relevant to your teaching?’ The lecturers discussed their responses to these questions, after which they were asked to conclude by answering the question: ‘Would you recommend the resource to a colleague?’ The aim of the study was to obtain insight into the elements on which lecturers base their evaluation of the quality of OER. The aim was therefore not to develop a general quality model for OER.

The results show that lecturers discussed elements related to content, design, user-friendliness, engagement and readability. Table 1 categorises the various components according to these five elements. Note that this does not mean that all of the lecturers applied the same criteria, but that these are the elements that lecturers focused on when evaluating OER (either positively or negatively). The results also show that, by discussing these resources with their colleagues, lecturers’ awareness of OER increased, that they were more positive about OER, and that they acquired more insight into the practical aspects of reusing OER in their own teaching.

Element	Components
Content	Relevance, scope, relation to discipline, accuracy, structure
Design	Educational design, granularity, design, how information is presented, developer, when the resource was developed
User-friendliness	Layout, navigation possibilities, usability, ease of access, insight into student’s progress
Engagement	Exercises, videos, feedback on exercises, interaction, student can see progress
Readability	Language, language level, style, text length

Table 1. Components in the five elements named by lecturers in the discussions

Adapt and use

We now know more about how lecturers evaluate OER, but this still says little about the actual use of these resources in their teaching. How much use do lecturers already make of OER in their teaching? And, how do lecturers use these resources? Do they adapt them or do they use them 'as is'? In a recent study, we asked lecturers in the Netherlands to complete a questionnaire to obtain more insight into this. As not all lecturers are familiar with the term 'open educational resources', we did not ask specifically about their use of OER, but asked in more general terms 1) which educational resources they use on a particular degree programme, and 2) where they obtain these resources from. The questionnaire was conducted among three groups: it was first sent to lecturers in nursing programmes, then to lecturers in ICT programmes at Fontys University of Applied Sciences, and finally to other higher education lecturers in the Netherlands. We also asked this last group about their knowledge of OER. If lecturers said that they were familiar with OER, we asked them how they use these resources, and why.

The results showed that lecturers obtain OER from different sources, depending on the type of resource. Resources that are difficult or time-consuming for lecturers to develop themselves (such as videos, textbooks and photographs) are usually obtained from third parties and are reused without first being adapted. Unsurprisingly, access to these resources is often unlimited, as they have been placed online by the author. Resources that need to be more context-specific or that concern specialised subjects are usually developed by the lecturers themselves. These are mainly presentations, assessments and exercises, and access to these resources is usually restricted to the institution. This is in line with the findings of Rolfe (2012), who stated that resources are more likely to be shared locally than through more formal means.

One striking result is that OER policy does not seem to encourage lecturers to reuse OER. This could be because the institution does not have such a policy in place, because lecturers are unaware of the policy, or because the policy does not motivate them to reuse OER. In an earlier study by Schuwer & Janssen (2018), lack of awareness of OER policy was found to be a barrier to the open sharing of educational resources.

As mentioned above, we also asked the lecturers in the last survey whether they were familiar with open licences. However, despite most lecturers being familiar with open licences, only one third of them checked the licence when reusing OER. So, although recent research by Seaman & Seaman (2020) suggests that familiarity with OER is increasing, this does not necessarily imply an increase in the correct reuse of OER. Whereas previous research indicated that the limited adoption of OER could be explained by a lack of awareness, these results show that – even if lecturers are aware of open licences – they do not necessarily check them before reuse. We can therefore conclude that lecturers perhaps make more use of OER than the figures would suggest. This conclusion reflects the findings of Beaven (2018), who states that most practices are 'hidden, and take place in private spaces' (p. 388). David Wiley also calls this hidden reuse the 'dark reuse' of OER (Wiley, 2009).

Tips to encourage reuse per phase of the reuse process

Based on these findings, we present the following suggestions to encourage the reuse of OER:

Search

- Libraries can often provide support for finding suitable resources and applications. Lecturers should therefore be made aware of this, if necessary. This support can also

include advice regarding licences and conditions for reuse (see the article by Moes & Kleijheeg (2021) in this theme edition).

Evaluate

- Invite lecturers to work together to evaluate OER. If they do this with colleagues from their own team, the discussions will not only focus on the educational context, but the reasoning of colleagues may change the perception that lecturers have of a certain resource.
- Such team discussions are particularly important when redesigning the curriculum. Lecturers indicated that they find it difficult to implement OER in ongoing degree programmes because the curriculum has already been set. By providing support from educational advisors and/or librarians during these discussions, any misconceptions or questions about OER can be addressed or answered straight away.

Adapt

- Emphasise the fact that it is possible to adapt OER. Often, lecturers are unsure whether and how OER can be adapted. What adaptations are needed to create resources that are *fit for purpose* for the local context? Make sure that there is sufficient attention and support for this.

Reuse

- As OER policy seems to have very little influence on the willingness of lecturers to reuse resources, activities to promote reuse should be implemented bottom-up. Of course, this must be done with the support described elsewhere in this article.
- Although it may be quicker and easier for lecturers to use educational resources without checking the licence, it is important to emphasise the consequences that this can have. Failure to check licenses not only disadvantages the author of the resource, but also increases the risk that the organisation Stichting PRO will bring a claim against the institution for the unauthorised use of copyrighted material.
- Talk about the reuse of resources in the department/institution. What is needed right now to make this possible? What kinds of resources are students interested in? What is their opinion, for example, of English-language educational resources?

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2 Students in search of (open) educational resources: the benefits to the learning process



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Introduction

In most studies, the reuse of open educational resources (OER) is considered from the perspective of the lecturer. This is understandable, because it is usually the lecturer who decides which compulsory and recommended literature is needed on a degree programme to achieve the required learning outcomes. However, some students may require additional resources; for extra practice, because they are interested in a different viewpoint, or because they are given more ownership of their learning and therefore need to find their own relevant resources. We therefore need to consider reuse from the student's perspective too. How do students search for additional educational resources? How do they decide which ones to use?

In a study on the use of OER by students who were registered on a degree programme, 30% said that their use of OER influenced their decision to choose a particular course in the degree programme (de los Arcos et al., 2015). Videos and open textbooks were the most commonly used form of OER by these students. The study results were based on 2,132 respondents, 31% of whom were aged 19–24, and 61% of whom were from the UK or the US. In the Netherlands, an unpublished survey was carried out in 2013². This survey consisted of closed multiple-choice questions and yielded a useful response of 162 students (53% from universities of applied sciences (hbo), 44% from research universities (wo) and 3% from other forms of higher education). The most cited reasons for searching for educational resources in addition to, or instead of, the recommended educational resources were: clarification of the course material (64%), the quick and 24/7 availability of digital educational resources (51%), and to save time (for example by searching for a summary of the course material).

Although these results give a general idea of the behaviour of students when it comes to the reuse of OER, we need to find out more about the current generation of students. We therefore organised a focus group on this topic in November 2020 for members of the ISO, Dutch National Student Association. A total of 40 higher education students participated in two parallel groups in which they discussed their behaviour and opinions on issues such as how much use they actually make of OER, how easy they are to find, and the quality of the resources that they do find. The students were first presented with a number of statements in Mentimeter. Their

²There is a blog describing this research: <https://www.robertschuwer.nl/?p=672>

responses were then explored in more depth in discussions in which they had the opportunity to explain or comment on their answers.

We first collected background information on the type of higher education (hbo or wo), the phase (Bachelor's or Master's) and the type of degree programme (arts, science, or social science). Table 1 shows the distribution of students by higher education type and phase.

Phase→	Bachelor's	Master's	Both	Neither	Left blank
HE type↓					
hbo	12				1
wo	8	9	1	1	1
left blank	1				6

Table 1 Distribution by HE type and phase (N=40)

Of the 40 students, 35 indicated the type of degree programme: 2 were arts students, 15 were science students and 16 were social science students, while two students were unsure and filled in two different types.

In this article, we present the results of the focus groups. Please note that we did not use the term 'open educational resources' in the focus groups, but terms such as 'freely available alternative educational resources'. The reason for this is that participants in earlier studies often had their own ideas of what OER are, and these were not consistent with the definition of the term as applied in the study. We therefore did not check that the sources that students referred to really are OER according to the definition provided in the introduction to this theme edition.

Do students search for alternative educational resources?

Two statements were used to identify whether the compulsory and recommended literature provided by the lecturer HE meets students' needs, or whether students also use alternative educational resources:

- Statement 1: The educational resources on the compulsory and recommended literature lists are sufficient.
- Statement 2: I use other educational resources that I find on the internet, in addition to those on the compulsory and recommended literature lists.

The results (Figures 1 and 2) show that most students always or almost always find the educational resources on the literature list to be sufficient (68.6%), while approximately a quarter of the students (28.6%) sometimes finds them to be sufficient, and sometimes not. Even so, almost all students regularly or always look for extra resources on the internet. The most commonly used alternative educational resources are papers and YouTube videos. Summaries and specific websites (such as Wolfram for science degree programmes) are also regularly mentioned. As well as searching the internet themselves, students also use resources that are passed on by other students and they share the resources that they find with others. This is less common if the subject matter is highly specific.

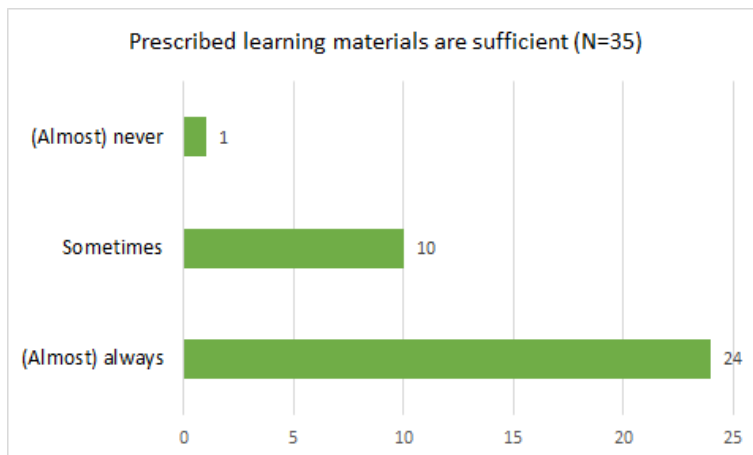


Figure 1: Prescribed educational resources

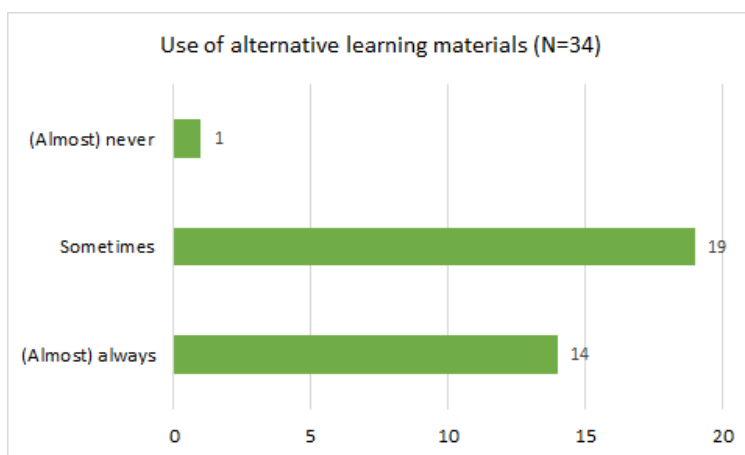


Figure 2: Use of alternative educational resources

The main reasons for looking for alternative educational resources are:

- a clearer explanation in alternative resources;
- a preference for video rather than text;
- that it is more efficient to use summaries;
- that it is a course requirement, for example to write an essay or for a research assignment;
- that Google is a good place to find code examples for programming assignments.

“You are given practice exercises, but if you get stuck on an exercise that you really should be able to do, it is nice to be able to find an explanation on the internet” (wo, science student)

Most students are not prepared to pay for a resource that is not included on the literature list. However, if they do find an interesting resource that they need to pay for, they will look for alternatives, for example by contacting the library or exploring illegal means. Only a few students said that they were willing to pay for extra educational resources – usually summaries that cost a few euros but save a lot of time.

“It’s pretty much impossible to pay for everything. I need to write so many essays for which I need extra information, my bank account can’t handle it.” (hbo, social science student)

We also asked the students how their lecturers reacted when they told them about alternative resources. Most students said that their lecturers responded positively; for example, one student said that her lecturer was enthusiastic about her alternative resource and even told other students about it. There was also a lecturer who encouraged students to share content that they found with other students. On the other hand, one lecturer was not pleased with a student who had found a solution to an exercise using a method from an alternative resource.

How do students evaluate the quality of educational resources?

A total of 34 students responded to the statement 'I find it difficult to evaluate the quality of alternative resources that I find on the internet'. Half of these students said that they never or almost never found it difficult, while the other half said that they sometimes found it difficult. Why then do some students have so little difficulty with this? Many students said that they had taken courses in their first year (and sometimes at secondary school) on assessing the quality of sources. Although such courses focus mainly on searching for and evaluating academic articles, students seem to apply the skills that they learn on these courses to other types of sources.

When evaluating the quality, students pay attention to various features, such as the source (is it from a good university), the number of citations (in the case of a paper), the accuracy of the content (applying triangulation by examining several sources to verify findings) and previous use by other students (or forwarded by them). One science student said that they were usually able to determine the quality of a source after it had been used. If a source that they used for an assignment resulted in the answer given by the lecturer, then it was a good source. The fact that this could only be determined afterwards was not seen as a problem. However, some students said that they found it more difficult to evaluate the quality of a source if they were less familiar with the subject, for example at the start of their degree programme. Random sources found using Google were also considered to be more difficult to evaluate.

In evaluating the quality of a resource, students also apply criteria that are specific to the type of educational resource. For example, you can reread a text, but you would rather watch a video just once. In the case of a video, therefore, the criterion is applied that it must be immediately clear what the video is about, and what form the information takes. If they want to find out more about the quality of a resource, students ask each other where to find good resources, or they ask the lecturer to check the source if they are uncertain of its quality.

"I am more likely to use a source if I see more nuance in the text rather than hard and fast facts" (wo, social science student)

Do students have preferences concerning the language of educational resources?

There are many more OER available in English than in Dutch. We were therefore interested to find out whether the language of an educational resource meant that it was more or less likely to be reused by students. A total of 34 students answered the question: 'What is your preferred language for educational resources (written or spoken)?' As it turned out, opinion was divided on this (Figure 3). While 9 students had no specific preference, 13 students said that they preferred Dutch-language resources, while 8 students actually preferred English-language resources. Only 4 students had a very clear preference for one or the other.

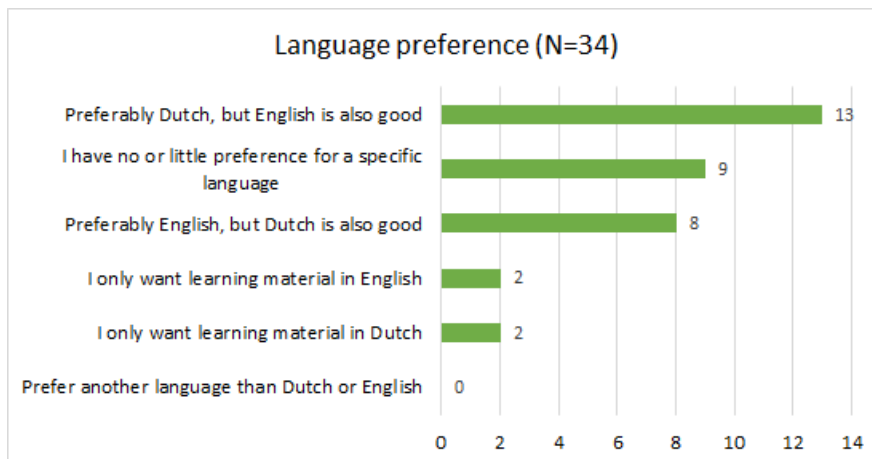


Figure 3: Language preference for educational resources

Consistency in the terminology between the recommended literature and the extra resources was the main reason that most students gave for not having a clear preference. Some students said that their programme was more focused on the Netherlands (e.g. teacher training programmes) and that there was therefore a preference for Dutch resources, but that they also needed to use English-language resources for writing essays. One science student (wo) said that the degree programme needed to be consistent with the future work environment and that this should determine the language of the educational resources. For him, knowledge of terms in Dutch and English is important to be taken seriously in the field.

Does the preference therefore depend on the type of degree programme? Of the students who indicated whether they are hbo or wo students ($n = 27$), 5 of the 10 students who preferred to use Dutch-language resources were hbo students and 5 were wo students.

“The best resources to use to write a paper are in English, even if the authors are Dutch” (hbo, social science student)

Conclusions

The main reason why students search for alternative educational resources is to support their learning process. They feel competent about searching for extra educational resources, mainly because they have taken courses in information skills. Furthermore, searching for alternative resources to supplement the recommended literature is often an inherent part of their degree programme. It is striking that most students indicated that they did not find it difficult to evaluate the quality of the resources that they found. After all, in surveys conducted among lecturers, they say that the difficulty that they have with evaluating the quality of educational resources is an obstacle to reuse. One possible explanation is that lecturers and students apply different criteria to evaluate quality. Students also seem to be less worried about resources turning out to be of poorer quality than they first thought; something that lecturers need to be more careful about.

We should note that this small study is not representative of the entire student population. However, the results present sufficient arguments for examining the behaviour of students further when it comes to the reuse of educational resources. This will make it easier to answer questions about differences between Bachelor’s and Master’s students, between degree programmes, or between hbo and wo students. Once answers to such questions have been

found, we will be in a better position to determine whether students require support and how best to provide this.

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3 The library as a way finder in the jungle of digital educational resources



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Introduction

What's the best way to convert a course into an online variant? One way is to make smart use of existing educational content. But, as a lecturer, where do you find the content and how do you know what you're allowed to do with that content? Now that online education has become so important and many educational resources are available, these questions are undoubtedly relevant for many lecturers. Perhaps more than ever!

The question is, how can libraries provide good support to lecturers and is this support scalable? A number of surveys have been carried out to explore this, and these are described below. The results of these surveys provided input for a 2-year project plan to support lecturers in improving the reuse of educational resources.

Needs assessment in 26 professional communities

The [Working Group on Libraries, Open and Online Education \(B-000\)](#) asked lecturers in professional communities what issues they encountered when sharing and reusing resources and what support they expected from the library. Of the 45 professional communities that the working group knows of, 26 contributed to this needs assessment, which was carried out in partnership with SURF and [Zone 4, 'Towards digital \(open\) educational resources'](#) of the [Acceleration Plan for Educational innovation with ICT](#).

The needs assessment revealed that professional communities would like libraries to support them with:

- Advice on copyright, for reuse of open resources, but also commercial resources
- Advice on Creative Commons licenses so they know how to reuse open resources
- Support with making resources available, such as adding metadata and creating collections on community pages

In addition, professional communities said that they would like to have authoring tools to support them with cross-institutional collaboration and editing of educational resources, such as open textbooks, videos, PowerPoint presentations and text documents. These tools should preferably be made available in the form of an extension of the national portal for [edusources](#) (see below). While the latter is not a task for the library, providing support with the creation and editing of open educational resources is. Examples include the reuse of resources when creating

an open online textbook. For more information on the outcomes of the needs assessment, see [this publication](#).

Outcomes of the assessment provided input for a 2-year project plan

The outcomes of this assessment provided input for a 2-year project initiated to provide lecturers with the best possible support to help improve the reuse of educational resources. This project will be submitted by Zone 4 to the Acceleration Plan together with a number of components:

- Extension of the edusources national portal with authoring tools
- A vision of the content to be found within the national portal
- Establishing a national support desk

Some activities that form part of the 2-year project plan are described below.

Technical extension of the edusources national portal

Library staff will contribute to the integration of authoring tools at the national portal and, in particular, to the way in which content that has already been published can be edited. Examples include lecturers' wishes to collaborate on the creation of open textbooks. When creating educational resources, advice is needed on copyright issues and editing educational resources also concerns the findability of those resources, their integration into a learning management system, or their use within interactive tools, such as Perusall and FeedbackFruits.

Link subject-matter specialists from libraries to professional communities of lecturers

In collaboration with SURF and the 'Towards digital (open) educational resources' zone, the B-000 working group is developing ideas to effectively support lecturers in their reuse of educational resources and in making them accessible. We are considering preparing a blueprint to link specialists from libraries to professional communities. This will ensure effective support can be provided on matters concerning copyright control, compilation of collections and reuse of educational resources. Once the blueprint has been fully elaborated, it will be included in the plans for the national support desk so that experts can be linked to one another (see below for more information on the national support desk).

Content strategy

In addition to expanding the infrastructure with authoring tools and supporting professional communities of specialists, more content will also need to be made available to lecturers that can be reused so that they can then put together an optimised mix of educational resources. This content will be made available through the edusources environment.

In order to answer the question of which content is relevant (open or commercial) and what should be given priority, a focus group will be established, consisting of specialists from the library and lecturers from higher education institutions and professional communities. This focus group will be presented with a content strategy including an overview of content that can be accessed in the edusources environment. This concerns both open resources and resources originating from commercial publishers. To pave the way for this, a survey of suitable open and commercial content was already made in 2020.

Searchability of educational resources

An exploration has been carried out into the findability and searchability of open textbooks and video resources

- An exploration has been carried out by TU Delft and Vrije Universiteit Amsterdam into the findability and reuse of open textbooks. These textbooks are available across many platforms and are often published in PDF or ePub format. This survey identified how many textbooks are available, the field of study, the language they were published in and the Creative Commons licence that these books were published under. Thanks to text recognition technology, the full text of the books can be searched. This increases findability and gives lecturers better insight into which open textbooks best suit their educational situation. To increase ease of use, we assessed what a solution might be to make it easier to edit textbooks in PDF or ePub format, for example. This would make it possible, for example, for chapters or paragraphs of open textbooks to be reused for educational purposes, including when creating new textbooks. The insights from this survey provided input for the content strategy (see above).
- A pilot study was also carried out to increase the searchability of video material using speech recognition (a collaboration between SURF, Erasmus University Rotterdam and Vrije Universiteit Amsterdam, initiated by the B-OOO working group). The spoken text is made available as searchable plain text. The results of this pilot study provided input for a process to assess at the national level whether the features of video platforms actually meet today's educational requirements. They also provided feedback to SURF which is used to improve the searchability of educational resources. SURF incorporates the searchability of video, using speech recognition, in the roadmap of ongoing technical developments for the edusources portal.

Other forms of support that can be provided by libraries include support with the preparation of professional vocabularies (so that educational resources can also be described in terms of learning outcomes/activities) and with the preparation of quality assurance plans and quality labels for educational resources.

National Support Desk

In order to establish a high level of support and to share as much knowledge as possible, the 2-year project will establish a national support desk available to SURF-affiliated institutions. In addition to lecturers (in their professional communities), this national support desk will also be open to education support staff for advice and they will also be able to meet experts who can provide support with the creation and integration of educational resources. In addition, high-quality basic support is needed when it comes to the use of the edusources platform and the use of existing sources, such as manuals and step-by-step plans (e.g. the step-by-step plan for creating a professional vocabulary), that are already available on [SURF's website dedicated to OER](#).

Ongoing support activities

In addition to the aforementioned activities that form part of a 2-year project, there are already ongoing support activities carried out by libraries. This will provide important input for the establishment of a national support desk.

We set out a few examples below.

Advice on copyright and reuse of resources

Libraries have already dedicated efforts to support in the form of a copyright information point; a lot of information on this can be found on library websites. An example of this is the University

Library of the Vrije Universiteit Amsterdam, which maintains an interactive [website](#) to support lecturers with their use of educational resources. Lecturers can use the website to schedule a call with a library agent for advice if the information on the website does not fully answer their questions. The information provided on the website is openly available and is already being reused by other libraries.

Through a partnership between the Association of Universities in the Netherlands (VSNU) and SURF, a number of libraries are working on the launch of a [CopyRIGHT tool](#) to provide lecturers with answers to the question of whether commercial resources can be included in the learning environment. This tool, which can be integrated into the learning environment, allows lecturers to upload literature and provides the lecturer with advice on whether the resources can be reused. To do this, the tool has to check the licensing information of the resources, using SURF's licence manager. The tool is a fork of a tool developed at Erasmus University Rotterdam. SURF is investigating how it can use the CopyRIGHT tool going forward to provide advice on open alternatives such as Open Access Publications.

Advice on educational resources and integration into the educational resources chain

The library of Maastricht University already alerts lecturers about educational resources that are freely available, but after a period of pilots and experimentation is now working on integrating these resources into the entire educational resources chain. They also inform lecturers about 'open' resources as an alternative to commercial literature and give this content a place on the list of educational resources offered to lecturers via the learning management system (Canvas in this case). The educational resources are stored on Surf Sharekit and can be found via edusources so that platforms offering OER such as edusources are also included – in addition to well-known websites such as LibSearch. By doing this, they want to offer a service that ties in with open access policy in education (including acknowledgement and recognition for lecturers). This setup is particularly interesting for the national support desk.

Workshops on the reuse of educational resources

Various workshops will be held on how both open and commercial resources can be reused in the learning environment. For example, a workshop on the reuse of open educational resources will be held at Amsterdam University of Applied Science/University of Amsterdam at the beginning of 2021. In addition, workshops will be organised at other institutions on how commercial resources can be incorporated into the learning environment. Other workshops deal, for example, with the way in which lecturers can create open interactive textbooks and reuse open resources.

Use content from interactive platforms such as Perusall and FeedbackFruits

Libraries support lecturers in reusing literature and other forms of content that students use for learning activities, such as support with Perusall and FeedbackFruits. The copyright check is an important part of this, as is the accessibility of the material. The way these tools better support students to interact with each other and with the content is essential input that can be shared via the national support desk.

The B-000 working group will donate the aforementioned activities to the 2-year project so that knowledge can be pooled and experts can be deployed to pass on this knowledge.

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4 Shifting gears towards the reuse and co-creation of OER: New skill sets for sustainable staff development



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Introduction

The term Open Educational Resources (OER) was first coined in 2002, at a UNESCO forum on Open Courseware (UNESCO, 2002). Eighteen years later, the concept of teaching and learning resources that reside in the public domain is no longer novel, yet many educational institutions still lack an integral approach to OER.

This is, in part, due to a lack of framing. Deceptively simple as a concept, OER can be both large and small in scale and used in a variety of settings (Weller, 2010). The lack of scope has led to much debate and speculation about OER's potentially far-reaching consequences. Making course content and online learning tools available without cost – to users who are similarly free to adopt, improve or redistribute these materials – could reduce barriers to education and break the monopoly of education institutions (Castaño Muñoz et al., 2013; Edwards, 2015). OER could be instrumental in a crucial shift towards digital scholarship in educational settings. It might rip apart traditional learning paths and force a move towards broader, multicultural and inclusive learning environments. It may also do none of these things. Depending on who you ask, OER will greatly reduce teacher workload, increase it exponentially, or transform teaching altogether.

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Since OER is potentially many things, institutions tend to oscillate between a variety of approaches, from those rudimentary small-scale exchanges that thrive on the enthusiasm of early adopters who share lesson plans and materials, to large-scale publications of entire course catalogues and even the conceptualization and implementation of intra-institutional systems that may facilitate the exchange of materials. There is general consensus that OER is ready to move into its adult years, towards professional and coherent approaches. Yet interestingly, most approaches still focus on the context and facilitation of OER, on issues surrounding the finding and sharing of materials, on technology and policy.

Though these are important issues to solve, they are just one side of the equation. After all, OER is not simply about making exchange of materials possible – ultimately, OER’s true transformative power lies in adopting, improving and redistributing those materials. Moving into actual constructive engagement with materials requires more than new technologies or policy; rather, it involves shifting gears from the basics of OER – creation and access – towards new educational practices of co-creation, mutual interaction and reflection, and reusing and remixing (Ehlers, 2011). In this sense, OER is a core contributor to another development – the ongoing shift towards models of co-creation, that have only been accelerated by the Covid-19 crisis (Figure 1). These developments require adjusted, or even entirely new, skill sets for teachers and students alike.

Towards a new learning model?

Auctoritas Model	Co-Creation Model
<ul style="list-style-type: none"> ● Teacher-centred ● Transfer of content ● Memory-based approach ● Students are largely passive in the learning process ● Punishment-oriented (focus on the final exam) 	<ul style="list-style-type: none"> ● Student-centred ● Creating and understanding content ● Retrieval-based approach ● Students are largely active in the learning process ● Research question-oriented (focus on the learning process)

Figure 1. Courtesy of Prof. Dr. P. Valdivia-Martin, University of Groningen

OER development and skill sets

Big or small, OER changes the context of research, teaching and learning. The first innovators and subsequent early adopters of OER have managed to dig through confusing archives, opaque licensing information and scarce resources with great enthusiasm and persistence. Now, as we move past the initial phase of facilitating creation and access and move into wider adoption – as “open” moves into mainstream adoption or is embedded in institutional policies and strategies – education supporters face the question of how to prepare a less driven part of the academic community for what is to come. Archives and resources that were cobbled together with temporary funding were fine for those early OER days, but will not be sufficient for a wider audience. Workshops and seminars that have so far focused largely on exploring the concept of OER and generating enthusiasm to grow that pool of innovators and early adopters will

ultimately have to be replaced by more structurally embedded skills training. After all, beyond those early adopters lies a majority of staff and students for whom the current OER landscape is still too diffuse, the benefits unclear, and the required time investment too large.

So, what are those adjusted or new skill sets which are required to effectively implement OER – particularly beyond the basics of creation and access and including reusing and remixing? And subsequently, how can those skills be developed in the academic community? There is a deceptively easy answer: in a 2016 competency framework, UNESCO defined five distinct categories: familiarity, searching, using, creating and sharing (International Organisation of La Francophonie, 2016).⁴ However, whilst these categories are highly useful and should run like a thread through any OER skills training, the UNESCO framework is focused on early adopters, and mostly steers clear of pedagogy. As mentioned previously, the latter is of particular importance to ensure that students and staff move beyond the basics of OER. Nonetheless, the categories UNESCO uses are highly instrumental in structuring any discussion surrounding OER skills, particularly when combined with pedagogic theory.

Familiarity

Under the header of familiarity, UNESCO's framework delves into the various aspects of basic OER knowledge, from its history and the Sustainable Development Goals of the UN to each teacher's potential contribution to the OER movement. Of course, in an ideal world, all academic staff members understand and embrace the OER movement, from its humble origins to its great potential. However, time is short, patience runs thin, and ideological buy-in is only one of a variety of motivating factors. In a 2012 *NY Times* article on the open educational resource movement, MIT professor Rebecca Henderson notes: "I put the course up because the president of MIT asked us to" (Guttenplan, 2012). Though she quickly adds that her "deep belief is that as academics we have a duty to disperse our ideas as far and as freely as possible" (Guttenplan, 2012), the underlying point is clear. For a large majority of staff and students, OER might not initially be an ideological concept to embrace, but rather a fact of academic life. As several studies reveal, there can be a variety of social, institutional and personal drivers for the implementation of OER (Baas, Admiraal, & Van den Berg, 2019; Schuwer & Janssen, 2018). Consequently, the concept of familiarity should revolve around the most basic of questions: what is "open" and what can I do with it?

It follows that the familiarity question is not necessarily related to the concepts behind OER, or its historical context, but that it is rather a practical or even legal issue. Understanding what is and what is not allowed with particular resources is vital for all subsequent steps, whether dealing with finding the right resource, how it can be used in the classroom or in the Learning Management System (LMS), or how produced materials could be (re-)shared. In UNESCO's framework, these skills are listed under "using" but they are arguably *conditio sine qua non* for any engagement with OER. Any introduction to OER should start here.

Practically speaking, in the absence of technology that outlines the dos and don'ts for each individual resource, or that facilitates open publication, any engagement with OER will require staff and students to understand basic issues of copyright and licensing. Of all the skills required, these skills are the most mundane and simultaneously the hardest to transfer. They also have the potential to turn prospective users off OER, as licensing and copyright matters rarely

⁴ An accompanying trainer's guide is available at:
<http://unesdoc.unesco.org/images/0026/002661/266161e.pdf>.

generate the excitement that new pedagogies or classroom strategies do. Nonetheless, it is an essential hurdle to clear as it underpins every step that follows.

Searching

Understanding what open is and what the various categories allow is vital for the next category of skills: searching. In many ways, the skills needed to navigate open educational resources closely mirror both classic information literacy skills and core library skills. From identifying the right materials, and learning how to access and navigate a variety of repositories to collect resources to deciding on credibility and suitability for purpose, these basic skills should not be new to academics or students.

What complicates matters is that OER search tools and repositories are fleeting. Much of the early OER movement has been temporarily funded, and new initiatives replace old stalwarts as funds dry up or spring from new sources. Skills training that focuses on specific tools is therefore likely to be out of date quite quickly in this rapidly evolving field.⁵ Skills development in this category should, therefore, contain a common core of information literacy and digital literacy for OER, from those basic aforementioned skills to OER quality criteria and validation mechanisms. Though there is always a need for instruction in the use of specific repositories and tools, too much emphasis on those aspects of skills development leads to an unsustainable training model.

Using

In its “using” category, UNESCO’s framework deals with issues surrounding Creative Commons licenses. Though this is a critical part of the required skills for OER, using these resources is not just about what one is allowed to do. As stated previously, the potential for OER is enormous, and using resources freely in the classroom opens the door to a wide array of possibilities. For instance, staff can be flexible about including a wider variety of materials in their classes. OER includes entire courses, but can also be used selectively to incorporate and adapt specific teaching materials to suit the specific needs of students or the class. Staff can build entire courses around OER, asking students to find content to solve problems, or do research, or simply refer to alternative resources for students who are struggling in particular areas or who would like an alternative approach to the same topic.

Besides the importance of the correct application of licenses, the correct didactic use of (open) learning materials is crucial for promoting OER. Of great importance here is constructive alignment (Biggs & Tang, 2011). As Figure 2 below shows, the resources that are used, and the activities chosen to engage with those resources should be deliberately aligned to the learning goals of the course. This is true for any class, but particularly for OER as the range of resources and potential ways in which they can be used is much greater. This is vital for advanced OER users – for them *using* resources blends into the next category in UNESCO’s framework: *creating*.

⁵ The European Commission’s Digital Education Action Plan (2021–2027) recognizes the enhancement of digital skills and competencies of learners as one of the key strategic priorities for digital transformation at the European level. See: https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en.

Constructive Alignment in Course Design



Biggs, J. & Tang, C., (2011) McGraw-Hill Education

Figure 2. Schematic representation of 3-tier model for constructive alignment, with corresponding questions to be answered by the teacher during course design.

Creating

UNESCO distinguishes four categories of skills related to OER creation: design, revise, remix and co-create. Depending on the specific license of the resource, OER can be the starting point for a creative academic process. Whether it is teachers blending lesson plans, students remixing materials or materials being co-created, this is where OER gets truly exciting. It can involve something as simple as creating (multimedia) collages, or adding commentary to an existing resource. It can also be much more advanced. In a well-known early example, OER adept David Wiley teaches his students project management skills through a project in which they rewrite and remix the existing literature – on project management.⁶ In another example, students at Roger Williams University in Bristol, RI create websites on scientific topics, which are edited, enhanced or rewritten between cohorts.⁷ OER also allows for the co-creation of materials by students and staff within learning communities, or even between different institutions. Resources can be iteratively created, evaluated, and adjusted through continued interactions with the material, or students and staff can simply co-author new resources in a more traditional linear fashion.

Sharing

The final category of skills deals with the licensing and publishing of materials. This builds on the understanding gained in the first category of skills, relating to copyright, licensing and what can and cannot be done with particular license models. However, the required skills here move beyond these basics, as sharing is not an end point but rather the beginning of a new cycle for OER. The understanding of this lifecycle for open educational resources, the full process of

⁶ *Project Management for Instructional Designers (PM4ID)* was created by students in David Wiley's IPT 682: Introduction to Project Management class at Brigham Young University in 2011 and 2012. See: <https://pm4id.org/front-matter/about-this-book/>.

⁷ See <http://openpedagogy.org/course-level/non-majors-science-students-as-content-creators/> and <https://sites.google.com/g.rwu.edu/core-101-open-pedagogy-project> for student-designed, renewable content in CORE101: Scientific Investigations in 2018-2020.

sharing and reusing materials, is essential to continue the open movement's momentum. In essence, this mirrors academic practice, where a book or article feeds into the academic debate and may foster new insights or works building on its content. More similarities can be found in the process of choosing a medium for publication and promoting the resource. Making these similarities explicit can facilitate staff (and student) engagement with OER.

A note on motivation

As previously mentioned, the initial group of OER users was primarily driven by a shared ideology, but the motivation for using OER is becoming more diffuse. In our own institution, we found that, broadly speaking, there are three main drivers for the implementation of OER on an individual level. The first is the most common so far: the belief in "open," in broader access to knowledge, in sharing and dispersing ideas. The second is more related to teaching quality, and the opportunities that open educational resources present for teaching innovation, co-creation and learning environments. The third driver is contextual change, whether it is legal, institutional or technological, meaning that academic staff can no longer avoid using OER. Determining which of these drivers applies is particularly relevant when dealing with the less exciting segments of OER skills, like those surrounding copyright and licensing or navigating particular systems or collections. A group driven by ideology, like our early adopters, will engage with legalese more easily, and will overlook flaws in less-than-refined archives and systems. A group mainly driven by contextual change will be much more critical. Any skills training for the third group should, therefore, attempt to spark one or both of the other two motivational drivers, or be prepared to deal with a fair amount of resistance.

How?

The main question for those of us who wish to promote the use of OER in the classroom is "how"? How do we build momentum for OER? How do we enthuse staff and students? And how do we train for the aforementioned skills?

As stated earlier, copyright, digital literacy, information literacy and innovative pedagogy all intertwine in OER. At the University of Groningen, this means a natural collaboration between the University Library and the Education Support and Innovation team at the University's Centre for Information Technology. In true OER fashion, we blended our particular knowledge bases and skill sets to create an interdisciplinary workshop intended to grow the pool of early adopters. The workshop was developed in cooperation with SURF⁸ and introduces OER and its potential benefits, but ultimately follows Conole and Weller's (2008) aim of "developing a 'pick and mix' learning design toolbox of different resources and tools to help designers/teachers make informed decisions about creating new or adapting existing learning activities." In our training, we address each of the aforementioned OER-related competence fields from the UNESCO framework, namely building familiarity, searching, using, creating and sharing.⁹

⁸ Developed in cooperation with SURF (see: <https://www.surf.nl/en/expertises/digital-learning-materials>) and in partnership with the 'Towards digital (open) educational materials' zone of the Acceleration Plan for Educational Innovation with IT (see: <https://www.surf.nl/en/the-surf-cooperative/acceleration-plan-for-educational-innovation-with-ict>).

⁹ Based on this pilot, SURF has created a roadmap for Dutch educational institutions interested in organizing similar training. See: <https://www.surf.nl/en/roadmap-for-the-development-of-the-workshop-redesign-your-teaching-using-open-educational-resources>.

As we aim to move into the University's mainstream, we will continue these workshops, and build towards more large-scale OER training for students. We found that raising teachers' and students' awareness about OER and their benefits, sharing successful examples from their peers, and removing barriers to engagement with OER tend to spur their enthusiasm and create momentum for the adoption of open practices beyond the early adopters. As navigation of OER is quickly turning into an essential skill, we intend to embed it in teacher professional development courses taught at the University. In recognition of the twin developments of OER and new models of co-creation, we aim to continually co-create an open educational resource on open educational resources – initially with staff and students from the University of Groningen, but ultimately, in the true spirit of OER, with partners from all over the globe.

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5 Professional communities encourage the reuse of educational resources



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SURF has studied the added value and impact of the Open and Online Education Incentive Scheme on higher education. For the reuse of open educational resources, it is crucial that professional community peers get to know each other. A professional community or other group, such as a team, is an important basis for sharing educational resources.

The Open and Online Education Incentive Scheme of the Ministry of Education, Culture and Science (OCW) aims to encourage the use of open and online education within higher education. SURF is responsible for the implementation of the Open and Online Education Incentive Scheme. The programme consists of two lines of action: 1) innovation projects based on the Incentive Scheme and 2) support activities for the exchange, dissemination and safeguarding of knowledge on open and online education.

The Incentive Scheme was established in 2014. Since 2018, the scheme has been based on two pillars: online education and open educational resources. The last pillar focuses on promoting the sharing and reuse of open educational resources in higher education institutions in the Netherlands. In this article, we describe what the Incentive Scheme has yielded in relation to the reuse of open educational resources that have been collected or developed as part of an innovation project. What are the success factors for the reuse of open educational resources?

Impact assessment

Since the launch of the Incentive Scheme, 222 funding applications have been submitted, 76 of which have actually been granted funding (34%). Almost 40 projects have now been completed. A good time to study the added value and impact of the Incentive Scheme on higher education in the Netherlands. On behalf of SURF, research agency Dialogic analysed the scope of the scheme, the extent to which project outcomes are reused in higher education and whether SURF's projects and support activities have contributed to accelerating the introduction of open and online education.¹⁰ The researchers used a variety of methods. A desk study analysed the project plans, reports and activity reports of the various projects, as well as the reports of the appraisal committee which judges which proposals are accepted.

¹⁰<https://www.dialogic.nl/2020/11/11/impactmeting-stimuleringsregeling-open-en-online-onderwijs/>

Dialogic also conducted exploratory interviews with stakeholders in the Incentive Scheme to gain an understanding of the expectations and what difference the scheme actually makes in practice. These discussion partners were selected from a broad group of stakeholders in the Incentive Scheme, including employees and project leaders of institutions that had successfully submitted applications, as well as employees of institutions that had been less successful, members of SIGs, SURF's Scientific Technical Council (WTR) and officials from the Ministry of Education. Based on these exploratory interviews, the questions used in the survey, which was completed by 75 applicants for the Incentive Scheme, were strengthened. Finally, additional in-depth interviews were conducted with 17 stakeholders.

How the results were used

The envisaged project outcomes were analysed using desk research. Of the 222 funding applications submitted since the launch of the Incentive Scheme, 139 were submitted by research universities (wo), 78 by universities of applied sciences (hbo) and 4 by university medical centres (UMCs) as lead applicants.

Of the 76 successful applications, 54 were submitted by research universities as lead applicants, 18 by universities of applied sciences and 4 by a UMC. Desk research showed that a total of 170 (77%) projects were applied for by only a single institution, while 52 (23%) projects were applied for in a partnership with other institutions. Of these 52 applications, 34 concerned an application under the Open Educational Resources pillar, for which it is mandatory to submit the application in partnership with at least one partner institution.

Figure 1 shows that OER is an important intended project outcome of the Incentive Scheme each year. MOOCs and courses are not included in OER in the figure. For the purposes of the impact assessment, an open educational resource is regarded as a component that reinforces a course, while a module or MOOC is regarded as a complete course.

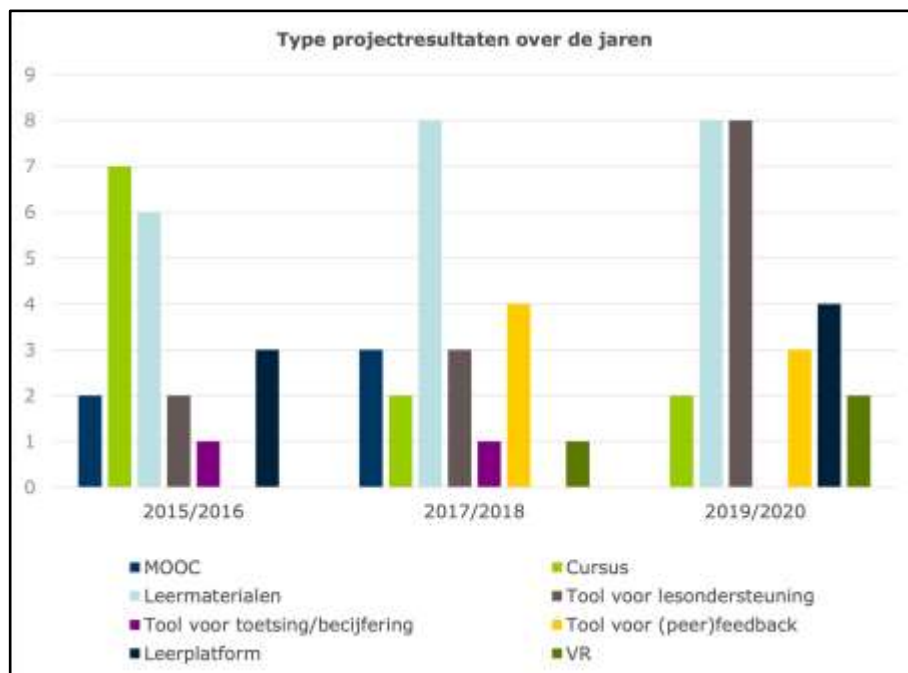


Figure 1. Types of project outcomes over the years as stated in project reports (n=76, this concerns accepted applications).

Figure 2 shows who uses the project outcomes. Educational resources from the completed projects in particular are put to good use. The partners in the completed project (13 out of 15) are the primary re-users, but other educational institutions outside the project partnership (8 out of 15) also reuse them. The surveys also showed that project applicants see the greatest potential for reuse in the educational resources.

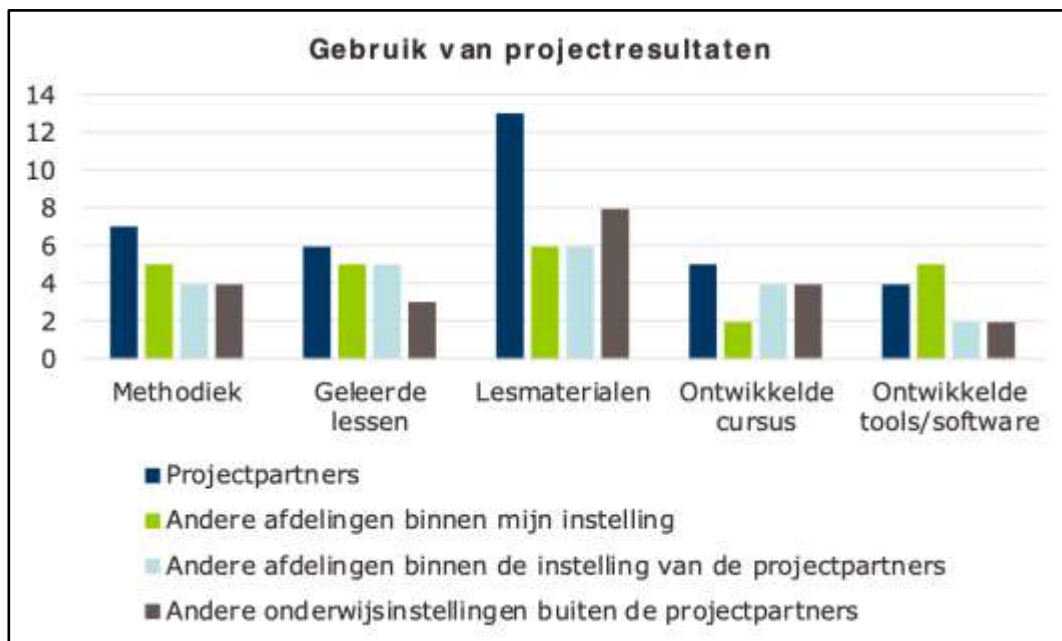


Figure 2. Extent to which different types of project outcomes are used, as indicated by respondents to the survey (n=15). In the Dutch text, Dialogic sometimes refers to educational resources using different terms than are used by us.

The in-depth interviews revealed that tools developed within the Online Education pillar are used within the institution, but that educational resources from the Open Educational Resources pillar are often too subject-specific to be used outside the programme. This leads to an interesting contradiction. The implementation of tools is often specific to the institution, which makes it difficult to encourage their use outside the institution. These include feedback applications, such as software for performing peer assessments, an online environment in which lecturers provide feedback to students and a feedback app for fieldwork. These tools are designed based on the institution's own educational vision and are often keenly used.

For OER, reuse takes place more commonly outside the institution, but hardly at all within the institution. This is because the resources are often subject-specific, which makes them interesting for similar study programmes at other institutions. Professional communities have an important role to play in this. The interviews revealed that the professional communities established by the projects do lead to increased sharing of results and to discussions among community peers who previously had much less contact with each other. This has not been quantified. 'We have not set up an experiment to count how often people share educational resources and whether this is directly attributable to the professional communities,' explains researcher [Max Kemman](#) of Dialogic.¹¹ 'But it was discussed in particular in the interviews that

¹¹<https://www.dialogic.nl/medewerkers/max-kemman/>

the professional communities do help to establish contact with peers, where there was initially no contact at all. The meeting with peers from their own field contributes to the sharing of educational resources. '

Professionals who know each other are more likely to reuse each other's educational resources. Education expert Etienne Wenger describes a community of practice as a group of people with a shared concern or passion for a particular topic, craft or profession, and who pursue a common goal. By meeting regularly, whether online or in real life, community members will increase their knowledge and experience.¹² In the setting of a professional community, sharing educational resources becomes more self-evident than in a situation when peers have never met.

How projects of others are used

The impact assessment also answered the question of the extent to which the outcomes of other projects are used within projects. First and foremost, this requires a degree of familiarity with the other projects. This mainly comes about as the result of SURF's project leader meetings, but also through colleagues in their own networks and through SURF's website.



Figure 3. Use of outcomes of other projects within your own project (n=14). In the Dutch text, Dialogic sometimes refers to educational resources using different terms than are used by us.

Most respondents did not use the outcomes of other projects (30 out of 53 respondents). In the interviews, the discussion partners said that the limited extent of reuse of project outcomes is attributable to the fact that outcomes are strongly linked to a particular discipline or institution. The group of 14 respondents who did put the project outcomes of others to good use, reused lessons learned in particular. These included the following: the project leaders said that it was important to include time for contingencies and to invest directly in creating support for the project among all stakeholders.¹³

¹² Wenger, E. (1998). Communities of practice: Learning, meaning and identity. Cambridge, UK: Cambridge University Press

¹³ An overview of lessons learned can be found at www.surf.nl/stimuleringsregeling-open-en-online-onderwijs/praktische-informatie-over-de-stimuleringsregeling?dst=n2855

Sustainability of the results

The concept of 'sustainable project outcomes' is understood to mean outcomes that are still usable or are in use two years after the end of the project. Most of the completed projects come from the first round of the Incentive Scheme, which ran from 2015 to 2017. A number of open educational resources from more recent projects have not yet been completed. Most respondents that had completed projects said that they expected the outcomes to be in use by project partners (50%), other departments within their own institution or those of their project partners (40%) and/or other institutions outside the project partnership (30%) in two years' time. Respondents said that sustainability could be assured by embedding the outcomes in the regular education process. Another way in which results could be sustained is scientific interest in outcomes, which would mean that project outcomes would also include contributions to academic publications that would remain relevant for several years to come. Only two out of twenty respondents expected that outcomes would no longer be used in two years' time.

There was some doubt about the open educational resources developed within the projects. The view that emerged from the interviews was that although they are sustainable and can therefore be used in two years' time, their quality and breadth are not yet sufficient for scaling up. Sometimes there was also doubt about copyright – are educational resources which incorporate third-party images suitable for reuse? Max Kemman of Dialogic said: 'Sometimes, the issue is the layering of the educational resources. Is a photo contained in a PowerPoint presentation that is considered an open educational resource reusable? The person who created the PowerPoint presentation knows that he or she used a CC0-licensed photo, but may have forgotten to annotate this correctly. Or it says the image can be reused, but they don't really fully trust it.' According to Kemman, there may be a delayed effect. 'The completed projects are past projects. In the beginning, SURF was searching for the right form of support. Since 2018, support in this field has become more robust, but these projects concerned are those in the Open Education Resources pillar that have not yet been completed.'

According to the discussion partners in the interviews, the sustainability of projects with open educational resources lies in particular in professional communities. Professional communities do not only lead to increased sharing of educational resources, they said, but also to much more sharing of knowledge and experiences than was the case before the innovation projects. Even if certain specific products from projects were no longer used, the discussion partners expected this sharing of knowledge and experiences to have a lasting impact. In addition, they said that increased awareness of open and online educational resources among lecturers within the institution was, in fact, the most sustainable gain. 'Whether an exam assignment will still be used in five years' time or not is not particularly interesting. What is exciting is that the professional community that developed the assignment will continue to exist,' says Kemman. 'The participants started thinking about open educational resources, and they gained knowledge and experience. This is something you can make sustainable. Our recommendation is that this is where the greatest benefit lies: make sure that community peers continue to talk to each other.'

Success factors

The impact assessment identified the following success factors for the reuse of open educational resources in the context of the Incentive Scheme:

- 1) Get to know each other. Professionals who have got to know each other in a professional community linked to the project will be more inclined to exchange open educational resources with each other, was frequently heard in the interviews.

- 2) Awareness First and foremost, reuse requires an awareness that open educational resources can represent a good alternative to commercial or self-developed educational resources. This awareness does not yet exist in a universal sense within the institutions but awareness is certainly raised by projects such as those in the Incentive Scheme.
- 3) Funding. Respondents stated that a large proportion of the projects would not have proceeded without the financial incentive provided by the Ministry of Education.
- 4) Freeing up time. Developing, sharing and reusing open educational resources requires an investment of time. Respondents also said that funding itself is no guarantee of success. Sometimes, lecturers are not given enough time to dedicate to a project, yet that really is an essential condition to fully establish a reuse project.
- 5) Especially for online tools, but also for open educational resources, a changed context can mean a huge success factor. Specifically, Covid-19 acted like a catapult for a number of projects in the Incentive Scheme. Tools that had previously garnered little attention within the institution proved extremely useful once all teaching suddenly had to be done remotely.

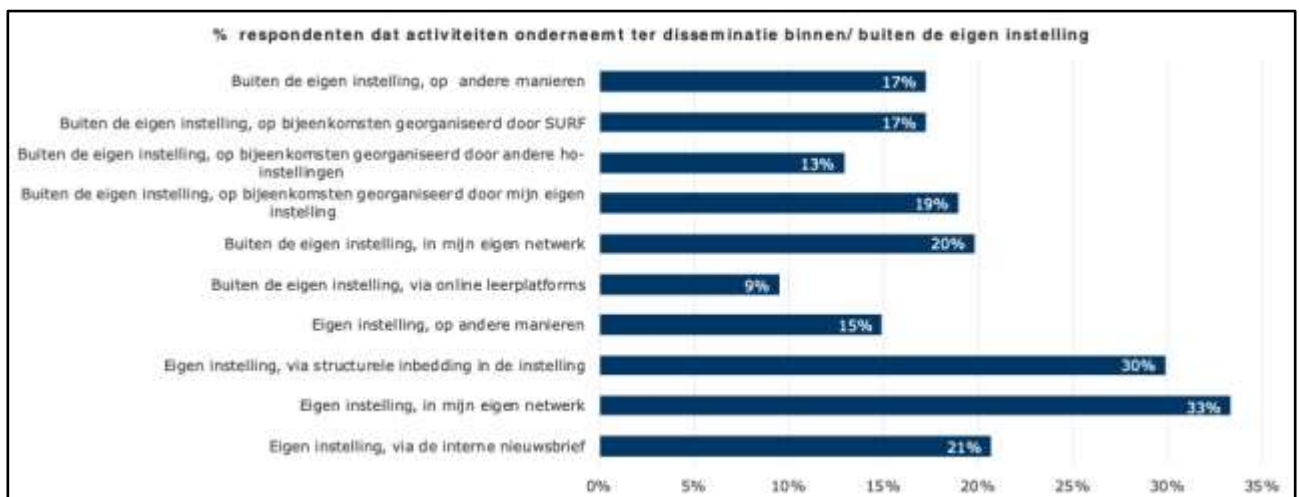


Figure 4. Extent to which project outcomes have been shared with others (n=43)

Invest in professional communities and team building

The insights gained from the impact assessment on the reuse of open educational resources are consistent with previous publications. One reason lecturers reuse open educational resources is to avoid having to reinvent the wheel, but also as a source of inspiration for lessons. This was found to be the case in [OER in practice](#)¹⁴, a series of interviews with lecturers about their experiences with open educational resources. They find it valuable to work with peers to build collections and improve the quality of existing resources based on feedback from others. Furthermore, a lot of educational resources are exchanged between colleagues and peers below the radar, for example informally within teams. Figure 4 shows that project leaders share project outcomes primarily in their own network. The conclusion may therefore be that the larger the network, the more a resource will be reused. In order to encourage the reuse of open educational resources, it is therefore important to expand your network, for example by joining a professional community. Education expert Étienne Wenger argues that a successful, vibrant community will focus, in particular, on creating added value for participants and participating

¹⁴ <https://www.surf.nl/open-leermaterialen-in-de-praktijk>

institutions.¹⁵ It is also important to be open to multiple levels of participation, because not everyone is able to or wants to contribute at the same level. The structure of an active professional community should not be set in stone, but will evolve over time. View the online step-by-step plan: 'Professional community around open educational resources'¹⁶ to help establish an active community, including this and other recommendations.

Active projects

The idea that reuse of open educational resources will be easier in groups where people know each other is reflected in many of the currently active projects in the Open Educational Resources pillar. As already mentioned, it is mandatory in this pillar to submit the funding application in partnership with at least one partner institution. A number of projects originated from a professional community. A number of other projects aimed to build a community so that open educational resources can be better shared. In 2019, for example, five Bachelor's programmes in Occupational Therapy established an [online community](#) to share reuse research and teaching resources and to boost innovation. The existing, highly active professional community of the mathematics teacher training programme launched an [innovation project](#) in 2019 to update training resources and make them accessible to third parties. In the [professional community for Lifelong Learning](#), six universities of applied sciences will be working together in the years ahead to open up, further develop and manage a coherent collection of open educational resources on five themes, including 'shaping workplace learning' and 'encouraging the development of teams'. And [Sharestats](#) is a database of exercise resources for statistics, set up by four research universities with the aim of benefiting from reuse in a community-based framework.

Encouraging reuse

In addition to supporting innovation projects and encouraging the sharing of knowledge about reuse, SURF focuses on facilitating technologies to help find and share open educational resources. From early 2021, SURF will provide a national [edusources platform](#), with a wide and varied range of digital educational resources. The platform offers sophisticated search options using filters. It is also possible to search by theme or in community collections. All educational resources created with the help of the Open and Online Education Incentive Scheme are available through edusources. It is possible that the impact of a national platform on the reuse of open educational resources will be discernible in the next impact assessment in 2021.

¹⁵ Wenger e.a. (2002) *Cultivating Communities of Practice: A Guide to Managing Knowledge*, Harvard Business School Press

¹⁶ <https://www.surf.nl/stappenplan-vakcommunity-rond-open-leermaterialen>