# JOURNEYS TO OPEN EDUCATIONAL PRACTICE: EXECUTIVE SUMMARY

UKOER/SCORE Review Final Report

## A CUMULATIVE EVALUATION AND SYNTHESIS OF THE ENTIRE HEFCE FUNDED INTERVENTION IN OER

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# INTRODUCTION

Over recent years, the Higher Education Funding Council for England (HEFCE) has funded UK wide initiatives that explore and support open educational practices (OEP) and resources (OER). The UKOER/SCORE Review is a cumulative synthesis of the experiences and outcomes of those interventions. It incorporates all phases of the JISC/HE Academy's Open Educational Resources Programme (UKOER) and the Open University's Support Centre for Open Resources in Education (SCORE) activities.

 Both UKOER and SCORE completed in 2012 and collectively resulted in a significant increase in the volume and scope of open resources. Also apparent is the emergence of an OER community in the UK of individuals and groups with high level knowledge and expertise in the field. The range of work provides an overview of key issues and trends across the sector:

- PHASE 1 LARGE SCALE RELEASE OF OER

- PHASE 2 EXTENDING OER RELEASE, OER USE AND DISCOVERY

- PHASE 3 STRATEGIC, POLICY AND SOCIETAL GOALS FOR OER AND OPEN APPROACHES

- SCORE SUPPORTING RESEARCH AND DEVELOPMENT IN OER

 The HEFCE-funded OER work in the UK has been extensive and has impacted on strategy, policy, practice (of a wide range of stakeholders, including learners), research, curriculum design, delivery and support. Projects have explored barriers and enablers, and developed solutions to address the individual, institutional and community issues of embedding sustainable practice and widening engagement with OER.

 The purpose of the UKOER/SCORE review has been to deepen understanding and produce a solid evidence base that enhances the status of the UK work within the international OER arena and offers some conceptual and practical ways forward.

# METHODOLOGY

Undertaken by the UKOER Synthesis and Evaluation team led by Glasgow Caledonian University, the review builds on their previous UKOER methodology, developed iteratively across the three phrases of the programme in consultation with projects and support teams, modified and expanded as appropriate to the distinct aims and activities of SCORE. The UKOER/SCORE review framework consisted of four focus areas:

- CULTURE AND PRACTICE
- RELEASING AND USING OER
- PROCESSES FOR SUSTAINABILITY
- BENEFITS AND IMPACT.

The review incorporated the retrospective evaluation of completed UKOER and SCORE work and parallel synthesis of the most recent UKOER phase 3, collated on a wiki platform. Additionally, fresh insights were drawn from UK OER communities through a detailed survey and semi-structured interviews. Wider sector engagement was sought through an online poll designed for this review, as well as some analysis of social media activity.

 From initial findings, a focus on "OER journeys" emerged both as a way into interviews and for describing the impact of HEFCE funding. Tapping into communities of practice through surveys and

interviews, and using a wide and open range of questions supported a 'crowdvoting' approach to data gathering, enabling new themes and gaps to surface, while encouraging respondents to choose their 'top three' challenges identified the major influences and priorities across stakeholders. Interview questions were designed to draw out institutional/subject related benchmarks, such as awareness, drivers/ motivations, benefits, barriers, impact, future directions and the design of education. The assertions made in this briefing paper are based on the evidence gathered for the Review Study. Please see the whole report to access this evidence.

## BACKGROUND AND CONTEXT

The activities and impact of the HEFCE-funded initiatives must be considered in relation to wider political, economic, social and technological contexts and questions have emerged around how far open educational practice challenges or supports notions of traditional higher education. We have seen significant shifts within all of these contexts during the funded period and the OER journeys section offers an insight into how some of these have impacted on students and institutions generally, and on how OER and OEP can help educational institutions respond to some of these challenges and changes. In a national context, these activities took place alongside a change of government and a time of intense financial uncertainty in the education sector. Most immediately this has made it more challenging for institutions to develop and release OER, as resources of staff time and expertise have become constrained. At the same time the need to expand educational markets has become more pressing, so many institutions are focusing their OER activities on building a global brand. OER have proven benefits both for general institutional recognition and in attracting students to specific courses of study through 'tasters', so are becoming widely used as an aspect of marketing. However, the selection of 'brand leading' OER may not necessarily lead to a more mainstream engagement with the open agenda on the part of staff.

## FINDINGS

### OER JOURNEYS

The UKOER/SCORE Review explores the journeys of individuals and organisations in their move towards open educational practices and considers interactions between professional and subject-discipline communities, their operational contexts, and social and technological shifts that support openness. The open learning landscape has in this period moved definitively beyond content-based resources. Open online courses provide a context in which learning content is relatively less important than the interactions, reactions and emergent properties of the community itself. This has implications for the design, management and sharing of OER, as educational ideas may be deeply embedded in the context in which they emerged, and/or may be widely distributed around different sites with different licenses and means of access.

The evidence highlights changes in OER use and open educational practices (OEP). Particularly notable is the emergence of students as collaborators and co-creators of OER and shifts in who producers see as end-users. Both are key indicators for potential longer term impact. There was substantial evidence for increased confidence and enthusiasm for openness, in terms of attitudes to risk around sharing beyond subject and institutional domains, leading to enhanced student-centred approaches and partnerships, and greater marketing capacity and reputational gains for institutions.

 Key questions addressed in the OER journeys section are how the HEFCE-funded OER initiatives have supported shifts in perceptions and practice, what has been learned along the way and ultimately what difference the HEFCE funding has made. Motivations, models and critical enabling factors are

identified, alongside consideration of terminologies and definitions, which challenge the field considerably in communicating and promoting the notions and benefits of open practices and sharing.

Motivations can be viewed as *perceived benefits* and reflect strategic priorities and goals of funding bodies, educators, educational institutions and communities, and external sectors concerned with knowledge creation and dissemination. These can be categorised into five broad areas:

- BUILDING REPUTATION OF INDIVIDUALS OR INSTITUTIONS OR COMMUNITIES
- IMPROVING EFFICIENCY, COST AND QUALITY OF PRODUCTION
- OPENING ACCESS TO KNOWLEDGE
- ENHANCING PEDAGOGY AND THE STUDENTS' LEARNING EXPERIENCE
- BUILDING TECHNOLOGICAL MOMENTUM

In reality, actual motivations of different stakeholder groups do not fall neatly into categories; they are not mutually exclusive or without conflictions. These have been explored in detail in section 2.i Motivations of the full report. It has also been useful in this review to tease out the unanticipated benefits, because therein lie some of the most surprising impacts of the programme.

## MODELS AND APPROACHES

Section 2.ii of the main report illustrates some of the pathways taken by the HEFCE-funded initiatives on their OEP journeys, and highlights how specific contexts influence the models and approaches piloted and/or adopted and their implications for long term impact on practice. The focus of UK approaches on broader contexts of open educational practices and culture change is in stark contrast to a content focus in other countries. The pilot phase investigated different models for OER release, demonstrated by the three separate but overlapping strands: individual, subject-based and institutional. Throughout all phases, there was an emphasis on identifying the technical, legal and cultural aspects; barriers, enablers and benefits; and also issues around sustainability of models. By the end of phase three, UKOER programme projects revealed a more sophisticated understanding around hosting and discoverability that reflected a desire to increase accessibility. There have been advances in technical developments (summarised in the Into the wild: Technology for Open Educational Resources Reflections on three years of the UK OER Programmes JISC CETIS, October 2012) and in legal aspects of OER. For example, the Hargreaves Review of IP established a potentially more supportive context for open licensing, and the proposal to establish a Digital Copyright Exchange (DCE) will make it easier to locate rights holders and seek permissions to use their works.

The volume of OER released by HEFCE-funded initiatives is substantial, ranging from individual assets to complete modules, new materials to re-purposed legacy materials, authentic learning and teaching activities to commercially published materials. These covered an immense span in terms of subject disciplines and the variety of content types and formats. The notion of adding 'pedagogical wrappers' became fairly widespread across projects to improve accessibility and re-usability, through the addition of pedagogic context. Decisions around which type of OER to release had an impact on the kinds of skills required within the project teams, and the levels of complexity that they had to engage with. Likewise, the availability of new technologies capable of transforming pedagogic potential (for example, simulations) also drove decisions to produce new materials rather than re-purpose existing ones. Funding and resourcing also impacted decisions about how OER were developed.

There are many 'models' involved in OER release and inherent dangers of trying to ascribe specific benefits to one or other model, as this depends on the specific context, motivation and intended outcomes. Approaches adopted by UKOER projects for releasing OER were influenced by multiple, and sometimes complex, factors including stakeholders and their requirements, sustainability,

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existing institutional policies and practices, practical issues around technical infrastructure, and staff skills and understanding.

 In practice, there was therefore a lot of crossover in the specific development and publishing models being adopted. Discussion of models often emerges in relation to business process foci such as funding and sustainability. The full report presents findings around individual, community and institutional approaches, highlighting student involvement and open courses as specific foci for some projects. It can be helpful to think about OER release models as part of open educational practice in a broader sense, as this supports a focus on intention and anticipated use/re-use, the tensions around IPR for individual, subject consortia or institutions, and the roles and skills required for robust and sustainable OER release.

## IMPACT OF OER INITIATIVES

One purpose of this Review has been to bring together evidence of impact of the HEFCE-funded initiatives on a very diverse and wide range of stakeholders involved, and to attempt to draw conclusions from that to inform the wider sector. The notion of OEP emerged as a growing area of focus in the UKOER community (- see Open Practices briefing paper and Open practice across sectors briefing paper.) Work by SCORE Fellows also included the broader notion of OEP.

 There are several different dimensions to the evidence collated from projects around the impact of OER and OEP on individuals, communities, educational institutions, and other sector bodies, although these are not mutually exclusive.  Essentially, we have discussed the impact on teaching and learning, on institutions and on individuals' professional and personal development, and looked overall at what difference HEFCE OER funding made

### APPROACHES TO EVIDENCING IMPACT

The study captures some of the challenges and methodologies for evidencing impact. The UKOER evaluation and synthesis frameworks evolved through the different phases of work, reflecting subtle changes in the focus and emphasis of the questions being asked. Where projects were often evaluating the *processes* of release and the effectiveness of the project team to deliver their objectives, at a programme level, we posed some very nuanced questions around culture and practice that are difficult to measure and evidence. Practical tools to support evaluation activities and guide projects on the kinds of evidence that might be valid in this context included an evaluation toolkit and demonstrations of the evaluation and synthesis framework.

 It should also be noted that several JISC funded programmes have addressed issues around change models and developed robust mechanisms to evidence this. Benchmarking, in particular, has emerged as an important approach for large institutional transformation programmes. Although the UKOER Programme, was essentially about large scale, long term change (at individual, community and institutional level) the short timescales of each yearly phase did not easily allow for baselining as an approach.

 The UKOER/SCORE Review reports an extensive list of tangible benefits of OER release, use and OEP, evidenced by the UKOER Programme and the SCORE activities. A significant focus has been to identify specific benefits for different stakeholders, but it should be noted that people may appreciate the benefits from a range of these different perspectives - so for example a learner can also be an OER originator.

### IMPACT ON TEACHING AND LEARNING

There is clear evidence that engaging with OER has transformed the practices of academics and other staff, changed some policies and practices within educational institutions and raised awareness of

OEP across a range of stakeholders including public and private sector organisations, and charities. OEP is changing relationships between learners and academics, and between academics and organisations, whether their own university where they are employed or with other bodies outside the education sector. Academics are having to change their practice to:

- WORK WITH (SOMETIMES UNKNOWN) PEOPLE AROUND THE WORLD
- ATTAIN GLOBAL REACH
- WORK ACROSS SECTORS (PUBLIC, PRIVATE, THIRD SECTOR)

There appears to be an acknowledgement that engagement with OER offers a focal point for changing the nature of current, mainstream activity in educational institutions. The detailed survey with staff directly participating in projects predominantly indicated a number of areas that were of most significance:

1. increased access for learners (55%)
2. enhanced pedagogy (49%)
3. increased sharing between educators in the same discipline (41%).

One characteristic of OEP, compared with conventional forms of academic practice, is that it changes the nature of relationships between people (such as between teachers and learners) as well as individual practices. This was highlighted by many as one of the more exciting and challenging aspects of change emerging from their activities. These changes have the potential to flatten the traditional hierarchy and change the balance of power in learner/teacher relationships.

Academic staff indicated that participation in the HEFCE-funded work had contributed significantly to their teaching development, in their awareness, understanding and abilities in the use and release of OER and OEP. Engagement with the issues and practicalities had encouraged deeper reflection about their existing approaches, improved quality of learning materials and enhanced personal skills and digital literacies. Some interesting lessons have emerged in relation to subject-discipline based practices or around specific groups of practitioner, indicating that these changes may be context-specific.

There were also indicators of students' positive engagement with OER and the impact this was having on their learning. Evidence included greater confidence in their learning, higher use of online 'open' resources, enhanced student projects and collaborations, including internationally, such as blogging and OER editing/production. However, other issues remained, particularly around digital literacies and attitudes to make best use of resources and learn from their OER activities. Approaches that strengthened the positive benefits and mitigated some of these issues involved students as co-producers of content, where activities focused less on content and more on refining a collaborative model for open participation.

The HEFCE-funded initiatives provided excellent opportunities for creating and releasing OER within existing groups of colleagues, developing as communities of practice within and across subject disciplines. UKOER Projects and some of the SCORE researchers noted the value of community models to support engagement and provide trusted spaces for academics to explore OEP, although we did identify some tensions around developing resources within a community, for a specific audience.  The resulting resources may tend to be conservative, conforming to the values and expectations of the audience, for it is by those values that quality will be judged, and in the audience's context that resources will be reused. In this sense, over-reliance on trusted communities and community based tools (that might require a specific login) may inhibit long-term significant change, especially where reputation or efficiency rather than a commitment to open access are the real underlying motive. OER developed for specific audiences can be pedagogically inaccessible to other wider audiences.

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Nonetheless, the emerging communities, and strengthened existing communities, were seen as important in relation to sustainability by most initiatives.

## IMPACT ON INSTITUTIONS

While motivations for OER and OEP at institutional level were often based on anticipated efficiency or reputational gains, many UKOER projects aligned their work with key strategic agendas, such as widening participation, employability, or flexible curriculum approaches. There is little quantitative evidence of cost efficiencies during the one year projects, but most institutions had developed an understanding of the reputational benefits of OER release, recognising that the impact (and cost-benefits) can take time to trickle through relative to an institution's investment in technologies or staff expertise. Use of OER as a promotional tool is likely to have driven the apparent increased focus on quality, branding and discovery.

 The tendency to reuse existing content may also have reduced cost-benefits; creating new content can often be cheaper than time spent identifying provenance and clearing copyright. Across the UKOER and SCORE initiatives, the funding has increased the corpus of OER across a range of subjects at a national level, which should eventually have an impact on reducing duplication and IPR issues for institutions. There is also considerable time cost involved in preparing and uploading resources, including any additional development or quality assurance. However, once the mechanisms, processes and procedures are in place to make new materials open, then anticipated cost savings may emerge. It is also important to balance the costs against anticipated or actual use. The long term value of OER release and use in 'normal' practice remains one of the most significant actions for sustainability.

 A significant focus for the UKOER and SCORE programmes has been institutional change. Evidence suggests that engaging with OER and open practices more broadly has led to a reconsideration of strategy, policy, processes and practice. Projects taking an institution-wide approach structured activities around a cross institutional theme such as employment or focused on generic skills resources, with benefits and costs spread across the whole institution. Other projects focused activities within one department or faculty, taking a more subject-based approach, focusing on pedagogical change. Additionally, many institutions experienced benefits from greater external engagement, in terms of new partnerships, better relationships with existing agencies, new levels of understanding about collaborative working, improved dissemination, networking and learning opportunities.

## IMPACT ON THE WIDER SECTOR

Awareness raising activities were a major focus of the HEFCE-funded OER projects, with UKOER in particular including other sector bodies in the scoping, development, evaluation, dissemination, and sharing of OER. The effort and the resourcing required to understand the unique aspects of each partner and what they could bring to the project was likely only made possible by the availability of the HEFCE funding. In addition to the benefits for institutions, indicated above, there was evidence of mutual benefits for partners from outside the education sector, which also led to some excellent outputs.

 Those projects that worked with the private, public and charitable organisations describe fascinating processes of negotiation, learning and collaboration around overcoming some of the barriers to open release, both technical, legal and cultural. It is recommended that these early investigations with these bodies in the area of OER and OEP should be taken forward in some way before momentum is lost. The funding enabled these bodies to start their own journeys in OEP alongside educational institutions. These collaborative approaches, however have to be sustained to continue the benefits. Work with commercial publishers, in particular, raised some issues concerning risk management,

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copyright, student access, new business models, prototype technologies, of major relevance to future practice across the wider education sector. (see our specific recommendations around this)

### IMPACT ON INTER-WORKING AND CULTURE CHANGE

Cross-institutional working fostered culture change through sharing of resources and practice, whilst external stakeholder engagement was seen as having a significant impact on the culture of the various partners. Some projects made significant inroads into clarifying cultural differences between partners and bridging some of the gaps. Student engagement was varied and reflected the different pedagogical approaches of OER co-construction, although some feedback reinforced the notion that students can be very focused on activities that contribute to grades or had some initial negative perceptions around course resources being made freely available to non-paying learners. Not only have collaborative approaches (with other staff and with students) to developing teaching and learning materials increased, but those involved in OER initiatives have found their roles changing as they become the "experts" on OER, and are providing advice for others within the institution.

Many of the UKOER projects and SCORE Fellows have reported substantial gains in staff understanding, confidence and skills around OER and open educational practices which supported both the development of expertise and changes in culture. Increased awareness and capabilities had an impact on practice while new partnerships and collaborative experiences were noted as significant for both subject communities and institutions. Of note is the fact that several staff saw engagement with OER as having impact on their pedagogic practice and enhanced quality of their own learning resources. However, a tension is apparent over who will get the recognition, the individual or the institution, drawing attention to issues in the balance of collective responsibility for quality, institutional branding, and marketisation.

 At an institutional level, it can take a lot of effort from project teams and OER champions to get practitioners to change. This also requires significant institutional and/or community support; impact evidence was in the form of reports of new policies emerging and augmentation of existing policies. This reflects what UKOER projects reported across all phases around policy change and strategic buy-in and we see this as a significant indicator of institution-wide change and commitment that is likely to impact on longer term sustainability of activities kick-started by this funding. Projects in phase three still reported on challenges around general awareness of OER and OEP, and also lack of knowledge around appropriate use of third party materials. Although we have evidence of significant practice change, projects are also aware that there is still a fair way to go to make this practice mainstream.

## CRITICAL FACTORS TO SUPPORT OPEN EDUCATIONAL PRACTICE

Critical factors that can support practice change, institutional change and wider cultural change take the form of enablers that help to overcome some of the barriers to openness. Evidence around enabling factors, and research papers and practical guides to support them have emerged from the funded OER initiatives featured in this study. These are of significant value to the wider community to inform other individuals and institutions who want to begin or advance their own journeys into OEP.

 Journeys relating to OER/OEP are far from being linear and continual. Periodic critical events determine the direction of travel, changing the *scale* of engagement or the *nature* of individuals' practice or an institutions core business, and determining viability and sustainability of approaches. This review has sought to investigate factors critical for institutional and individual change. Identifying

barriers to OER release and to OER use is seen as a step towards reducing their impact as a critical factor to adopting OEP more broadly.

Our wide online poll revealed that similar issues dominated both individual and institutional barriers, notably lack of awareness of OER and their benefits, lack of coherent overall institutional educational strategy, and (by inference) lack of supportive workload planning. Legal concerns and quality issues were not as high as might be expected. One conclusion would be that in the UK much more work needs to be done with institutional senior managers, and on raising the digital literacy of individuals.

In our detailed survey with the direct OER community involved in UKOER and SCORE funded activities, there remains a view that lack of institutional support, strategy or investment is a barrier, responses that featured highly in affecting transformation were:

- TIME TO ADAPT AND RE-PURPOSE
- LEGAL ASPECTS AND LICENSING, AND
- OEP NOT FITTING WITH CURRENT WORK PRACTICES OF STAFF

Sustainable changes to current working patterns and behaviour may be more dependent on the issues of inter-working between individuals, communities and institutions. Stakeholder engagement activities have therefore been the lynchpin of early and ongoing activities across both the UKOER Programme and SCORE activities. Key internal stakeholders included:

- SENIOR MANAGERS, AS CRUCIAL FOR ONGOING SUSTAINABILITY AND TO SUPPORT ANY REQUIRED CHANGES IN POLICY OR STRATEGY
- ACADEMIC STAFF, AS THEIR INPUT OFTEN REQUIRED SIGNIFICANT PRACTICE CHANGE
- STUDENTS, NOT JUST AS CONSUMERS OR USERS OF OER BUT OFTEN AS ACTIVE PARTICIPANTS IN OEP

Reward and recognition for individuals were seen as important enablers. Outside the UKOER and SCORE communities, engagement with UK and international activities, collaborative publications and events has led to a high profile for the community and individuals. While this has helped to cement relationships and - by fostering reflection - to embed practice change, formal reward and recognition was also seen as a key factor in changing perceptions. Stakeholders from outside the education sector proved to be the most resource intensive as there was a need for two way sharing and understanding of different cultures and practice.

Throughout the UKOER Programme issues around quality were linked to trust, which seem to have lessened since the UKOER pilot, which may indicate that increased experience allays some of those concerns. We noted some intermediate stages en route to OEP 'readiness' and the need to allow staff time to gain confidence in their own materials and mechanisms to share them. This is where the community of practice approaches emerged as especially strong. It is important to acknowledge just how transformative sharing of practice and release of content can be at an individual level.

Staff perceptions, expectations and understandings around learning resources and activities present some of the most embedded and entrenched cultural and practice barriers, often maintained and supported by institutional, professional or subject discipline traditions. A key factor of UKOER and SCORE activities was the notion of reflective practitioners, as engagement with OER release stimulated reconsideration of existing content development practices and considerations of how learning resources might be used in different contexts.

Practice change which has been instigated by programme funding can become sustainable in the longer term through appropriate institutional support, including technical infrastructure, strategies and policies, support and guidance mechanisms and most importantly time and space to be experimental as staff take first steps on their own journeys into OEP. Staff development activities

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have been created within each phase of UKOER and also through SCORE activities and materials have been made available to the wider community. These are drawn together on the  OER infoKit guidance and support pages.

 Both UKOER and SCORE participants highlighted the need to work across traditional boundaries and the need for multi-disciplinary teams. Evidence of open sharing cultures are emerging across institutions and communities, with project activities providing the impetus and sustaining activities to support these. In fact all phases of UKOER support the notion that policy change and strategic buy-in is a very important stage in the institutional journey as it can be an indicator of 'OER/OEP maturity' and provides clear evidence of a commitment to changing practice, and ultimately supports sustainability. Senior management engagement remains a key critical factor in getting OER and OEP on institutional agendas - as highlighted in evidence collated in UKOER Phase 3 around senior management engagement. Several projects highlighted institution-wide initiatives in terms of technical infrastructure for OER release that could be used to drive OEP activities forwards.

## CONCLUSIONS

Across the three phases of the UKOER programme and SCORE, there is significant evidence that HEFCE funding has enabled transformation of perceptions, practice and policy. Individuals, communities and institutions involved in funded OER initiatives have moved substantially further along in their OER and OEP journeys, regardless of their initial starting points. Increased awareness, knowledge and expertise around issues to do with technical, quality, accessibility, and legal aspects have led to the development of systems, policies and procedures to support ongoing OER activities. Traditionally, educational institutions, with their focus on fixed goals and plans tend to replicate or extend what they are familiar with and avoid radical or disruptive change. Embedding open thinking into curriculum design processes is seen by many to be a significant factor in ensuring long term sustainability of practice change. We have described some substantial changes in practice, where individuals may have had to challenge existing traditions and culture within their institutions and communities. Communities of practice seem excellent environments for change in professional practice as result of creating and releasing resources within a trusted group of colleagues. Collaboration within departments and across the institution, as well as with external partners and communities, emerged as one of the most important enablers for the UKOER Programme and was also a fundamental feature of SCORE activities. However, long term these communities can become inward facing, and can result in the release and reuse of very context-specific OER that may not truly be open.

 The driver to gain institutional commitment and support led to many projects to argue that OEP should be mainstreamed and in fact, many felt that this would aid longer term sustainability. Whilst we can argue that we have seen evidence of transformation, we also know that there is pressure to maintain a status quo by aligning new practice to existing priorities, strategies and approaches. This suggestion is particularly relevant in the climate of 'survive and thrive', in which most universities and college currently find themselves, which is not inductive for innovation and radical change. This highlights a real tension for funded initiatives as this mainstreaming approach may result in them missing some of the more far-reaching benefits of OEP.

 In this study we aimed to consider the reflexive interactions of professionals (academics and support staff), their structural contexts (colleges and universities), and social and technological change (openness). What has been interesting is that we have seen a variety of different models for engaging with OER and moving forward towards more open practices. Different contexts require different approaches to enable institutional transformation and individual practice change. Initiatives were sometimes led by individual champions, providing a bottom-up approach which, to some extent,

forced institutions and communities to respond and adapt. This has transformed the environments for participants but also has potential to impact on other individuals who operate within that ecosystem (the potential for sustained change through embedding new practice and culture change).

On the other hand we have seen approaches where 'top-down' measures have impacted on individuals, effectively forcing change upon them. Whilst only one institution adopted a 'mandate approach' some of the transformations to institutional policy or community approaches meant that individuals are compelled to respond by following recommended practice or procedures. This may appear to be a negative assessment of the impact of funding but it is meant to illustrate the inter-connectedness of individual practitioners and their wider contextual influences. This is further complicated by the fact that individuals (learners, teachers and other professionals) are often members of multiple communities and networks and have to balance the pushes and pulls of each.

Nevertheless, engaging in OEP has been identified by UKOER projects as a generally positive change for staff, students, institutions and their partners. Despite all the barriers around time, copyright and open licensing we have seen collaborative approaches and collective action offering new strategies to support OEP. Academics have responded positively to increasing collections of OER in their subject area and this has an important impact on OEP. Cross-sectoral partnerships required significant commitment and support but have provided mutual benefits that have impacted on the OER, on curriculum development and on existing culture and practice of different organisations.

This study provides empirical evidence of emerging OEP through activities around OER. However, these OEP journeys appear to be highly contextualised. To achieve sustainability educational institutions tend to journey to familiar destinations, building on what they are already doing. By following familiar paths institutions are bringing about change, though the change may not be transformational. We recognise that the HEFCE-funded OER activities are part of a long-term change agenda, involving universities and colleges, support agencies and individuals within these organisations. As work continues to be embedded and practice evolves at the level of individuals, institutions and cross-sector, society will continue to benefit from HEFCE's large scale investment and support in driving forward an agenda of 'openness' in education.

> The UKOER/SCORE Review report is available on the UKOER Evaluation and Synthesis wiki, supported by supplementary pages containing evidence and detailed analysis.