



Supporting open education practice: Reflective case studies from the University of Edinburgh

Apoyando la práctica educativa abierta: estudios de casos reflexivos de la Universidad de Edimburgo

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Abstract

This paper outlines the University of Edinburgh's long-running strategic commitment to supporting sustainable open education practice (OEP) across the institution. It highlights how the University provides underpinning support and digital capability for OEP through central services working with policy makers, partners, students, and academics to support co-creation and active creation and use of open educational resources to develop digital literacy skills, transferable attributes, and learning enhancement. We present a range of case studies and exemplars of authentic OEP evidenced by reflective practice and semi-structured ethnographic interviews, including Wikimedia in the Curriculum initiatives, open textbook production, and co-creation of interdisciplinary STEM engagement resources for schools. The paper includes recommendations and considerations, providing a blueprint that other institutions can adopt to encourage sustainable OEP. Our experience shows that mainstreaming strategic support for OEP is key to ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all.

Keywords: *open educational practices, open educational resources, Wikipedia, co-creation, reflective practice*

Resumen

En este artículo se describe el compromiso estratégico de larga duración de la Universidad de Edimburgo con el apoyo a la práctica sostenible de la educación abierta (PEA) en toda la institución. Se destaca cómo la Universidad proporciona apoyo de base y capacidad digital para la PEA a través de los servicios centrales que trabajan con los responsables políticos, socios, estudiantes y equipos académicos para apoyar la cocreación y la creación y uso activos de los recursos educativos abiertos para desarrollar habilidades de alfabetización digital, atributos transferibles, y la mejora del aprendizaje. Presentamos una serie de estudios de casos y ejemplos de PEA auténticas evidenciados por la práctica reflexiva y entrevistas etnográficas semiestructuradas, incluyendo Wikimedia en las iniciativas del plan de estudios, la producción de libros de texto abiertos y la cocreación de recursos participativos interdisciplinarios STEM para las escuelas. El artículo incluye recomendaciones y consideraciones, y ofrece un modelo que otras instituciones pueden adoptar para fomentar una PEA sostenible. Nuestra experiencia demuestra que integrar el apoyo estratégico a la PEA es fundamental para garantizar una educación de calidad inclusiva y equitativa y promover oportunidades de aprendizaje permanente para todos/as.

Palabras clave: *prácticas educativas abiertas, recursos educativos abiertos, Wikipedia, cocreación, práctica reflexiva*



1. INTRODUCTION

At the University of Edinburgh, we believe that open education practice (OEP) and open educational resources (OER) are fully in keeping with our institutional vision, purpose, and values, to discover knowledge and make the world a better place, while ensuring that our teaching and research is diverse, inclusive, accessible to all and relevant to society. Our experiences of embedding OEP at institutional level over time have served to highlight changes in attitudes of students and educators towards OEP and demonstrate the importance of working in partnership at all levels across the University.

The University's commitment to OEP and OER is in line with UNESCO's 2019 Recommendation on Open Educational Resources, which highlights the role that OER can play in achieving the aims of the Agenda for Sustainable Development. This provides a meaningful and comprehensive manifesto to which we contribute through our Social Responsibility and Sustainability programmes. The UNESCO Recommendation recognises that:

“in building inclusive Knowledge Societies, Open Educational Resources (OER) can support quality education that is equitable, inclusive, open and participatory as well as enhancing academic freedom and professional autonomy of teachers by widening the scope of materials available for teaching and learning.” (UNESCO, 2019)

This paper outlines how the University's central learning technology services work in partnership with policy makers, partners, students, and academics to provide strategic support for OEP. We present a series of reflective practice case studies, highlighting authentic open education practice and student experience across the university, along with key recommendations for institutions wishing to develop sustainable support for OEP.

2. METHODOLOGY

In keeping with the diversity of open practice across the institution, and Cronin's articulation of OEP as complex, personal, contextual and continually negotiated (Cronin, 2017), we do not employ a single methodology to evaluate and quantify the impact of OEP at the University of Edinburgh. Instead, we employ a range of methodologies including analysis of platform data, reflective practice, and semi-structured ethnographic interviews (O'Reilly, 2009). These provide us with a qualitative overview of OEP across the institution, enabling us to monitor impact and tailor the central support provided to staff and students.

Data is gathered from platforms used to host open courses and OER, including Wikipedia (page views, edits, pages created), MOOC partner platforms (learner enrolments, certificates), Media Hopper Create media asset management platform (open media views), TES Resources (OER downloads), Edinburgh Diamond (open textbook downloads), and the Open.Ed website (page views, OERs added to showcase), to evidence engagement with the outputs of open practice. This data, along with narrative highlights, is captured in monthly service reports shared with the Information Services Group Senior Management Team. We engage with our own data to understand achievement and participation and tell stories about the impact of OEP across the institution and beyond.

There is no unified peer review system or quality assurance process for the OER created by staff and students. The review process is dependent on the nature of the resources, how they are created, and where they are shared. Academic colleagues are trusted to maintain the quality of their own teaching materials. Open online course resources are reviewed by teams of academic experts and instructional designers. OERs created by students through curriculum assignments are assessed by tutors and peers. Student co-created OERs shared in public repositories are reviewed by Open Content Curator Interns. Content shared on Wikipedia is open to review by Wiki admins, editors, and millions of Wikipedia users.

Reflective practice is a key component of OEP at the University of Edinburgh. Reflective practice may be understood as “the process of learning through and from experience towards gaining new insights of self and/or practice” (Finlay, 2008). Finlay (2008) characterises the aim of reflective practice as being to critically consider practice experiences to gain new understanding and improve future practice. We encourage both staff and students to reflect on their experience of engaging with OEP through open education courses, projects, initiatives and assignments. In addition to traditional scholarly outputs, these reflections are captured in reflective blog posts and semi-structured ethnographic interviews. The Academic Blogging Service¹ provides colleagues with a platform to develop their digital identities and share their authentic voices. Academic staff and learning technology professionals contribute reflective blog posts to Teaching Matters², an editorial blog that shares ideas and approaches to teaching and learning. Students are encouraged to contribute to course and project blogs. The OER Service blog hosts reflective blog posts from student interns³. Sharing open practice through reflective blog posts is also an effective form of networked participatory scholarship, defined by Veletsianos and Kimmons (2012) as:

teaching and research practices that espouse openness including activities such as open teaching, the production and dissemination of open educational resources, publishing in open access journals, keeping a professional blog, and sharing of research data in online venues. (p. 167)

The University’s Wikimedian in Residence records semi-structured ethnographic interviews with staff and students who have participated in Wikipedia in the curriculum assignments⁴. These reflective outputs enable us to capture the impact of open education projects and initiatives, to iteratively refine open assignments, and to share authentic voices and experiences within the university and more widely.

The case studies presented here incorporate empirical data together with excerpts of ethnographic interviews and reflective blog posts from staff and students reflecting on their experience of engaging with OEP at the University of Edinburgh.

¹ <https://blogs.ed.ac.uk/>

² <https://www.teaching-matters-blog.ed.ac.uk/>

³ <https://open.ed.ac.uk/tag/open-content-interns/>

⁴ Stories of Student Empowerment, interviews with staff and students, https://media.ed.ac.uk/playlist/dedicated/51020161/1_5ikxjq6/1_prhg9jt

3. WORKING WITH POLICY MAKERS

Open education policies play a critical role in promoting the adoption of OEP and OER, and fostering collaborations that favour the democratisation of knowledge access and production (Atenas et al., 2020).

To encourage staff and students to engage with OEP through the creation and use of OER, an Open Educational Resources Policy (University of Edinburgh, 2021) was approved by the University's Learning and Teaching Committee in 2016. University policies are subject to a 3-to-5-year review cycle and in 2021 the OER Policy was revised and updated to include a new definition of OER, bringing it in line with the UNESCO Recommendation on Open Educational Resources:

Open Educational Resources (OER) are learning, teaching and research materials 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)

Cronin (2019) has highlighted the importance of supportive open policy, coupled with institutional culture and individual agency, as motivating factors in incentivising OEP:

While openness may be a strategic objective at the institutional level, it cannot be mandated at the individual level. Individual members of staff and individual students must be supported and enabled to engage in open practice, but more importantly, supported in making their own decisions about whether and how to engage in open practice. (p. 158)

In order to motivate engagement with OEP, the OER Policy is informative and permissive. Rather than mandating the use of open licences, it encourages staff and students to use, create, and publish OERs to enhance the quality of the student experience, increase the provision of learning opportunities for all, improve teaching practices, and enrich our shared knowledge commons. As a formal University policy, it provides colleagues with the reassurance that they have permission to share their teaching and learning resources under open licence, provided they respect all third-party copyright.

In keeping with the University's commitment to open knowledge, we have shared the OER Policy under Creative Commons licence as part of an award-winning suite of open teaching and learning policies to benefit other institutions across the sector⁵.

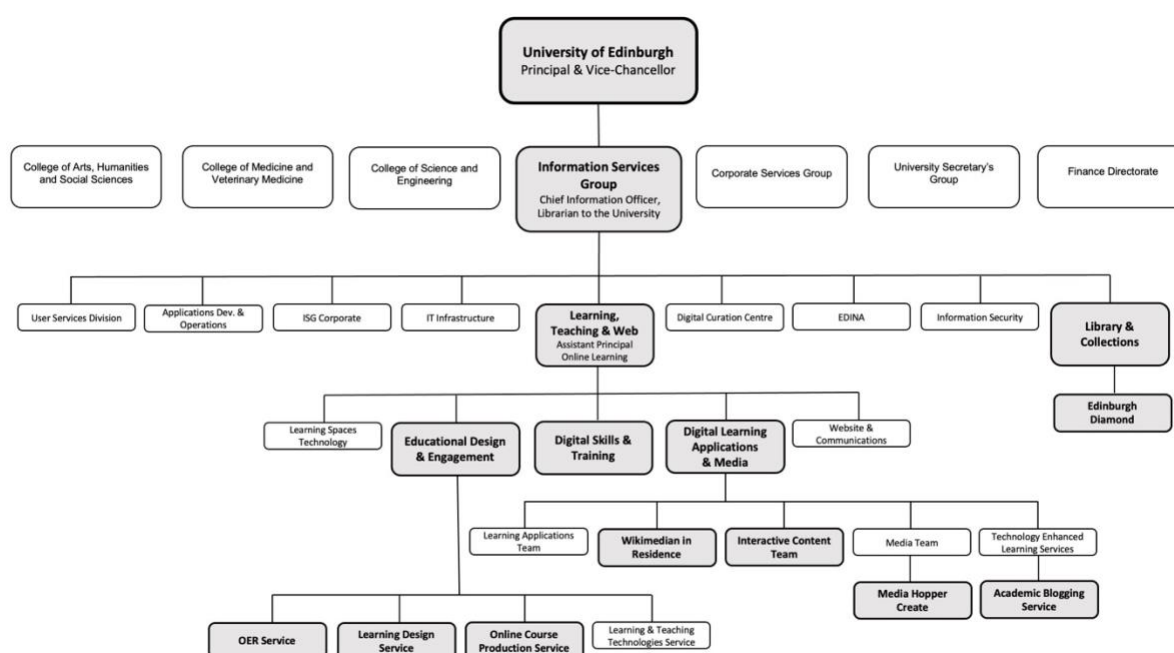
⁵ Open Policies for Learning and Teaching, <https://open.ed.ac.uk/open-policy-for-learning-and-teaching/>

4. PROVIDING UNDERPINNING SUPPORT AND DIGITAL CAPABILITY TO ENABLE OEP

To support our OER Policy and enable staff and students to develop the digital skills needed to engage with OEP, we have a range of central services, based in the Information Services Group. The OER Service, Online Course Production Service, Learning Design Service, Wikimedian in Residence, Interactive Content Team, and Academic Blogging Service form part of the Learning Teaching and Web Services Directorate, led by the Assistant Principal for Online Learning. Edinburgh Diamond, a service that supports the publication of open e-books and journals, is provided by the University Library. These services provide support for all staff and students; any colleague who has the ambition to develop their OEP, or to share their teaching and learning materials as OER, can do so with central support.

Figure 1

Directorates, divisions and services within Information Services Group that provide support for OEP



The OER Service provides advice and guidance on creating and using OER, engaging with OEP, and runs a digital skills programme focused on developing digital and copyright literacy skills and competence. Understanding authorship, copyright, and licensing is increasingly critical at a time when both staff and students are actively engaged in co-creating digital resources and open knowledge. The service supports schools and colleges and works closely with staff and students to embed open education practice and co-creation in the curriculum, through OER creation assignments and innovative Student Experience projects.

The OER Service also manages Open.Ed⁶, a one-stop shop that provides access to OER created by staff and students. Our OER Policy recommends that open resources are shared in an

⁶ <https://open.ed.ac.uk/>

appropriate repository or public-access website to maximise their discovery and use by others. The University supports multiple channels and services for this purpose including Media Hopper Create⁷, our media asset management platform, which hosts over six thousand Creative Commons licensed media items, Edinburgh Diamond⁸, a Library service that supports the publication of academic and student-led Open Access books, journals, and textbooks; and TES Resources⁹, an external platform where we share OERs for schoolteachers, co-created by our students.

The University also employs a Wikimedian in Residence (WiR)¹⁰, whose role is to facilitate a sustainable relationship between the University and Wikimedia UK¹¹, the UK chapter of the Wikimedia Foundation¹². The WiR helps staff and students to develop digital and information literacy skills through Wikipedia editathons, organized events where people come together to create or edit Wikipedia entries on a specific topic (Littlejohn & Hood, 2018), empowering them to contribute to the global pool of open knowledge. In addition, the WiR embeds open practice in the curriculum by supporting Wikipedia editing assignments in course programmes across the University.

5. WORKING IN PARTNERSHIP

The University of Edinburgh has a long-standing commitment to widening access to high quality online learning opportunities to as diverse a group of learners as possible through our MOOCs and free short online courses. Over the last decade, we have developed partnerships with international learning platforms, universities and cultural organisations to bring richness and diversity to these courses. Since 2013, over four million learners around the world have enrolled in almost a hundred free online courses on our partner platforms Coursera, FutureLearn and EdX.

Table 1

Free short course enrolments across all partner platforms, 2013 – 2023

Partner Platform	Enrolments	Certificates
Coursera (since 2013)	4,004,824	44,919
FutureLearn (since 2013)	312,044	3,901
EdX (since 2016)	354,161	13,417
Total	4,671,029	62,237

⁷ <https://media.ed.ac.uk/>

⁸ <https://books.ed.ac.uk/edinburgh-diamond/>

⁹ <https://www.tes.com/teaching-resources/shop/OpenEd>

¹⁰ Wikimedian in Residence, https://outreach.wikimedia.org/wiki/Wikipedian_in_Residence

¹¹ <https://wikimedia.org.uk/>

¹² <https://wikimediafoundation.org/>

The University's strategic values are woven into the course production process and all new courses must align with the values of our 2030 Strategy¹³. These courses demonstrate our commitment to providing free, open access learning on a global scale, delivering positive change locally, regionally, and globally.

To ensure the majority of our free online courses are open, sustainable, and accessible to all, open practice is embedded in every step of the course creation workflow, supported by a dedicated Online Course Production Service (OCPS), working closely with the OER Service. The OCPS team includes instructional designers, media producers, project managers, copyright and licensing experts, and marketing professionals, who work with our partners and academics to develop quality assured, open licensed courses. OCPS share their own open practice through blog posts on the Open.Ed blog¹⁴, open pedagogy and learning design resources¹⁵, and open courses including *How to Create an Online Course*¹⁶, and *How to Create Video for Online Courses*¹⁷.

5.1. Learning for a Sustainable Future

Climate change, gender equality, health, social equity and inclusion are issues that affect us all, impacting human well-being and economic stability. In partnership with the British Council and Learning for Sustainability Scotland, we created two courses to help learners develop an informed personal response to these major challenges: Learning for a Sustainable Future¹⁸ and Live at COP26¹⁹. Our partners made a vital contribution to the development of these courses, from course content creation and delivery to marketing. This tripartite partnership enabled us to tap into a global education network and bring in learners from communities across the world.

The British Council and Learning for Sustainability Scotland had a positive, proactive attitude to working with young people and activists, who in turn made invaluable contributions to the course content and discussions. (Lizzy Garner-Foy, Instructional Designer)

5.2. Open Media Bank

Media resources created with our partners for our free short online courses are shared through the Open Media Bank²⁰ where they can be downloaded for re-use and repurposing under Creative Commons licence. This ensures that these high-quality media resources are open, sustainable, and accessible. Students have continued access to their learning resources after their courses have concluded, and they can be reused and repurposed by teachers both within the University and beyond. With over 1,200 open licensed videos, featuring academics, guest speakers and experts discussing everything from philosophy, history and music to medicine, data, and climate change, the Open Media Bank represents a significant contribution to the global knowledge commons.

¹³ University of Edinburgh. *Strategy 2030*. <https://www.ed.ac.uk/about/strategy-2030> (19 May 2023).

¹⁴ <https://open.ed.ac.uk/blog/>

¹⁵ <https://open.ed.ac.uk/elder-edinburgh-learning-design-roadmap/>

¹⁶ <https://open.ed.ac.uk/how-to-create-an-online-course/>

¹⁷ <https://open.ed.ac.uk/how-to-create-video-for-online-courses/>

¹⁸ <https://www.onlinecourses.ed.ac.uk/all-courses/learning-sustainable-future>

¹⁹ <https://www.onlinecourses.ed.ac.uk/all-courses/learning-sustainable-future-live-cop26>

²⁰ <https://media.ed.ac.uk/channel/Open%2BMedia%2BBank/>

Table 2

Open Media Bank data 2017-2023

Open licensed videos	Player impressions	Plays	Minutes viewed
1,233	131,977	36,416	125,159

6. WORKING WITH STUDENTS

The University of Edinburgh Student Union (EUSA) were instrumental in encouraging the University to adopt an OER Policy and we continue to see student engagement and co-creation as being fundamental aspects of OEP.

The OER Service, Online Course Production Service, and Wikimedian in Residence, all offer employment opportunities to students through salaried internships that enable them to gain a wide range of transferable skills while developing their own open practice and digital competence and confidence. Engaging with OEP through the free and open Wikimedia projects and creating OER and open knowledge, encourages both staff and students to become ‘knowledge activists’, not just passive consumers of information but *active* creators of knowledge (Hood & Littlejohn, 2018; Panesar et al., 2022). Students are encouraged to work collaboratively, engaging with their learning and important conversations around open access, copyright, neutral point of view, bias, and the credibility of source.

6.1. Knowledge Activism

Tomas Sanders, an undergraduate History student employed as an Open Content Curator intern working with the OER Service, participated in a Wikipedia editathon during his internship and later went on to run an editathon for Black History Month with the University’s student History Society. His knowledge activism continued after graduation as he participated in editathons on under-represented topics such as the history of AIDS activism in Scotland. Reflecting on what “knowledge activism” means to him, Tomas stated that:

[Wikipedia] remains a massive resource for people to access and understand history. And yet the history that people access on Wikipedia is often very different from the history that you would access within a university department. There is very little social history, very little women’s history and gender history, history of people of colour or queer history. And the only way that is ever going to be overcome is if people who come from those disciplines start actually engaging with Wikipedia and try to correct those imbalances.²¹

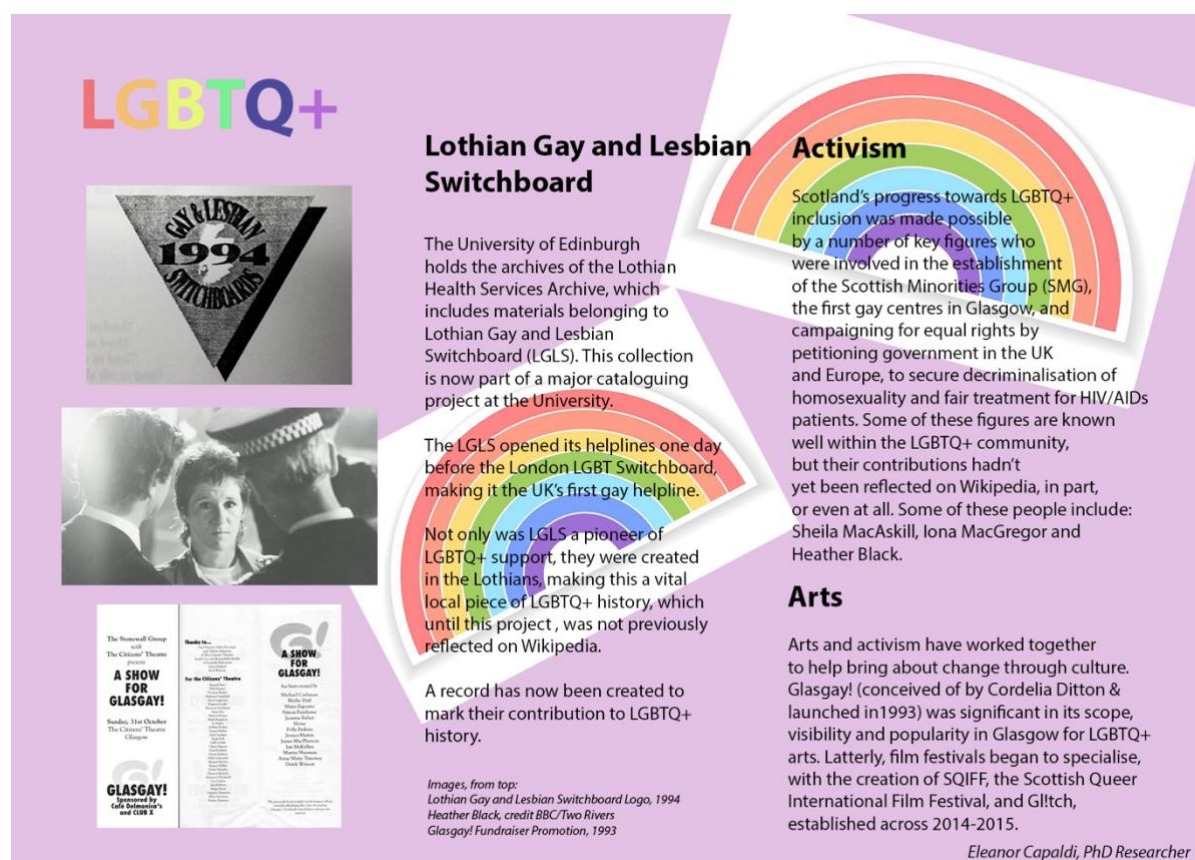
²¹ Wikipedia and History. Interview with Tomas Sanders, History undergraduate at the School of History, Classics and Archaeology, https://media.ed.ac.uk/playlist/dedicated/51020161/1_5ikxjq6/1_44vqmw7c

6.2. Recovering Histories

Three students secured a Student Experience Grant²² to undertake a project focused on improving LGBTQ+ history, gender history and Black history on Wikipedia. These topics are all under-represented online, but they are areas where the University of Edinburgh had important stories to share. The students' research contributed to the creation of an OER for an end of project editing event where staff, students, and members of the public were invited to contribute to Wikipedia pages on these topics. One student, Sian Davis, also previously contributed to another collaboration with the Wikimedian in Residence; a student History Society project to improve public understanding of Scotland's role in the transatlantic slave trade through paired research to enhance topic coverage on Wikipedia. Another, Eleanor Capaldi, developed and ran a 'Wikipedia art' workshop at the University of Glasgow to explore how LGBTQ+ people engage with art online, reusing images from Wikipedia and facilitating workshop participants to turn them into open GIFS, memes, and TikToks.

Figure 2.

Research poster by History PhD student Sian Davies, part of her project on Scotland's involvement in the TransAtlantic Slave Trade. Figure 3. Research poster by PhD student Eleanor Capaldi, part of her project on Scotland's LGBTQ+ History.



²² <https://www.ed.ac.uk/student-experience-grants>

7. WORKING WITH ACADEMIC TEAMS

Our services work with academic course teams across the University to embed OEP in the curriculum through open course assignments. These open assignments constitute an effective form of authentic assessment. Authentic assessment engages students by requiring them to apply their skills and knowledge to real world contexts and challenges, demonstrating thoughtful understanding of problems and mastery of complex concepts (Wiggins, 2011), (Lund, 2013). Engaging with OEP through curriculum assignments can help both staff and students to develop a wide range of core disciplinary competencies and transferable attributes including digital, data and copyright literacy skills, understanding how knowledge and information is created shared and contested online, collaborative working and collective knowledge creation, information synthesis, critical thinking, source evaluation, and writing as public outreach.

7.1. Wikimedia in the Curriculum

A wide range of courses at undergraduate and postgraduate level incorporate Wikimedia editing assignments, many of which focus on addressing under-represented topics, and improving the visibility of marginalised groups and individuals, delivering on the University's commitment to equality, diversity, and sharing open knowledge (McAndrew & Thomas, 2020). Creating Wikipedia entries enables students to demonstrate the relevance of their field of study and share their scholarship in real-world contexts, while contributing to the global pool of open knowledge. Writing articles that will be publicly accessible and live on after the end of their assignment has proved to be highly motivating for students and provides an incentive for them to think more deeply about their research (Johns & McAndrew, 2018). It encourages them to ensure they are synthesising all the reliable information available, and to think about how they can communicate their scholarship to a general audience (Christie, 2020; Stuhl, 2014). Students can see that their contributions will benefit the huge audience that consults Wikipedia, plugging gaps in coverage, and bringing to light hidden histories, significant figures, and important concepts and ideas (Anderson, 2021). This makes for an inspiring and innovative teaching and learning experience, that enhances the digital literacy, research and communication skills of both staff and students (Christie, 2020).

7.2. Wikimedia and the History of (non-Western) Art

Engaging with OEP by contributing to Wikipedia encourages lecturers to recommend Wikipedia in the Curriculum assignments to their colleagues. Staff become open knowledge 'nodes', sharing their open practice and providing advice about creating successful assignments that meet Board of Studies requirements.

World Christianity lecturer Dr Alex Chow, an early proponent of Wikimedia in the Curriculum assignments, supported History of Art lecturer Dr Glaire Anderson during her first Wikipedia assignment on the Islamic Visual Culture course. Undergraduate students evaluated Wikipedia content about Islamic art, science and the occult and prepared group presentations discussing any gaps or problematic coverage. They were trained to edit Wikipedia by our WiR and improved these articles by contributing their scholarship as a lasting open output of their studies for the benefit of all. Dr Anderson commented:

In a year that brought pervasive systemic injustices into stark relief, our experiment in applying our knowledge outside the classroom gave us a sense that we were creating something positive, something that mattered. As one student commented, “Really love the Wikipedia project. It feels like my knowledge is actually making a difference in the wider world, if in a small way.

This positive learning experience encouraged Dr Anderson to explore different ways of engaging students in discussions about how visual arts are represented, or under-represented, online. This motivated them to share beautiful open-licensed images of Islamic art (shared by the Khalili Collections on Wikimedia Commons²³) by adding them, not only to niche pages, but to high level, high traffic pages on Wikipedia, where they can be easily discovered among other examples of visual culture.

Figure 4.

Image of 11th century ewer from the Khalili Collection of Islamic Art added to the Wikipedia page for Pitcher by History of Art undergraduate students. CC-BY-SA 3.0 via Wikipedia and Wikimedia Commons.

≡ Pitcher (container)

[Article](#)
[Talk](#)

[Read](#)
[Edit](#)
[View history](#)
[Tools](#)

From Wikipedia, the free encyclopedia


In **American English**, a **pitcher** is a container with a spout used for storing and pouring liquids. In English-speaking countries outside **North America**, a **jug** is any container with a handle and a mouth and spout for liquid – American “pitchers” will be called jugs elsewhere.^[*citation needed*] Generally a pitcher also has a **handle**, which makes pouring easier.

Ewer is an older word for a pitcher or jug of any type, though tending to be used for a vase-shaped pitcher, often decorated, with a base and a flaring spout. The word is now unusual in informal English describing ordinary domestic vessels.^[1] A notable ewer is the **America's Cup**, which is awarded to the winning team of the America's Cup sailing regatta match.^[2]

In modern **British English**, the only use of “pitcher” is when beer is sold by the pitcher in bars and restaurants, following the American style.^[*citation needed*]

Etymology [edit]

The word *pitcher* comes from the 13th-century **Middle English** word *pitcher*, which means earthen jug.^{[3][4]} The word *pitcher* is linked to the **Old French** word *pitchier*, which is the altered version of the word *bichier*, meaning drinking cup.^[5]



Large Ewer, Iran or Egypt 9th–11th century AD, held by the [Khalili Collection](#) of Islamic Art. This is the largest specimen known so far of a popular Islamic glass form – the pear-shaped ewer with almond-shaped mouth. The shape can be traced back to Sasanian glass ewers.

[More details](#)

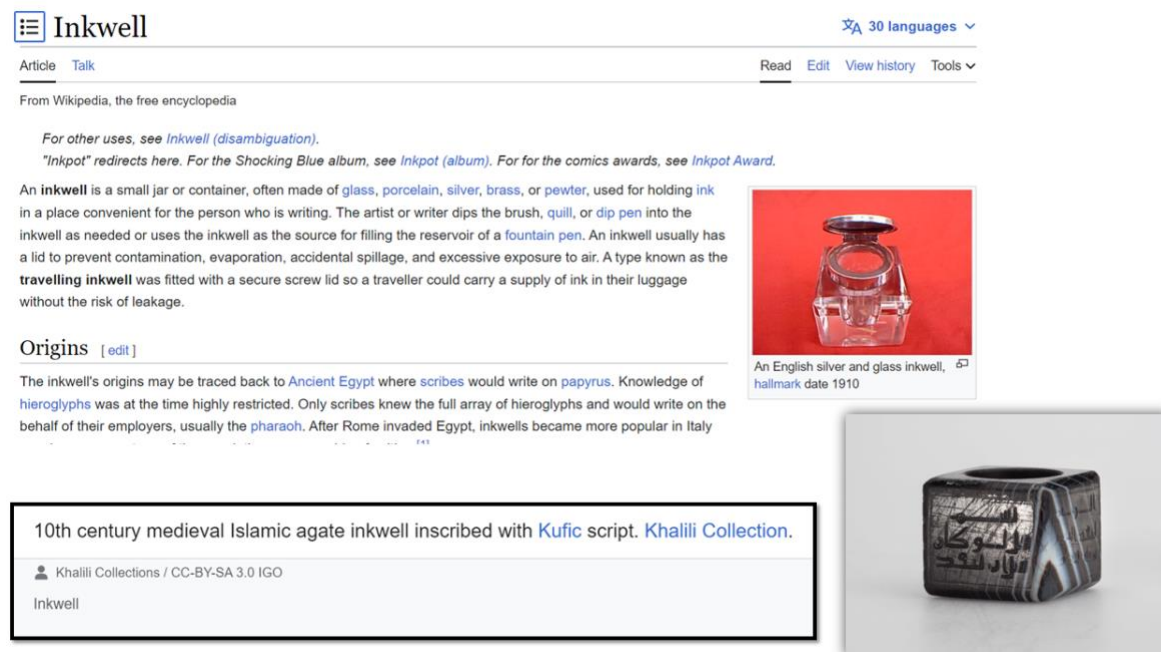
Khalili Collections / CC-BY-SA 3.0 IGO

CC BY-SA 3.0 igo
File: Khalili Collection Islamic Art als 0275.1.igo

²³ Category: Khalili Collections, https://commons.wikimedia.org/wiki/Category:Khalili_Collections

Figure 5.

Image of 10th century inkwell from the Khalilli Collection of Islamic Art added to the Wikipedia page for Inkwell by History of Art undergraduate students. CC-BY-SA 3.0 via Wikipedia and Wikimedia Commons.



Reflecting on the assignment, student Sophia Klepnikov commented:

Overall, it was a total revelation to me... The first discussion we had was pointing out the gaps in the information online. So one of our goals was to bring, in this case, Caliphal and Islamic art into the mainstream discussions of visual culture. Specifically adding images was the easiest, and most effective, way we could make these conversations more diverse and also elevate Caliphal art... I found it to be a very empowering experience and one that was quite unexpected. But to engage with a tool [in Wikipedia] that's so widespread was really fantastic.

8. SUPPORTING CO-CREATION

Another important benefit of OEP is that it helps to facilitate the co-creation of knowledge and understanding. Co-creation can be described as student led collaborative initiatives, often developed in partnership with teachers or other bodies outside the institution, that lead to the development of shared outputs. Co-creation of curriculum activities and learning opportunities has been shown to benefit both teachers and learners in a number of ways:

(a) fostering the development of shared responsibility, respect, and trust; (b) creating the conditions for partners to learn from each other within a collaborative learning community; and (c) enhancing individuals' satisfaction and personal development within higher education. (Lubicz-Nawrocka, 2018)

8.1. GeoScience Outreach

GeoScience Outreach (Douglas et al., 2022) is an optional project-based course that attracts final-year students from a range of degree programmes including Geology, Environmental Sciences, Geography, Archaeology and Physics. Over two semesters, students design and undertake an outreach project that communicates some element of their field. Students have an opportunity to work with a wide range of clients including schools, museums, science centres, and community groups, to design resources for STEM engagement. Students may work on project ideas suggested by the client, but they are also encouraged to develop their own ideas and outreach resources. Copyright of the outreach resources is retained by the students, but they are encouraged to share them as Creative Commons licensed OERs.

GeoScience Outreach enables students to work in new and challenging environments, acquiring a range of transferable skills that enhance their employability. They gain experience of science outreach, public engagement, teaching and learning, and knowledge transfer while developing communication, project and time management skills.

s. Open Content Curator Interns employed by the OER Service work with GeoScience academics to repurpose these materials to create OERs aligned to the Scottish Curriculum for Excellence²⁴, which are shared online through Open.Ed²⁵ and TES Resources, where they can be found and reused by schoolteachers. These OERs, co-created by our students, have been downloaded over 140,000 times by teachers around the world, and the collection was awarded Open Education Global's 2021 Open Curation Award²⁶.

Table 3

OER downloads from TES Resources, 2019-2023

Resources	Views	Downloads
84	39,283	141,890

²⁴ <https://scotlandscurriculum.scot/>

²⁵ <https://open.ed.ac.uk/edinburghs-oers/>

²⁶ <https://awards.oeglobal.org/awards/2021/open-curation/open-ed-collection-of-geoscience-outreach-oers-and-more-on-tes/>

This assignment enables postgraduates to develop a range of communication skills in an effective and critical way. Students are required to go beyond the descriptive, to think about factors that led to the crisis, considering what went well and what went wrong with local and international responses and the short or long-term consequences. They're encouraged to focus on neglected issues, places and communities, to apply their research skills to review published and grey literature and add to the body of public knowledge. The assignment provides an opportunity for geographically distant learners to come together to co-create knowledge with lasting value that actively contributes to public understanding for the common good. In 2019, 24 editors added 17,000 words that have now been viewed over a million times.

Figure 6.

Outputs of Global Health Challenges Wikipedia assignment over 3 years



Course organiser, Professor Liz Grant concluded:

In terms of contributions to the planet, with over 300 disasters taking place every year, this assignment allows students to think of issues that affect communities they may have never heard about, explore and synthesise grey literature that may be inaccessible or unknown to many, and contribute to the discussion about fragile states of health and global health issues.

As an advocacy-oriented programme we view the importance of the interdisciplinary work that we can enable among students...to help shift paradigms in global health by engaging in research that is open to the public, that challenges misconceptions and considers references from all over the world in a critical manner thus contributing to the decolonisation of the curriculum with Wikipedia.

Through open practice, the Global Health Challenges Wikipedia assignment empowers students to develop new skills and to communicate their scholarship to co-create improved knowledge and understanding of overlooked topics, thus benefiting people, scholarship, and the planet.

9. ACTIVE RE-USE FOR LEARNING ENHANCEMENT

Actively encouraging engagement with OEP provides opportunities for the university to re-use and re-purpose educational resources to enhance learning and to reach new audiences in innovative and creative ways.

9.1. Open eTextbooks for Access to Music Education

Open eTextbooks for Access to Music Education²⁷ was a Student Experience Grant project that brought together staff and students from the Reid School of Music, the OER Service, and Library and University Collections to co-create an open e-textbook by remixing open content originally created for the Fundamentals of Music Theory MOOC and redeveloped for an on campus blended learning course.

The project set out to create a prototype open textbook that could be used for undergraduate teaching within the University and shared under open licence. The development process allowed us to evaluate open textbook platforms, learn about repurposing content to create open textbooks, and assess the feasibility of extending this approach to further open textbook initiatives. The project also enabled our student partners to develop digital and copyright literacy skills including an understanding of OER, open licenses and open textbooks.

The students worked closely with lead academic Dr Nikki Moran to co-create the open textbook, collating videos and transcripts from the MOOC, text content from the on-campus course, and new material covering music theory in contextual critical global context. The students' thinking around the content and structure of the open textbook provided valuable insight on how rudiments of musical notation are taught.

Fundamentals of Music Theory (Moran et al., 2021) was published on Edinburgh Diamond, the University's e-book hosting platform, in late 2021 and by 2023 it had been downloaded almost 10,000 times by users around the world. The project stimulated redevelopment of both the MOOC and on campus course with students benefitting from the addition of new video material.

²⁷ <https://blogs.ed.ac.uk/opentextbooks/>

Table 4*Fundamentals of Music Theory downloads from Edinburgh Diamond, 2021-2023*

Downloads	Top 10 Countries	Top 10 Referrers
9,841	1. USA	1. Direct
	2. United Kingdom	2. University of Minnesota
	3. India	3. Google
	4. Philippines	4. E-books directory
	5. Canada	5. Twitter
	6. China	6. Baidu
	7. Australia	7. Quora
	8. Nigeria	8. University of Edinburgh
	9. Germany	9. Facebook
	10. France	10. Connecticut State University

Reflecting on the project, Dr Moran commented:

In terms of the quality of teaching and learning that these students have received, I believe that they've had great benefit from the reflective cycle behind this etextbook project, where the students' input and development of my original teaching materials has brought about further teaching and learning enhancement. I also expect this etextbook to be an important asset in the future for on-site students.

OEP was an integral component of this project. Students were encouraged to share reflective blog posts about their experience and were given the opportunity to present their experience at a number of open education and teaching and learning conferences.

In a reflective blog post student intern Ifeanyichukwu Ezinmadu wrote:

OER means opportunity to me. The opportunity to share knowledge of a subject in a more accessible format that is mostly not bound by financial capability to access the material. Hereby, creating a channel that facilitates equal educational opportunity for all.

The Open eTextbooks for Access to Music Education project successfully showed how existing open content can be repurposed to create an open textbook and demonstrated how OEP can facilitate the democratic reshaping of teaching materials through student engagement and co-creation.

10. RECOMMENDATIONS

The University of Edinburgh's model of providing central support for OEP in partnership with policy makers, academic colleagues, partners and students provides a blueprint that other institutions can implement to encourage sustainable OEP.

Key recommendations and considerations include:

- Aligning support for OEP to institutional strategy and global policy drivers, e.g. UNESCO Recommendation on OER, UN Sustainable Development Agenda.
- Creating a permissive policy environment that encourages staff and students to engage with OEP and the creation and use of OER.
- Providing central services to support colleagues to develop the digital skills, capability, and confidence to grow their own open practice.
- Developing course materials that are open by default, ensuring they are sustainable, accessible and reusable. Sharing teaching and learning materials as OER is a key component of OEP.
- Embedding OEP in the curriculum through Wikipedia editing and OER creation assignments to enable the development of transferable digital and information literacy skills.
- Engaging students in the co-creation of learning experiences, open knowledge, open resources, and open practice.
- Encouraging staff and students to reflect on their practice and provide platforms to enable them to share their experiences and authentic voices.

11. CONCLUSIONS

The University of Edinburgh's strategic commitment to OEP has been shaped by our institutional vision and values and informed by global initiatives including the UNESCO Recommendation on OER and the United Nations Sustainable Development Agenda.

We have enabled OEP to become self-sustaining across the institution by creating a permissive open policy environment, formalising our commitment to openness, and by putting in place an array of central services providing digital capability to enable practice. This approach provides both staff and students with the reassurance they need to share their practice and resources openly and the digital skills required to engage with OEP and the co-creation of OER and open knowledge.

Integrating OEP in the curriculum has become core to our teaching and learning ethos, encouraging innovation, and bringing significant benefits including building networks, relationships, and communities, fostering agency and empowerment, developing strong societal values and an appreciation of equity, intersectionality, and social justice. Co-creating learning opportunities through authentic open practice assignments enables students to develop essential digital skills, core competencies and transferable attributes.

This commitment to openness enables us to harness the transformational potential of OEP, influencing strategic developments within the institution including curriculum transformation, digital strategy, and re-evaluating approaches to assessment.

Our experience shows that mainstreaming strategic support for OEP is key to ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all, supporting social inclusion, and enabling our learners to become fully engaged digital citizens and knowledge activists.

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