Wikimedia in the curriculum

Addressing the challenges of digital and information literacy, digital scholarship and open knowledge at the University of Edinburgh

Summary
The University of Edinburgh is the first university in the UK to appoint a university-wide Wikimedian in residence.

The role of the Wikimedian in residence is to work with course teams and students across the university, to demonstrate how learning to contribute to Wikipedia can become part of the university’s strategy to help develop information and digital literacy skills.

By learning how to contribute to Wikipedia, students and staff become better able to evaluate how knowledge is constructed, curated and contested online. This provides valuable development for students in research and communication skills, and enables them to make genuine contributions to knowledge.

A growing number of courses at undergraduate and masters level are incorporating Wikipedia editing activities in the curriculum. Such activities have also been taken up by student societies, and by the university more generally as it fosters its civic mission and addresses gender inequality.

There is also interest in other Wikimedia projects – including Wikipedia’s newest sister project, Wikidata, in the context of the growing importance of open data initiatives.

A number of other UK universities are already beginning to learn from the Edinburgh experience, to develop their own initiatives relating to Wikimedia projects.

A strategy for digital and information literacy

Wikipedia is the best known. Wikimedia UK wants to foster better understanding and engagement with its projects, through placements of a Wikimedian in residence with institutions in the educational and cultural sectors.

Having seen some of the potential in action, Melissa Highton, director of the learning, teaching and web services directorate at the University of Edinburgh, identified how such a placement could help improve information literacy and digital skills at the University.

An initial experiment – an ‘editathon’ on the topic of women, science and Scottish history in 2015 – was independently evaluated by Professor Alison Littlejohn of the Open University, in order to establish whether there was value in a collaboration with Wikimedia UK – and what the impact was. Wikipedia editathons are facilitated events at which groups of people come together to edit Wikipedia in a social setting. Professor Littlejohn found that genuine formal and informal learning and knowledge creation took place at such events. In two research papers, she analysed the formation of networks of practice and social capital through participation in an editathon, with momentum generated so that activities continued after the event itself, and participants valuing it as an important part of their professional development. She also found that, in becoming an active Wikipedia editor, participants engaged in important discussions about how knowledge is created, curated and contested online, and the positive impact that Wikipedia can have in sharing knowledge and addressing knowledge gaps.
As a research-based institution, this evidence of the benefits of universities engaging in Wikipedia editing helped the business case to be made for integrating it as part of the University of Edinburgh's information literacy and digital skills strategy. The Wikimedian in residence, Ewan McAndrew, was appointed in January 2016. This was the first such appointment at whole-university level in the UK. The one-year, part time appointment focused on helping colleagues at the university to be able to make connections between their work and the work of the Wikimedia projects, to help explore areas of mutual benefit.

The response to the residency has meant that the role has since become full-time and extended to at least January 2019. Based in the digital skills team within the university's information services group, the Wikimedian in residence provides a centrally supported service for use across the university.

As well as offering educational opportunities, the residency supports a number of institutional missions, including open knowledge and open science; the Scottish Government initiative on creating a data literate workforce; commitments on gender equality including the Athena SWAN (Scientific Women's Academic Network) charter; and public and community engagement. It provides new opportunities for the university to expand its civic mission, through new forms of collaboration with city-wide and Scottish national bodies.

**Curriculum activities**

Wikipedia is integrated into the curriculum through sessions in which students create their own original Wikipedia articles, on topics that are not currently covered. These have included both topics of particular relevance to Scotland, often in collaboration with local external partners, and those of general interest. Students are provided with training on the Wikipedia editing process and conduct research which puts them in a position to write an informed article that is fully and accurately referenced. Through this process, the digital skills of both staff and students are enhanced.

A corollary of writing a Wikipedia article is that the research skills of students are also enhanced. The prospect of writing something that will be publicly accessible and will live on after the
end of the assignment has been found to be both a motivating and exciting one for students, and also an incentive to think more deeply about their research. It encourages them to ensure they are synthesising all the reliable information available, and to think about how they can share their scholarship with a lay audience. They can see that their contribution will benefit the huge audience that consults Wikipedia, plugging gaps in coverage, and often bringing to light hidden histories, significant figures, and important concepts and ideas. This all makes for a valuable and inspiring teaching and learning experience.

In-curriculum work facilitated by the Wikimedian in residence encompassed a variety of disciplines including:

- The reproductive biology honours course
- Translation studies MSc
- World Christianity MSc
- Online history MSc
- Data science for design MSc
- Global health masters courses
- The intellectual humility MOOC (massive open online course)
- The postgraduate certificate in academic practice

Incorporating it into the curriculum for postgraduate and undergraduate students at the school of law, and into the digital society masters, the psychology in action masters and the digital education masters, is under discussion.

A hugely significant part of the residency’s activity to date has been to support the university’s commitment to Athena SWAN. Many of the editing events have had a focus on addressing the under-representation, and improving the visibility, of women online. A 2011 survey\(^3\) suggested that on English Wikipedia, around 90% of editors are male; since then Wikimedia has made a concerted effort to improve the gender diversity of its community. In stark contrast, 69% of those taking part in editing in events as part of the University of Edinburgh residency have been women. The events have also helped to address the fact that only 17.8% of biographies are about notable women. To help combat this systemic bias, a range of editathon events have been held around the themes of women in science and Scottish history; history of medicine; history of veterinary medicine; history of nursing; women in espionage; women and religion; art and feminism; women in STEM (science, technology, engineering and maths); reproductive biology; Gothic literature; and celebrations of Ada Lovelace Day.

There has also been interest in working with other Wikimedia projects, in particular Wikibooks and Wikidata – the latter of which is of growing importance in line with the development of open data initiatives by government and the research councils. The University of Edinburgh has recently been given additional public funding to lead the development of a data-literate workforce over the next ten years, equipping this workforce of the future with the data skills necessary to meet the needs of Scotland’s growing digital economy, and helping the city of Edinburgh become an international centre for data-driven innovation. For this reason, there is growing interest within the university in implementing activities centred on Wikidata in the curriculum. This offers students the chance to:

- Engage with issues of data completeness; data processing and analysis; and data ethics
- Learn to make practical use of a large range of tools and data visualisation techniques
- Learn to work with linked open data in the semantic web, across disciplines from science to the digital humanities and cultural heritage
Initial curriculum activities have included adding what were standalone datasets from the Survey of Scottish Witchcraft database (1563–1736) into structured, machine-readable open data in Wikidata, and enriching the data further by linking with other complementary datasets in Wikidata to help build up a semantic open web of knowledge.

**Student reaction: formal and informal learning**

The vast majority of student reactions to the initiative have been positive, seeing it as something enjoyable, and with the reward of contributing to the common good. Most students quickly become technically adept at using the new Wikipedia Visual Editor interface, which they have described as making editing “super easy”, “fun”, “really intuitive” and “addictive as hell”. Very few still felt that Wikipedia editing wasn’t for them, but they too benefit from the greater understanding of how knowledge is constructed online, and now are well placed to make informed choices about whether or not to actively contribute to its creation in the future.

In terms of wider information literacy, reproductive biology students, for example, took part in an assignment writing Wikipedia articles for previously unpublished medical terms. The students found this valuable as a training in communicating scientific ideas to a lay audience, something they will have to do in their professional careers. One student wrote an article in 2016 on high-grade serious carcinoma, one of the most serious and most deadly forms of ovarian cancer; this addressed a serious knowledge gap online using high-quality scholarly research, and communicated it in non-specialist terms. It has now been viewed more than 48,000 times. This is a perceptible and lasting contribution to the common good, which provided both a substantial contribution to the student’s professional development, and a source of lasting satisfaction.

Moreover, the project has had significant impact on students outside the curriculum. Several student societies – including societies of history, women in STEM, law and technology, translation and international development – have seen the potential for Wikipedia editing to enhance their activities, and have approached the residency for help, support and training. One example has been the History Society, which worked with the residency as part of its programme of activities for Black History Month, adding entries for notable black women that had’t previously been represented in Wikipedia. For the History Society students, a key motivator was engaging with learning in a way that was not a passive receiving of knowledge; another was the prospect of improving public understanding of history through addressing representation online, especially in under-represented areas such as social history, women’s history, the history of people of colour, and queer history.

Meanwhile the Law and Technology Society ran a Wikipedia editathon focused on improving coverage of technology law and intellectual property topics. Again what appealed was the combination of developing research and public communication skills. This has led to discussions with course leaders at the school of law, initiated and then brokered by students themselves, about including Wikipedia editing in the course curriculum as an exercise which would involve

“It’s a really good exercise in critical thinking ... It’s a motivating thing to do to use the knowledge you’ve learnt, to see how it is relevant to the real world and to contribute ... Knowing people are finding the article useful is really gratifying.”

University of Edinburgh reproductive biology student, Áine Kavanagh, reflecting on a Wikipedia editing exercise
undergraduate and postgraduate students collaborating on researching and synthesising topics related to Scottish law with a lay audience in mind.

Staff experience and institutional support
Two benefits of Wikimedia in the curriculum – students learning better digital research skills, and communicating to a non-specialist audience as practice for learning the communication skills they will need in their professional careers – have appealed to course leaders, for example in reproductive biology and law. In these courses, and in others that have taken up the opportunity to incorporate Wikipedia editing, course leaders have found the exercise to be both successful in achieving desired learning outcomes and popular with students. Students learn valuable research and communication skills which contribute to their learning and help prepare them for future careers, and are better able to evaluate Wikipedia articles more generally. One course, the MSc in world Christianity, introduced it in place of an existing oral assessment; this has been an important component in garnering uptake. Wikipedia assignments are not presented as additional to the practice of already time-poor course leaders, but something that can enhance a course programme by swapping out existing practice where appropriate to do so, ie where the learning outcomes are not being meaningfully achieved. Courses that have participated have repeated the experience in succeeding years, and the number of departments involved is expanding, as awareness of the opportunity grows and in line with the evolution of course planning. For academic staff, aside from the teaching opportunities, this opportunity has provided new insight into how Wikipedia pages are constructed and the editorial processes; there is also evidence of a growing awareness among academics of the opportunities for teaching and learning that Wikipedia can provide.

Building sustainability
One aspect of the residency has been to plan for both expansion and for sustainability, by training up other members of staff who can provide the necessary training and support for Wikipedia editing, with staff (such as learning technologists, digital skills trainers, academic

“Don’t cite Wikipedia, write Wikipedia”
LiAnna Davis, director of programs at the Wiki Education Foundation, in a wikiedu.org blog post aimed at university students

The 21st-century skills that a collaboration between the University of Edinburgh and Wikimedia UK help develop include:

• Critical information literacy
• Digital literacy
• Academic writing and referencing
• Critical thinking
• Literature review
• Writing for different audiences
• Research skills
• Communication skills
• Community building
• Online citizenship
• Collaboration

“Students said that simply knowing that an audience of editors existed was enough to change how they wrote. They chose words more carefully. They double-checked their work for accuracy and reliability.

And they began to think about how best they could communicate their scholarship to readers who were as curious, conscientious and committed ... as they were.”
Andrew Stuhl, Bucknell University, Pennsylvania.
Source: wikiedu.org

4 Don’t cite Wikipedia, write Wikipedia.
5 LiAnna Davis, director of programs at the Wiki Education Foundation, in a wikiedu.org blog post aimed at university students.
support librarians, digital curators, open educational resource trainers, and deputy directors of IT), and also students, now able to lead training in each part of the university.

The Wikimedian in residence has also developed and curated a number of resources, including:

- A lesson plan for how to lead a Wikipedia editing workshop (shared to TES Resources)
- Approximately 250 educational videos and video tutorials
- A growing number of self-directed online tutorials using easy to navigate SPLOT Wordpress sites

The residency is helping the university expand and enhance its civic mission, with many opportunities for collaboration with city-wide and Scottish national bodies arising, either inside or outside the curriculum.

With growing interest in the work in Scotland, since April 2018 Wikimedia UK now employs a Scotland programme co-ordinator; and the Scottish Library & Information Council has also employed a Wikimedian in residence to support public libraries across Scotland. Wales, meanwhile, already has a permanent national Wikimedian based at the National Library of Wales.

Lessons learnt and wider impact
With interest growing among course teams in exploring how Wikimedia can be incorporated into their curricula, and appreciation of the opportunities to open up elsewhere in the life of the university, the potential has been demonstrated for Wikipedia and its sister projects to be successfully integrated to benefit teaching and learning.

It has also been shown how the process of adding to Wikimedia can be demystified and made accessible and enjoyable for students through a variety of opportunities for collaboration and the sharing of good practice, with scaffolded support and training. Activities such as workshops for staff expand understanding across the university of how to better use and evaluate Wikipedia.

Reactions have been positive among both staff and students, and an increased understanding of the important role Wikipedia – and increasingly Wikidata – can play in higher education, and more generally in knowledge creation and sharing, is evident.

The residency is now working on developing open education resources, that can explain quickly and easily how and why to engage with Wikipedia and other Wikimedia projects. This can help address the issue of time pressure on academics limiting their capacity to explore innovations in depth. In addition, the initiative is being highlighted at other established university events that staff are already likely to attend, while Wikipedia training is increasingly becoming embedded in the university's overall programme of support and training for digital skills, and in longer-term planning. Indeed, introductory ‘How to get started editing Wikipedia’ workshops are now led by other staff within the digital skills team; this both allows for greater sustainability in the longer term, and allows the Wikimedian in residence to prepare and deliver more workshops on the following themes:

- Teaching with Wikipedia
- Introduction to open data with Wikidata
- Introduction to Wikisource: the digital hyperlibrary
- Sharing research to Wikipedia and Wikidata
- Wiki games: learning through play
- Histropedia: the timeline of everything.

More broadly, the project activities have led to Wikimedia UK developing its first booklet of...
Wikipedia in the classroom case studies, building new collaborations with external partners. The aspiration is that this new booklet of UK case studies will help demonstrate how universities can meaningfully engage with the Wikimedia projects, to better support their institutional missions. Happily, a growing number of universities across the UK have sought to learn from the Edinburgh experience and have begun exploring their own projects on working with Wikimedia.


