

# Wikipedia in curriculum for Reproductive Biology (Honours).

## Wikipedia in curriculum for public engagement, science communication and digital literacy

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### What was done

Building & expanding on 2015-2016's pilot Wikipedia assignment which produced 1 new Wikipedia article (neuroangiogenesis), Learning Teaching and Web Services Student Engagement Officer, Eugenia Twomey, and Wikimedian in Residence, Ewan McAndrew, supported Dr Chris Harlow (Programme Organiser Reproductive Biology Honours) to integrate Wikipedia publishing and editing into the Semester One curriculum. The outcome was eight new Wikipedia articles of previously unpublished terms from reproductive medicine and two further articles were significantly edited and improved.

The cohort of thirty-eight 4<sup>th</sup> year students were organized into 8 groups which each had a course tutor to support the group research into creating and editing the Wikipedia articles. Topics were chosen by the tutors, who included PhD students, post-doctoral scientists and lecturers. Work was split over two 3 hour sessions, with students working collaboratively in their groups during the first session, and then publishing in the second. A teaching studio in David Hume Tower was used as the venue for both sessions.

### Session 1

The first three-hour session prepared students for publishing the article by guiding students through Library research training. The Academic Support Librarian for Biomedical Sciences, Anne Donnelly, gave a brief summary and demonstration of several search engines and databases: Scopus, Web of Science, Google Scholar, Pubmed and the Library's search tool, DiscoverED.

Students were then given an overview of Wikipedia's main policies and guidelines by Ewan McAndrew, the university's Wikimedian in Residence before splitting into their groups to begin their research.

The students were split into 8 groups and were assigned one of the search engines and were asked to do some research using one of eight pre-selected medical terms. The results from the database searches were similar (c.15) except for Google Scholar which retrieved over 165, but many of these were duplicates and irrelevant. Students found that the Library's search tool DiscoverED, which searches across most of the Library subscription resources, retrieved relevant results and was noted as being 'good for refining searches'. Web of Science retrieved the highest hit rate of 20 relevant results.

After searching for satisfactory definitions and peer-reviewed literature, students worked collaboratively to critically analyse and synthesise the literature to create an article aligned with *Wikipedia Manual of Style (Medicine) guidelines* specifically to ensure a structure that demonstrates completeness and readability; avoiding medical jargon as much as possible and using the highest-quality medical sources available.

### Session 2

The second three hour session offered participants first-hand experience in formatting Wiki software. Among the areas covered were the basic mechanics of editing pages, and skills and techniques appropriate for science communication whilst building student digital literacy. Particular attention was paid to Wikipedia's Five Pillars; these guiding principles ensure that contributions to the online repository maintain a neutral point of view and adhere to the principles of verifiability and notability.

### Motivation and aims

### Summary

Reproductive Biology Honours students researched, synthesised and developed eight new Wikipedia articles of previously unpublished medical terms. Integrating Wikipedia into coursework allows students and staff to explore the affordances of virtual (online) spaces for public engagement whilst building upon digital literacies training and application. Simultaneously, students develop skills for academic outcomes and life-long learning, whilst demonstrating online, collaborative writing and science communication.

### Context

- **Level:** Undergraduate
- **Discipline/Subjects:** Learning, Teaching & Web Services.

### Contact Details

- [Eugenia Twomey](#), Learning, Teaching and Web Services.
- [Ewan McAndrew](#), The University of Edinburgh's Wikimedian-in-Residence.
- [Dr. Chris Harlow](#), (Programme Organiser, Reproductive Biology Honours)

### Themes

- [Curriculum Development](#)
- [Learning Communities](#)

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There were several areas of interest: integrating digital literacies training and application into curriculum to support skills for academic outcomes and life-long learning; and, developing students as online, collaborative writers, and building skills for science communication. The exercise was not formally assessed, but provided formative experience of group working, employing transferable skills that could be applied to other assessed group work activities in the curriculum. The project allowed students and staff to explore the affordances of virtual (online) spaces for public engagement. Through publishing collaboratively via Open Education repositories like Wikipedia, students and staff alike can contribute to the University's knowledge exchange and educational impact agenda.

Additionally, students have access to many search engines, both openly available, and subscription-only and one of the aims of this session was to remind the students of some of these science specific databases and to compare the results from 5 selected resources.

## Successes and lessons learnt

In a 3-hour session a cohort of 38 Honours students were able to collect enough material on a topic through diligent use of literature searching to allow the class to then return the following week to build a substantive, accurate and informative Wikipedia entry; working collaboratively in their groups to piece the article together from the various section headings the students had worked on. This demonstrated that providing a variety of topics to research would accommodate large groups of students with varied interests.

## Scalability and transferability

The success of this project indicates how this type of interactive group work, with a public engagement message, lends itself to incorporation into the curriculum across all disciplines and can be scaled up to provide a successful learning experience for larger cohorts.

Requirements for staffing include a Librarian to support research skills and a Wikimedian to provide Wikipedia publishing training.

Venues should be equipped with learning technology for training purposes and should support students with personal computers.

This type of coursework can be applied to all subjects interested in public engagement and knowledge transaction. Wikipedia has a particular need for discipline specific communication (i.e. science, medicine) to explore complex theory and concepts through accessible language.

## Feedback at the conclusion of the project included:

"It's great that I now know more about how Wikipedia works and I actually contributed to it finally."

"This was a very enjoyable experience and I feel we learned skills that will be useful in the future."

"I really enjoyed learning about the different ways to access journals- which I can sometimes forget about."

"I liked the group work aspect - it helped me prepare for reproductive systems group website."

"The venue, tutors and concept. (were good)"

"The session was informative and an enjoyable way to start the semester. It got me to consider different aspects of scientific communication and my involvement in it. Perhaps a way to improve the session is to emphasise the learning outcomes in the beginning, which might give students a different appreciation of the exercise."

"It was a really good exercise in scientific writing and writing for a lay audience."

"As a student it's a really good opportunity, it's a really motivating thing to be able to do; to relay the knowledge you've learnt in lectures and exams, which hasn't really been relevant outside of lectures and exams, but to see how it's relevant to the real world and to see how you can contribute."

Dr Harlow felt the collaborative nature of engaging with Wikipedia to be a highly valuable experience, "Working with colleagues from different disciplines, I found the process of introducing the whole Honours class to a range of literature searching tools, setting them specific tasks to collect information for the Wikipedia page, and then engaging a small group of students to help build the Wikipedia page a truly inspiring activity. To see the end products evolving was very exciting!"

## Further Information: Reflections on the assignment from a student on the course, Áine Kavanagh:

The process of writing a Wikipedia article involved me trying to answer the questions I was asking myself about the topic. What was it? Why should I care about it? What does it mean to society? I also needed to make the *answers* to those questions clear to other people who can't see inside my head.

It then moved onto questions I thought other people might ask about the topic. Writing for Wikipedia is really an exercise in empathy and perspective. Who else is going to want to know about this and what might they be interested in about it?

Is what I'm writing accessible and understandable? Am I presenting it in a useful way? It's an incredibly public piece of writing which is only useful if it serves the public, so trying to put yourself in the frame of someone who's *not* you reading what you've written is important (and possibly the most difficult part).

It's also about co-operation from the get-go. You can't post a Wikipedia article and allow no one else to edit it. You are offering something up to the world. You can always come back to it, but you can never make it completely your own again. The beauty of Wikipedia is in groupthink, in the crowd intelligence it facilitates, but this means shared ownership, which can be hard to get your head around at first.

It's a unique way of writing, and some tips for other students starting out on a Wikipedia project is to not be intimidated. Wikipedia articles in theory can be indefinitely long and dense and will be around for an indefinitely long time, so writing a few hundred words can seem like adding a grain of sand to a desert. But if the information is not already there then you are contributing – and what is Wikipedia if not just a big bunch of contributions?

There's also the fear that editors already on Wikipedia will swoop down and denounce your article as completely useless – but the beauty of storing information is that you can never really have too much of it. There's no-one who can truly judge what is and isn't worthy of knowing\*.

\*There's no-one who can judge what's worth knowing, but the sum of human knowledge needs to be *organised*, and so there are actually guidelines as to what a Wikipedia article is (objective account of a thing) and is not (platform for self-promotion).

## Links:

- [Reflections on a Wikipedia assignment - Reproductive Medicine](#)
- [Wikipedia:Five pillars](#)
- [Neuroangiogenesis](#)

## Articles created

- [High-grade serous carcinoma](#)
- [Globoszoospermia](#)
- [Scar free healing](#)
- [Prophylactic salpingectomy](#)
- [Testicular dysgenesis syndrome](#)
- [Obesity and Fertility](#)
- [Oogonial \(Female Germline\) stem cells](#)
- [Spermatogonial Stem Cells](#)

## Articles improved

- [Spermatogonium](#)
- [In vitro maturation](#)







