Digital doorway: Gaining library users through Wikipedia

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Abstract

INTRODUCTION
Wikipedia is heavily used as an information source by students, however it is not usually recommended as a scholarly source of information suitable for use in assessment tasks. Its value is in providing students with a starting point on their search for information. Utilising a library resources template designed by a librarian from the University of Pennsylvania, librarians at Macquarie University Library are working with the convenor of a first year biology unit to introduce a way of directing students to relevant library resources from Wikipedia.

METHODS
The library resources template was added to 72 Wikipedia articles. These articles were identified by library staff as being relevant to the assessment task topics that the students had to choose from. A search was conducted in the library catalogue for each of the topics, and the corresponding subject heading was identified. These headings were added to the Wikipedia library resources template to be used as the search terms. The students were shown how to use the template during one of the scheduled lectures in the first week of semester.

RESULTS
The use of the template was evaluated both quantitatively and qualitatively. Data was obtained from Wikipedia on the number of times that the Macquarie University Library link was clicked on. The majority of hits occurred in August, which was the time of year when the template was demonstrated to the students. The students and teaching staff of the unit were surveyed to gather their opinions on the usefulness of the template. These survey results are currently being analysed, and will be discussed in the conference paper.

CONCLUSIONS
We feel that this initiative is another way of providing students with easy access to library resources, even if they begin their search elsewhere. It can be a time-consuming task to implement the template, and students need to be given guidance in how to use it. However, we believe the benefits outweigh any drawbacks. The findings from the student survey will inform our decision whether or not to promote this feature to academics in other subject areas.

RELEVANCE

Students increasingly expect that all the information they need for their assessment tasks can be found easily using commonly available search engines such as Google or Bing, and that library resources should be as easy to access as freely available sources such as Wikipedia. Convenience is a criterion which is used by students to decide if they will use a particular information source, so it is important for libraries to make their scholarly resources as easy to access as possible. By providing a simple link from Wikipedia articles to library resources, this project has helped to place library resources within the research workflow of students, and satisfied their expectation of simple access to information resources. It has also allowed them to explore a greater diversity of published resources.

Introduction

Love it or hate it, Wikipedia is here to stay. A 2012 study by Knight and Pryke revealed that 75% of students make use of Wikipedia, with 49% using it in assignment research (Knight & Pryke, 2012). While there is an on-going debate about the place for this popular crowd-sourced encyclopaedia in academic research, the fact remains that if students start their research by tossing a few terms into Google, a Wikipedia entry will very likely be in the first few results.

Students use Wikipedia because it is a convenient source of background information which can get them started on their research (Head & Eisenberg, 2010). One survey of 134 college students found that "Wikipedia was used more frequently than library databases" (Lim, 2009, p. 2199). Another study of 21 college students found that they preferred Wikipedia and other freely available online resources to library databases, largely due to finding it confusing and difficult to use the catalogue and databases (Colón-Aguirre & Fleming-May, 2012). In the 13 years since its launch in 2001, there has been a softening in the attitudes of librarians and teaching staff towards Wikipedia (Konieczny, 2012). Rather than students being banned from using Wikipedia as an information source (which students tended to ignore), it is now seen as a valuable tool for teaching students about evaluating information sources, and about critical thinking (Konieczny, 2012). Wikipedia can also be used in information literacy instruction to help students develop their topic, as well as a source of keywords and further references (Calhoun, 2014).

As Wikipedia has matured, studies have been conducted to compare its accuracy to that of established reference sources. Several of these have found that the information on Wikipedia is of comparable or better quality than that of the traditional information sources (see, for example, Giles, 2005; Rajagopalan et al., 2011; Reavley et al., 2012). However, other studies have found that the quality of information on Wikipedia is of a lower standard than that contained in other sources (see, for example, Azer, 2014; Hasty et al., 2014).

Wikipedia and its founder Jimmy Wales both recommend using the site as a starting point before finding other authoritative or peer reviewed sources ("Wikipedia:Academic use," 2014; Young, 2006). However, the transition between Wikipedia and those other resources isn't always straightforward, especially if there is little of value in the references listed at the bottom of the Wikipedia page. This is one of the most frustrating issues which students face during their information-gathering in the online environment, and one which libraries have only recently taken steps towards overcoming.

What have other libraries done?

There have been several approaches taken by some libraries to integrate their collections with Wikipedia and make it easier for students to find relevant library resources. One approach has been to integrate material from the library's digital collections (for example, historic photographs) into Wikipedia articles (Elder, Westbrook, & Reilly, 2012). A browser bookmarklet has also been developed, which populates a search box with the Wikipedia article title; this is then run as a search within the library's discovery service (Arnett & Forrestal, 2012). The rationale for the development of this bookmarklet is very similar to the reason that the project described in this paper was undertaken. The bookmarklet was developed in order to "fit into current workflows of students; thus, we wanted to create a direct link between a common starting place for students and our library's scholarly resources." (Arnett & Forrestal, 2012, p. 178) The feedback from students regarding the bookmarklet was positive, and indicated that they found the tool easy to use and would use it for future assignments (Arnett & Forrestal, 2012, p. 182).

The library resources box

In early 2013 an American librarian and software engineer, John Mark Ockerbloom from the University of Pennsylvania, created a library resources template that can be inserted into any Wikipedia page and will link through to search results from your chosen library on that page's topic (Ockerbloom, 2013). The template is a small box that sits toward the bottom of the page in the "External links" section (see Figure 1). It must be manually inserted into each page but this can be done by anyone who edits Wikipedia. The template can be configured to use one of the following parameters to conduct the search: - Virtual International Authority File (VIAF) identifier (for more information about the VIAF see http://www.viaf.org), Library of Congress Control Number (LCCN), Library of Congress Subject Headings (LCSH), or the title of the Wikipedia page.

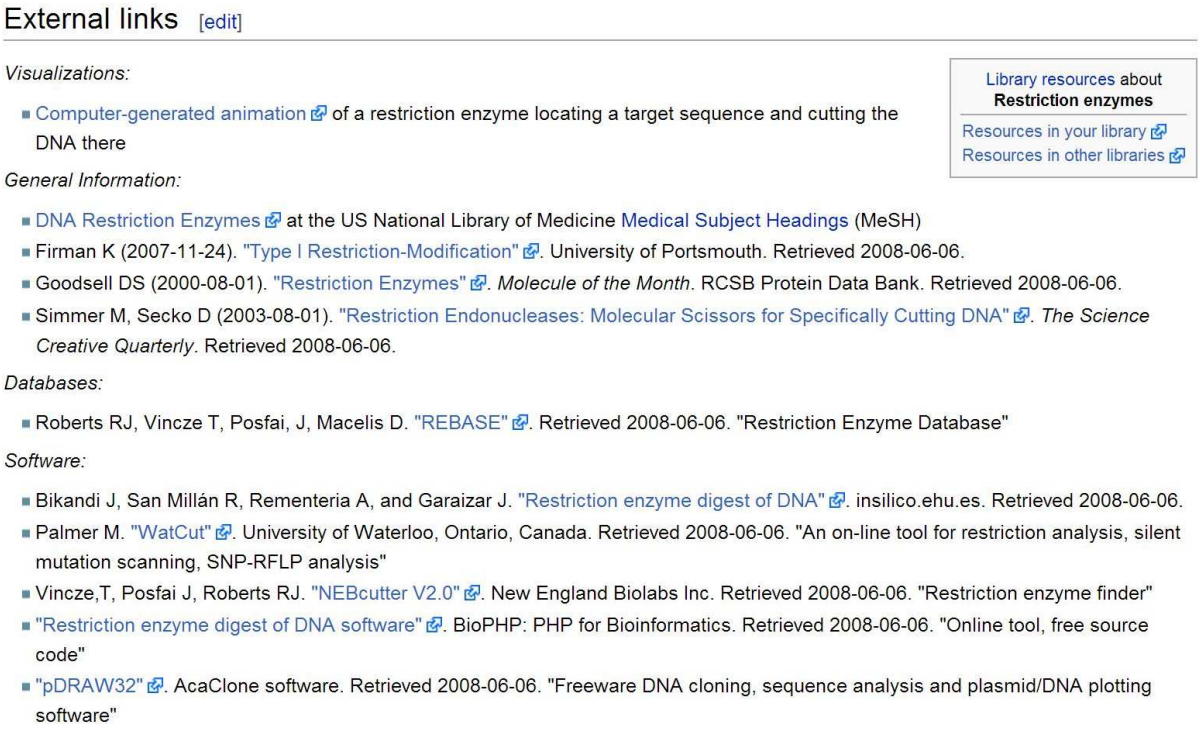
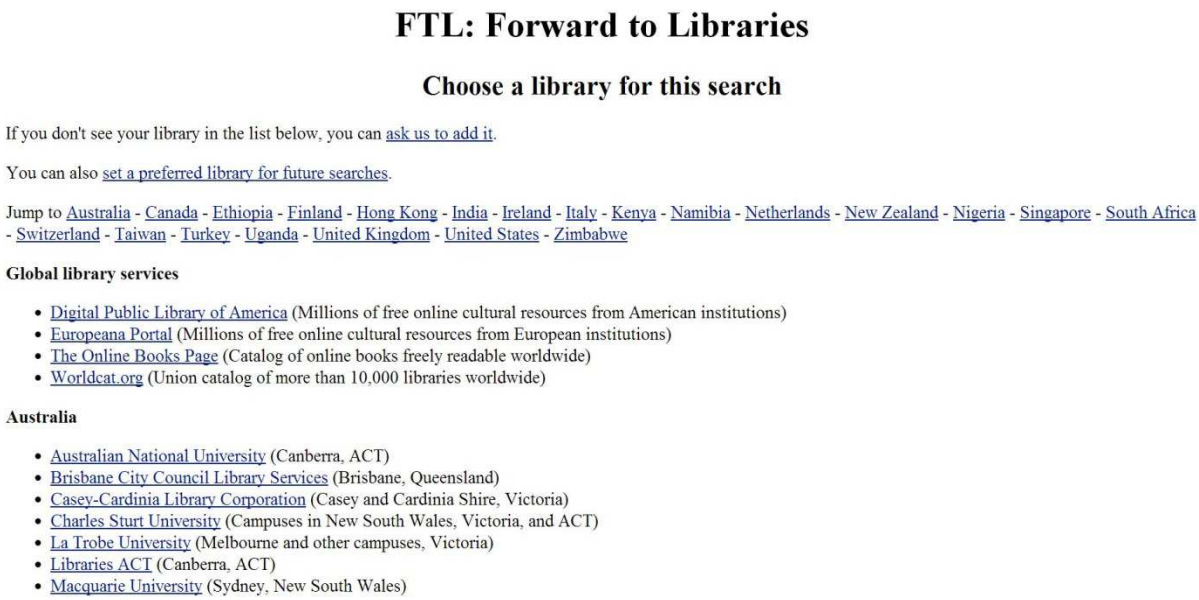


Figure 1. Location of a library resources box on a Wikipedia page
(from https://en.wikipedia.org/wiki/Restriction_enzyme, accessed 23rd June 2014)

When a Wikipedia user clicks on the links within the box, they are taken to a list of libraries which have registered to be part of the service (see Figure 2). The user selects their preferred library, and then they are taken to that library's discovery tool or catalogue. A search is automatically run for them in that system, using whichever of the above parameters has been included in the library resources box, and the results are displayed. More information about the library resources box, including the search syntax it uses and the various formatting options is available at https://en.wikipedia.org/wiki/Template:Library_resources_box.



FTL: Forward to Libraries

Choose a library for this search

If you don't see your library in the list below, you can ask us to add it.

You can also set a preferred library for future searches.

Jump to Australia - Canada - Ethiopia - Finland - Hong Kong - India - Ireland - Italy - Kenya - Namibia - Netherlands - New Zealand - Nigeria - Singapore - South Africa - Switzerland - Taiwan - Turkey - Uganda - United Kingdom - United States - Zimbabwe

Global library services

- Digital Public Library of America (Millions of free online cultural resources from American institutions)
- Europeana Portal (Millions of free online cultural resources from European institutions)
- The Online Books Page (Catalog of online books freely readable worldwide)
- Worldcat.org (Union catalog of more than 10,000 libraries worldwide)

Australia

- Australian National University (Canberra, ACT)
- Brisbane City Council Library Services (Brisbane, Queensland)
- Casey-Cardinia Library Corporation (Casey and Cardinia Shire, Victoria)
- Charles Sturt University (Campuses in New South Wales, Victoria, and ACT)
- La Trobe University (Melbourne and other campuses, Victoria)
- Libraries ACT (Canberra, ACT)
- Macquarie University (Sydney, New South Wales)

Figure 2. List of participating libraries
(from https://tools.wmflabs.org/ftl/cgi-bin/ftl?st=&su=Restriction+enzymes%2C+DNA&library=0CHOOSE0, accessed 23rd June 2014)

In the case of Macquarie University Library, general discussion around the idea of linking to library resources from Wikipedia came about after an address by the Executive Director of the Wikimedia Foundation, Sue Gardner at the ALIA Information Online conference in Brisbane in February 2013. Gardner strongly encouraged librarians to become Wikipedia editors and talked about the relationship between Wikipedia and libraries. But the elephant in the room (which Garner didn't address) was how to link the two.

This eventually led us to make contact with John Mark Ockerbloom. From our perspective, the process of getting set up was extremely simple. Ockerbloom just needs to know which discovery tool or catalogue a library uses and then can ensure search results for that library are available through the library resources box. After some brief correspondence we were set up in May 2013, and the possibility of linking to library resources from Wikipedia was put out to library staff.

What we did

In April 2013 one of the Research Librarians responsible for providing library support to the Department of Biological Sciences was asked by the convenor of a first-year unit to provide library instruction in one of the lectures for the unit. The unit is a first-year undergraduate unit in introductory cell and molecular biology. Research Librarians have provided library-related training in lectures for a wide range of disciplines, but it had not been done for this particular

unit before. There are two literacy-based assignments (essays) that students have to complete. Historically, significant numbers of students in previous cohorts relied on non-refereed sources of information, such as Wikipedia and YouTube. Although students were instructed on acceptable sources of information and other resources, the prevalence of information from non-peer-reviewed resources in their assignments suggested that they relied heavily on freely-available material that they found using search engines, but that they did not proceed to examine content from peer-reviewed sources.

After discussion between the librarian and unit convenor, it was decided that the library instruction would be provided during a lecture in early August. The content would focus on how to locate peer-reviewed content using the library's discovery tool (Primo from Ex Libris). In May 2013 (after the content had been decided) an email was circulated to library staff from a colleague providing details of how to link from Wikipedia articles to Primo. The unit convenor was asked if this approach could help their students, and they agreed that it would. Therefore the focus of the lecture presentation was changed to concentrate on showing students how to connect with scholarly resources available through the library from tools that they may use at the beginning of their search for information.

In order to make the project relevant to the students, the box was added to Wikipedia pages which were identified as being relevant to the assignment topics that the students had to select from. The assessment task the students had to complete was to select one biochemical method from a supplied list of 65 methods, and prepare a 500 word report describing the method and its application. A library studies student who was completing their practicum placement in the library was tasked with identifying at least one relevant Wikipedia article per topic, and adding the box to the article. It was decided that the LCSH would be used as the basis of the search string within the box. Therefore the library student also searched the LCSH to identify the most appropriate heading for each topic, and then ran the search in Primo to ensure that relevant resources were returned for each search. The box was added to 72 articles on Wikipedia during June 2013.

The box was demonstrated to the students in August 2013, during a lecture in the second week of semester. This provided the students with considerable time to undertake their literature search prior to submitting their essays, as well as opportunities to discuss with their tutors and/or the librarian any issues they may have faced. The students were shown where the library resources box is located on a Wikipedia article, and how it linked to Primo. The number of students enrolled in the unit was 550-600, and the lecture was recorded and made available on the unit's page in the university's learning management system so that students who were unable to attend the lecture would also know about the library resources box.

Results

Statistics were collected from Wikipedia (via John Mark Ockerbloom (as designer of the library resources box)) showing how many times the link to Macquarie University Library was clicked. The statistics covered the period May 2013-April 2014, and are shown in Table 1.

The pattern of usage also shows a healthy use of the library resources box. The data in Table 2 is from all the Wikipedia pages which have a library resources box, not just those which were added as part of this project. Therefore not all the usage can be attributed to the students who were shown how to use the box. However the peak in usage in August 2013 corresponds to the lecture where the box was demonstrated to them, so most of the usage in that month most likely came from these students.

Month	No. of clicks
May 2013	87
June 2013	30
July 2013	105
August 2013	308
September 2013	42
October 2013	35
November 2013	34
December 2013	38
January 2014	4
February 2014	4
March 2014	5
April 2014	33

Table 1. Number of clicks on Macquarie University Library link from Wikipedia

Students' experiences with the use of the library resource box were canvassed via an online survey, which was completed at the end of the semester. It was expected that the students would have used the resource box for two written assignments for this unit (perhaps for other units as well). Feedback was also gathered from the unit convenor and tutors regarding the quality of references used by the students in their reports. Their feedback was also collected regarding differences in the quality of references within the reports submitted by students in previous years.

A total of 256 students responded to the survey. Their responses were made on a 5-point Likert scale, where 1=completely disagree, 2=disagree, 3=neither agree nor disagree, 4=agree and 5=completely agree. A response of 4 or 5 was used to indicate a "positive" response in the following analysis. 43% used the library resources box to find resources for their report. Of these students, 56% found it easy it use (see Figure 3).

The students also found that the references they retrieved using the box were useful for their reports, with 37% giving a positive response to the question "I used most of the references I found (using this tool) in my essays" (see Figure 4). 48% of the students who used the library resources box gave a positive response to the question "I will use this tool again in my other assignments" (see Figure 5).

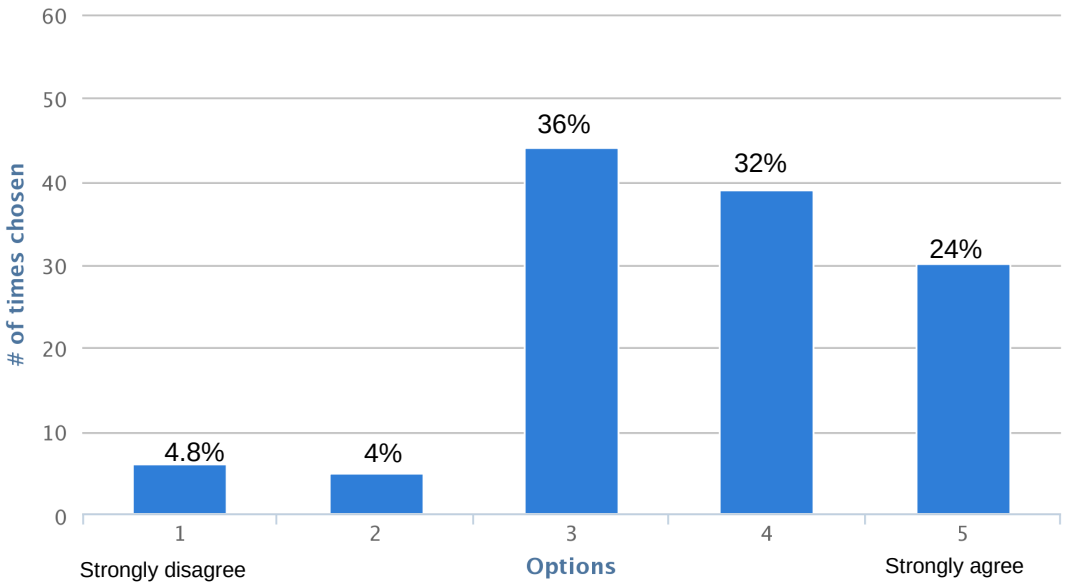


Figure 3. Number of students who found the library resources box easy to use

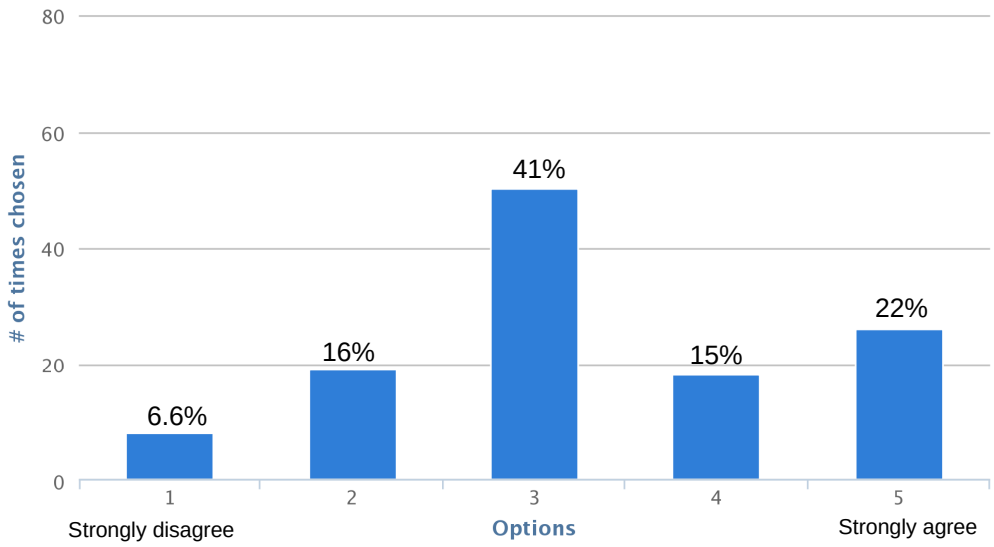


Figure 4. Percentage breakdown of responses to the question “I used most of the references I found (using this tool) in my essays “

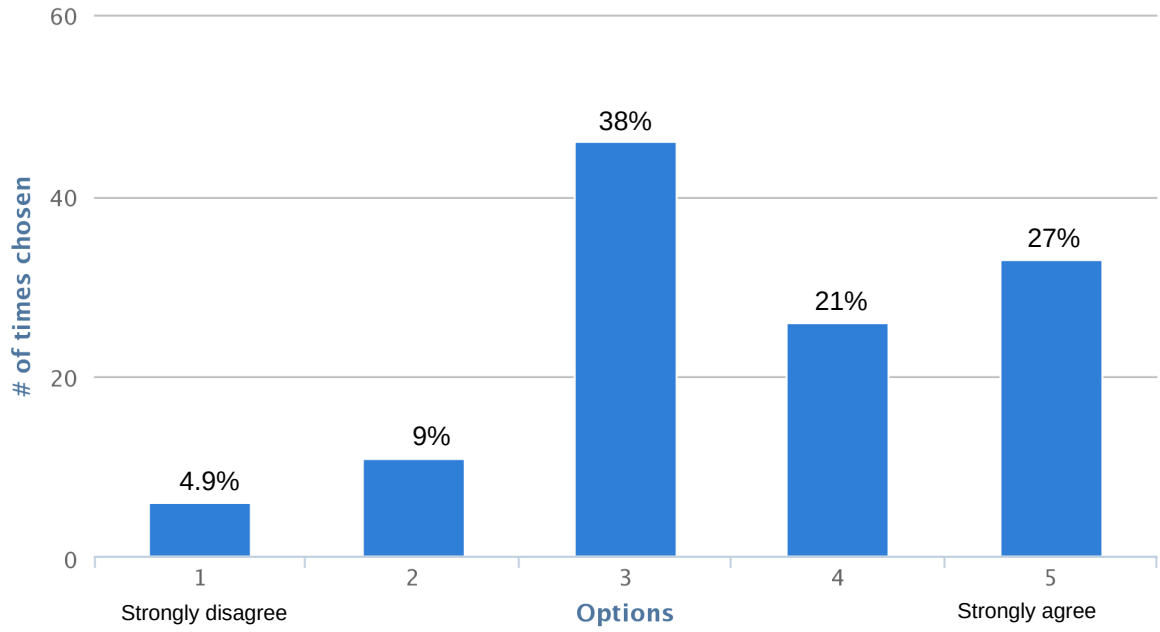


Figure 5. Percentage breakdown of responses to the question “I will use this tool again in my other assignments “

The students who did not use the library resources box had an opportunity to explain why, and 100 of them did so. One of the questions in the questionnaire was “If you did not use the library resources tool box, please state why”. Their responses were grouped into categories, and Table 2 shows the responses in each category.

Reason for non-use	% of respondents
Used other tools instead	58
Didn’t know or forgot about the box/missed the lecture	25
Hard to use/too “lazy”	7
Not necessary	6
Cautious about using Wikipedia as a reference	4

Table 2. Reasons why students did not use the library resources box

The class tutors commented on the improved quality of references that the students cited in their assignments, compared to previous cohorts. There was an increase in the proportion of references which were scholarly sources, and a reduction in the proportion of references which were non-scholarly material (S. Nair, personal communication).

Discussion

Although less than half of the students in the unit used the library resources box, some of those who did use it expressed satisfaction with it. This was expressed in comments such as:

"It's a fantastic resource"
"It's one of the most helpful stuff i[sic] ever used"
"[I]t seems like a great way to turn Wikipedia into an even more legitimate source of information. This is great for first years, we can find hunting for journal articles straight up intimidating at times"

From the comments of the students who didn't use the box, it would appear that they were satisfied using other tools to locate relevant resources for their reports. Google Scholar and Web of Science were the most commonly mentioned tools. There was also some confusion about the purpose of the library resources box, with several students commenting that they did not think Wikipedia was an appropriate source to be using for their reports. For future iterations of the training, there will need to be a clearer explanation of the role of Wikipedia as a starting point for research, rather than as a reference. The box is designed to assist the students to use Wikipedia as a doorway to easily locate scholarly sources which they can use as references.

Based on these results, we would say that this project was a success as an experiment in linking Macquarie University Library resources with relevant Wikipedia entries. Students used the box, and were satisfied with the resources that they found. However, at this stage there are no plans to actively expand this project to other units or disciplines, mainly due to the time involved in identifying appropriate Wikipedia articles and LCSH. We would be willing to implement it if asked, but we are not advertising it as a service which we offer. A short presentation on the library resources box was given to academic staff as part of the university's Learning and Teaching Week in September 2013, but no requests to implement it have been made.

What we learnt

Several issues were identified which would impact on the wider-scale implementation of the Wikipedia library resources box. Firstly, it is a time-intensive activity: - it took four days for the box to be added to the 72 articles used in the study. Consequently, to create resource boxes for the entire curriculum taught at Macquarie – or even a handful of units – would require a considerable amount of library staff time. To get around this, it would be possible to show the academic staff how to add the box to Wikipedia articles, rather than have a librarian do it

Secondly, because Wikipedia is a wiki, it can be edited by anyone. This raises the possibility of the box being removed from a page, or the LCSH which is used as the basis of the search being changed.

Finally, making a match between an LCSH and a Wikipedia article occasionally proved difficult. The fact that the pages which had the box added to them were on quite specific concepts did make it easier, and the process would not work as well for less-defined topics. It would be easier to add the library resources box to an article about an individual or location, as it would be possible to use the unique VIAF as the basis of the search. Sometimes a compromise had to be made with regards to the precision of the search within Primo. The LCSH is converted to a keyword search, which may result in a larger set of results being returned which are not as precise as the results of a subject search would be.

The link to Primo from Wikipedia may be able to direct users to the subject heading list, but they would then have to select a heading in order to view the results. The premise of the template was to take users directly to relevant resources, so adding an extra step into their workflow would be counter-productive.

There were also several benefits of using the library resources box which we identified and believe justified the work involved in implementing it. It integrates access to library resources into the typical information-seeking workflow of students. This workflow has been given the acronym GWR (Google → Wikipedia → References) (White, 2011). A student starts with a Google search, which retrieves a Wikipedia article, which has references which the student cites (but does not necessarily read). By incorporating a link to library resources within a Wikipedia article, we made it easy for students to use a tool they are familiar with and connect to resources they should be using. There is no need for them to search for information in Wikipedia, and then repeat that search in the library's discovery tool - they are able to seamlessly connect to library resources from Wikipedia itself. This may be seen as a "dumbing down" of the research process by reducing the amount of searching that students have to do. However, we are not encouraging the use of Wikipedia, but recognising that students use it, and directing them away to more appropriate resources. The students still need to evaluate the resources that they are presented with within the library's discovery tool or catalogue to ensure that they are appropriate for the specific assessment task they are completing.

In our case we implemented the library resources box for a unit which was taken predominantly by first-year students. At this stage in their study they may not be aware of the resources which are available to them through the library. This is certainly the case in other groups of first-year biology students. For example, one study found that 63% of first-year biology students were not aware of the electronic resources offered by their library (Callinan, 2005). By using the Wikipedia library resources box to connect to their library's holdings they will have a greater understanding of the vast range of resources which they are able and entitled to access.

The final benefit is an altruistic one. Once the library resources box has been added to a Wikipedia article, any Wikipedia user can click the link and be taken to the list of participating libraries. They will be able to view the search results of any library they select, and if they are affiliated with that library they will be able to borrow or view the items. Implementing the library resources box has benefits for the communities served by the hundreds of libraries from around the world who have registered their catalogue or discovery tool with John Mark Ockerbloom, as well as the wider Wikipedia community.

Conclusion

Students found the use of the library resources box to be useful for their literature searches. By redirecting them to peer-reviewed resources, students were able to produce higher quality assignments. The students were also able to seamlessly connect to scholarly sources from Wikipedia, thus saving them time and effort. After using Wikipedia as an initial exploratory tool, students were able to extend their discoveries to peer-reviewed information sources. Students who did not use this tool indicated that they preferred to use other accepted resources (e.g. Google Scholar) and databases (e.g. Web of Science). The library resources box is a new tool that libraries can use to ease the pain that many students may experience when they try to access library resources, and it allows students to better appreciate the vast range of resources provided by their library. Rather than viewing Wikipedia as the enemy, libraries should see it as another doorway that students can enter during their search for information.

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