ReITerating research skills through open textbooks:
a case study from UQ Library

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Abstract:
Open education resources (OERs) are popular as tools for enhancing educational experiences, as they are adaptable, interactive, and inexpensive. In the last 12 months, librarians from The University of Queensland (UQ) have created two OERs for the disciplines of Law and Music. Designed in conjunction with academics to address gaps in students' research skills, the OERs curated and reimagined information from the library's existing resources to create dynamic and discoverable teaching tools. This paper presents the two Research essentials texts as case studies to demonstrate the benefits to consolidating and reinvigorating learning materials in the form of open textbooks.

Introduction

Encouraging students to actively participate in the learning process has become a key focus in the higher education sector (Olivier & Rambow, 2023). Open education resources (OERs), including open textbooks, which are interactive and can be reused and remixed, are increasingly being adopted in the classroom to facilitate active learning (DeRosa & Robinson, 2017). Open textbooks have the added benefits that they:

- remove financial barriers for students (Fischer et al., 2015)
- contribute to Sustainable Development Goal 4: Quality education, by making access to learning resources more equitable (Urbancic et al., 2023).

According to Tillinghast (2020), there are four conditions required for open textbook creation:

1. a grant program or funding
2. the tools to create and host the textbook
3. a dedicated team working on the textbook
4. policies for tenure and promotion that value OERs as scholarly projects.

The University of Queensland (UQ) Library has the first three of these four conditions (see **Table 1**).

In the last 12 months, Librarians at UQ have been involved in writing and publishing two open textbooks:

- *Legal research essentials* (2023)
- *Music research essentials* (2024).

Both resources were created following separate conversations with academics from the Schools of Law and Music who identified the need for a learning resource that provides students with scaffolded instruction on how to navigate the complex primary and secondary resources unique to their disciplines. To fill this identified need the Library created open textbooks that curated and reimagined information from our existing resources covered by Creative Commons (CC) licenses. In doing so, the Library was able to:

- consolidate information dispersed across webpages, LibGuides and learning management systems (LMS) into one high quality resource
- position ourselves as both subject matter experts and experts in the creation of digital learning objects
- connect with our staff and students
- meet our strategic goals of embracing technologies, connecting people with information, building information literacies, and building community.

This paper explores *Legal research essentials* (2023) and *Music research essentials* (2024) as case studies to demonstrate the benefits of reITerating Library content into open textbooks.

Table 1. Open Textbooks at UQ Library

Tillinghast's (2020) condition	UQ	Notes
A grant program or funding	✓	Two levels of grants offered to staff: • $2000 to substantially adapt an existing open textbook • $4000 to create an open textbook that replaces a commercially published text.
Tools to create and host the textbook	✓	Access to Pressbooks[i] through: • membership of the Council of Australian University Librarians (CAUL) OER collective • UQ Library's institutional subscription
A dedicated team working on the textbook	✓	Digital Learning team: • set up the Pressbook shell • distribute and archive author agreements • provide copyright support • proofread content • mint an ISBN and DOI • publish the open textbook • promote the resource through internal and external channels. Members of the Faculty Services Librarian (FSL) team: • advise on written content or contribute as co-authors • create interactive material including H5P[ii] • provide copyright support.
Policies that value OERs as scholarly projects	✗	• No UQ-wide policy.

Table 1. Table showing the ways that UQ satisfies three of Tillinghast's (2020) four conditions for open textbook creation.

Case study 1: Legal research essentials
Why create an open textbook?
UQ Library plays an important role in supporting staff in the School of Law to teach legal research skills. Generally, this support has taken the form of:

- [Library guides](#) (we have 9 for the School of Law)
- [website content](#)
- videos (for foundational law units only)
- in-person classes (for foundation law units only).

The need for a comprehensive resource for all program levels was identified by academic staff on the Law Teaching and Learning (T&L) Committee in 2021. While the Library's existing resources were well used, they:

- were dispersed across multiple platforms
- in the case of the videos, quickly became out of date with changes to the interfaces of legal databases
- did not include interactive materials for students to test their understanding
- did not offer options for students using assistive technology
- in the case of the videos and in-person classes, were not made available to all law students.

In response to this identified need, the Outreach Librarian for Law, with the advice and assistance of the Manager, Library Digital Learning, put forward a proposal to create an open textbook that would:

- consolidate the Library's resources
- require less frequent updating
- incorporate interactive elements
- provide alternative formats compatible with assistive technology
- be available to all law students.

This proposal was supported by Law School's Director of T&L and the T&L Committee and the open textbook was subsequently developed. It was approved by the Law School without any suggested changes and published on 27 November 2023.

RelTerated content
Legal research essentials originally comprised four online modules on UQ Library's website. This provided the foundation for CAUL's Pressbook *[Legal research skills: An Australian law guide](#)* (2023 edition), which was a collaborative project, led by Alice Luetchford and Annette Messell from James Cook University, in partnership with librarians from:

- The University of Queensland Library
- University of Southern Queensland Library
- Charles Darwin University Library
- Southern Cross University Library
- Queensland University of Technology Library
- Deakin University Library.

As the CAUL Pressbook was CC licensed, UQ Library cloned *Legal research skills: An Australian law guide* (2023 edition) to provide a framework for *Legal research essentials* (2023). The UQ Pressbook incorporates information from our Law LibGuides and videos supplemented with additional training materials from vendors, links to the Library's subscription materials, screenshots and interactive H5P.

Benefits of reITerating into an open textbook
Connecting people to information

By consolidating our legal research resources into a single textbook, the Library can effectively connect students with information. *Legal research essentials* (2023) covers all aspects of researching and writing assignments including:

- the legal research process
- using UQ Law library
- different types of law assignments
- creating effective search strategies
- referencing using the Australian Guide to Legal Citation (4th edition)
- finding primary and secondary sources
- a brief introduction to the Queensland and Australian legal systems.

As this learning resource filled a need identified by the Law School, *Legal research essentials* (2023) has been readily adopted by teaching staff. This is in contrast to the Library's guides, website content, and videos, which were seen as Library tools and adopted on an ad hoc basis. The resource is promoted to students by teaching staff and is embedded in their digital workflows including:

- the LMS
- course reading lists.

Students can also find the text through:

- Library search
- Open Textbooks @ UQ
- Google.

In the first four weeks of semester one, 2024 *Legal research essentials* (2023) received 1,432 visits and 6,360 page views (Koko analytics[iii], accessed 13 March 2024). In this time, most users were finding the resource through Library search, followed by Google and the LMS (Learn.uq) (see **Table 2**).

Table 2. Top referral sites for *Legal research essentials*

Referrers	Visitors	Page views
web.library.uq.edu.au	497	1011
Google.com	514	581
Learn.uq.edu.au	138	245

Table 2: The top sites users accessed Legal research essentials *from between 14 Feb to 13 Mar 2024.*

This data indicates that *Legal research essentials* (2023) has achieved good brand awareness. While students may not always be aware the resource is linked on their LMS, they are actively searching for it through the Library and Google.

Building information literacies

When creating *Legal research essentials* (2023), the content was arranged to follow the legal research process taught at UQ. This had the dual aim of providing:

- UQ Library and teaching staff with a textbook that can be used in the classroom
- students with a self-paced module.

As a result, the text has become a valuable teaching tool for Librarians and teaching staff. For example, in February 2024 a Business, Economics, Law/Humanities, Arts and Social Sciences (BEL/HASS) Learning and Research Services (LARS) Librarian taught three legal research skills sessions to a cohort of eight international post-graduate students undertaking Fundamentals of the common law. *Legal research essentials* (2023) was used as the textbook for this component of the course. The Librarian demonstrated how to find the text and referred to relevant chapters on the lesson slides. In contrast to our Library guides, website material, and videos, the textbook offers detailed explanation of legal research skills. Students can also clarify and test their understanding using:

- quizzes
- interactive hot-spot images
- videos
- instructional screenshots.

The three sessions were run on 19, 20 and 26 of February and the students submitted a take-home exam relating to research skills on 29 February. Use of the textbook was high during this period and peaked on 27 February with 117 visitors and 659 page views (see **Figure 1**).

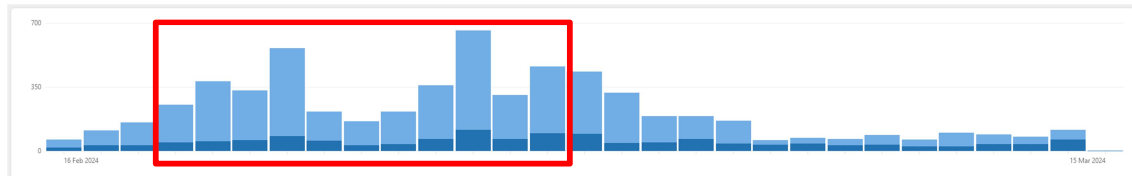**Figure 1. Usage of *Legal research essentials* 16 February to 15 March.**

Figure 1: Bar graph showing the total visitors (dark blue) and page views (light blue) for the period 16 Feb to 15 Mar 2024. The period during which the legal research skills sessions were run (19 to 29 Feb) is highlighted in red.

There was a noticeable improvement in the quality of the students' exam responses compared to the previous cohort. While the exam questions were simplified before this course, the usage data indicates the students frequently referred to *Legal research essentials* (2023) to clarify and test their understanding of the content.

Building a community

While this open textbook was Librarian authored, taking the initiative to create this resource in response to the Law School's needs positioned UQ Library as experts in both legal research and creating digital learning objects. When a draft of the open textbook was circulated to academic staff for feedback, there were no suggested changes. Teaching staff have responded positively to the open textbook, with the course coordinator of the Fundamentals of common law stating the text is "cutting edge… I had noticed the changes on the BB site inc [sic] the pressbook resource – all excellent".

Being an open text means the book can also be used outside UQ to build a community of practitioners with a strong knowledge of legal research. _Legal research essentials_ (2023) has been included on the University of Tasmania's Law library guide in a section 'Recommended Legal Research Guides (Other Universities)'. This has been the fifth highest referral site for the text (Koko analytics, accessed 13 March 2024) and it is hoped that it has aided students' understanding of legal research.

Challenges

The publication of _Legal research essentials_ (2023) coincided with substantial changes to the interfaces, names, and search features of two large legal databases. While this posed a challenge when drafting the content, open textbooks can easily be edited even after publication. UQ Library staff continue to monitor databases for changes and adjust the content as needed.

In creating _Legal research essentials_ (2023), we included text, image, and video to cater to different learning needs. However, getting permission from legal publishers to use screenshots of their platforms was challenging. While public organisations such as the Incorporated Council of Law Reporting, Queensland were responsive to our requests and even suggested additional content, the owners of proprietary databases were not. While, in some cases, this led to us not including visual examples, we were generally able to include links to publishers' training materials in either PDF or video format.

It has also been challenging to benchmark the success of _Legal research essentials_ (2023) against our other resources, as the usage statistics across the platforms are not comparable. Additionally, we have retained resources including our Legal research LibGuide and provide links to the guide within the open textbook. Therefore, while the number of views of the guide remains high, this is not indicative of the non-success of _Legal research essentials_ (2023). Ideally, in the future we would also collect qualitative feedback from our users to inform our evaluation of the textbook.

Future directions

The experience of using _Legal research essentials_ (2023) in the classroom provided valuable insights into where the Pressbook can be improved including expanding the sections on:

- case law
- finding legislative materials in Queensland and other jurisdictions
- the structure of the Australian legal system.

The usage statistics support these changes, as 'What is case law?' was the most visited page, with 533 unique visitors and 681 page views in the period 14 February to 13 March 2024 (Koko analytics, accessed 13 March 2024), and 'Introduction to legislative research' had 204 visitors and 263 unique views over the same period (Koko analytics, accessed 13 March 2024) (see **Table 3**).

Table 3. Top 5 most viewed pages

Page	Visitors	Views
What is case law?	533	681
What is legal research	425	602
Cover	301	500
Introduction to legislative research	204	263
Introduction to secondary sources	208	263

Table 3: The top 5 most viewed pages in Legal research essentials *(2023) by number of visitors and views (14 Feb to 13 Mar 2024).*

As we are consolidating our Law Library guides, there is also the potential to integrate information relating to:

- international law
- mooting
- Indigenous people and the law.

This would help to further consolidate the Library's resources and support staff to Indigenise the curriculum as part of UQ's Reconciliation Action Plan.

Case study 2: Music research essentials
Why create an open textbook?

In 2022, discussions were held with an academic from the School of Music around creating an open textbook that provides students with foundational research skills. The academic teaches a core first-year, first-semester course that all students studying the Bachelor of Music (Honours) (dual or single degree) must complete. He identified that first-year students struggle with:

- creating effective searches
- finding information from reputable music databases
- evaluating sources, e.g. music score editions and online resources
- structuring and referencing assignments.

Prior to the discussions, the Library had been delivering up to ten face-to-face information literacy classes to tutorial groups within this course each year. This was a significant time investment by the Librarians delivering the classes, and the tutors handing over valuable face-to-face class time. Creation of the open textbook commenced at the end of 2023, and was published in time for semester one, 2024.

RelTerated content

Music research essentials (2024) was cloned from *Legal research skills: An Australian law guide* (2023 edition). The structure of *Legal research skills* provided a useful framework, as both disciplines use primary and secondary materials in their research. Content for *Music research essentials* (2024) was curated from UQ Library's CC licensed resources including:

- two Library guides for Music
- Library guide for peer-review sources
- *Digital essentials* online modules
- Library's web pages on creating a search and evaluating sources
- Library's YouTube channel.

With permission from the academic, information relating to formatting and referencing assignments was adapted from the UQ School of Music's style guide.

Benefits of reITerating into an open textbook
Connecting people to information

Information resources that specifically address the unique materials and sources involved in music research (scores, uniform titles, urtext editions) existed, but were distributed across different School and Library websites, platforms and mediums. The academic and tutor team, who are actively using the book in the classroom, appreciate that the text brings together all these resources. The tutor stated:

> the best thing about it [*Music research essentials*] is that it's a one-stop-shop… I can say to my classes 'Go to this resource and the things you need are all waiting for you there'. Now that the resource exists and we have access to it, I'm not sure how we taught this last year without it!

Students can access the text through:
- the course reading list
- the LMS
- Music subject guides
- UQ Library search
- Open Textbooks @ UQ.

The course had 84 students enrolled as of 14 March 2024, which represents all first-year students enrolled in the Bachelor of Music (Honours) and students from other programs undertaking this course as an elective. Within the first four weeks of semester, the book received 151 visitors and 1,053-page views (Koko analytics, accessed 15 March 2024). While most referrals came from Google (not necessarily all UQ), students were also connecting to the book from the Talis course reading list (see **Table 4**).

Table 4. Top referral sites for *Music research essentials*

Referrers	Visitors	Page views
Google.com	40	49
Rl.talis.com	19	26

Table 4: The top sites students most frequently accessed Music research essentials *from (19 Feb to 15 Mar 2024).*

This may reflect students' preferred method of searching Google first (Porter, 2011), but also indicates the course reading list is a popular tool for resource discovery. As the open textbook was published in week one, links in the LMS course site and course reading list were delayed. Active use of the textbook in tutorials began in week three (March 4, 2024).

Building information literacies

Information literacy instruction has always been an important part of this first-year music course. The creation of an open textbook has reduced the burden of presenting multiple information literacy classes while retaining the benefit of embedded information literacy within the course.

A critical skills gap the academic wanted to address was the importance of using the Library's resources rather than free online tools including Spotify, YouTube, and International Music Scores Library Project (IMSLP). As undergraduate students tend to believe the first link in a list of results is the most relevant or the 'best' (Porter, 2011), the open textbook includes information on how to critically evaluate sources through:

- written content
- H5P activities highlighting the difference between resource types and checking understanding of primary and secondary materials
- screenshots highlighting key features of Library search
- quizzes to test students' knowledge of the content.

As not all primary materials required for music assignments exist in a digital format, it is also important for music students to know how to use the physical collection in the Architecture and Music (ARMUS) Library. One of the key features of the textbook discussed from the outset of the project was the inclusion of a virtual tour of the ARMUS Library. This was an opportunity for Library staff to embrace new technologies as they created a 360° virtual tour using Adobe Photoshop and H5P software. An additional video, H5P module, and text module on the Library of Congress classification system were included to make the information accessible to a variety of learners.

Usage statistics indicate the content and organisation of the open textbook fits well with the learning and assessment tasks for this course. The students' first assessment (due at the end of week four) tested their skills in locating, selecting, evaluating and referencing sources (Electronic course profile, semester one, 2024). As demonstrated in **Table 5,** the most accessed chapters for the period 19 February to 15 March, which coincided with the first assessment task, are in Part I of the book and relate to:

- creating searches
- music sources
- using the Library
- evaluating material (Koko analytics, accessed 15 March 2024).

The chapter Formatting your assignment (Part IV), which includes an exemplar essay, has also been well used (see **Table 5**). This section was identified by the course tutor when reviewing the open textbook as a great asset for demonstrating the required elements of music assignments.

Table 5. Top 10 most accessed chapters of *Music research essentials*

Page	Part	Visitors	Views
Cover	NA	197	278
Music research essentials	Front matter	99	130
Creating a search strategy	I	74	96
Common research-based assignments	I	52	73
Formatting your assignment	IV	48	53
Sources for research in music	I	29	36
Architecture and Music Library (ARMUS)	I	26	32
Evaluating sources	I	27	31
Introduction to researching music	I	26	28

Table 5: The most viewed pages of Music research essentials *from 19 Feb to 15 Mar 2024 by number of visitors and views.*

Building a community
This project was a collaborative effort and enabled UQ Library staff to work closely with academics in the School of Music. The project team for *Music research essentials (2024)* included:

- a UQ School of Music academic
- the Outreach Librarian for the School of Music
- two BEL/HASS LARS Librarians
- a member of the Digital Learning team.

Everyone brought their own specialist knowledge to the project including:

- subject-matter expertise
- knowledge of the Pressbooks platform
- experience in creating H5P modules and videos
- knowledge of accessibility requirements
- experience with proofreading and editing.

The team met regularly over the course of the project and created strong connections through the exchange of ideas.

The peer-review process also provided an opportunity to connect with the course tutor. They were enthusiastic about the book and particularly keen to use it in their teaching stating: "Looking forward to talking about this with students".

Challenges
The integration of interactive features in the textbook raised concerns over accessibility. Despite our best efforts, we were unable to offer the virtual tour in a screen-readable format. In addition, there was some discussion regarding whether links should open in the same tab (recommended for accessibility) or a new tab (recommended for usability). In the end, accessibility won, as the team felt it was most important to provide a positive experience for students using screen readers.

Similar to case study one, challenges were also faced when trying to quantitatively evaluate usage of the open textbook compared with the existing resources that were reITerated as part of the project.

Future directions

While the Library's involvement with *Music research essentials* (2024) is largely complete, the academic plans to add to the textbook and would like to have it adopted in both undergraduate and postgraduate courses. At this point, additions to the Pressbook will be driven by the academic, with support provided by the Library as needed.

Conclusion

These case studies demonstrate that open textbooks benefit both organisations and stakeholders as they provide:

- a central location where users can find the information they need
- a resource that incorporates interactive elements that can be used to enhance an understanding of the content
- an opportunity to create strong relationships with key stakeholders.

Most GLAM institutions have strategic goals or aims that can be used to justify a similar project such as:

- providing access to high quality resources
- enhancing information literacy
- engaging with key stakeholders
- using technologies in innovative ways.

While UQ has the financial, technological, and human resources needed to create open textbooks, other GLAM organisations can draw on:

- internal and external grants to fund OER projects
- existing open textbooks to provide a structure or framework
- experts within the organisation who have experience with content writing, copyright, editing, and digital content creation.

UQ Library's *Research essentials* open textbooks would not have been possible without the support of our Law and Music academics and the excellent work of the team behind *Legal research skills: An Australian law guide* (2023 edition).

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Endnotes

[i] Pressbooks is an open textbook platform created by WordPress.

[ii] H5P is an abbreviation for HTML5 Package: https://h5p.org/

[iii] Koko analytics is Pressbooks' inbuilt metrics tool: https://networkmanagerguide.pressbooks.com/chapter/review-analytics-options/