Open Educational Resources and the Teacher Librarian

By Karen Malbon

> **Snapshot**
>
> Karen Malbon explores, in this case study what teacher librarians, in two different countries, know about Open Educational Resources (OER) and how these teacher librarians are supporting teachers to integrate OER into their teaching.

Context

In an ever expanding digital ecosystem for learning, Open Educational Resources (OER) have emerged. OER were introduced to higher education in 2001 and have become part of the tertiary learning landscape (Weller, de los Arcos, Farrow, Pitt & McAndrew, 2015). More recently, the kindergarten to year twelve (K-12) education sector has begun exploring the potential uses of OER. Teacher librarians are educators and information specialists, therefore they have the skills and knowledge to be leaders in the discovery, curation and promotion of OER in their schools (Welz, 2017). This case study aims to explore what teacher librarians, in two different countries, know about OER and how they are supporting teachers to integrate OER into their teaching. The case study is guided by the following research question and sub-questions:

Research Question

What beliefs do secondary teacher librarians in Australia and the United States of America (USA) have about Open Educational Resources (OER) and what strategies, tools and OER repositories are they using to discover, curate and promote OER to teachers in their schools?

Sub-questions

- Are secondary school teacher librarians in Australia and the USA aware of OER?
- Do teacher librarians share a common understanding of the definition of OER?
- What are the barriers and benefits for teachers in using OER?
- How is access to OER changing the role of teacher librarian?
- How do the strategies, tools and OER repositories used by secondary teacher librarians differ between the two countries?

OER and Teacher Librarians

The researcher is a teacher librarian and acknowledges that her professional experiences may shape her analysis and interpretations. The researcher identified two main objectives of the case study:

- To personally gain a greater understanding of OER in the K-12 education sector through the lived experiences of teacher librarians.
- To share teacher librarian's stories of OER with the wider teacher librarian community.

There are several definitions of OER, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) describes OER as any educational resource that is openly available to educators and students without the requirement to pay royalties or licence fees (Butcher, 2015) and The William and Flora Hewlett Foundation define OER as

> Teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge (Weller, de los Arcos, Farrow, Pitt & McAndrew, 2015).

OER meet the 5Rs framework whereby users can retain, reuse, revise, remix and redistribute content (National Copyright Unit, n.d.). The most common framework for open licensing is Creative Commons whereby the author "seeks to retain copyright over that work, but agrees - through the licence - to give away some of those rights" (Butcher, 2015, p. 8).

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The growth in OER has been facilitated by web 2.0 technologies that make it easy to repurpose and share digital resources (Butcher, 2015). It is clear from both definitions that OER have the potential to transform educational practices.

Teacher librarians are experts in finding and collecting authoritative resources in print and digital formats to support the curriculum.

Teacher librarians are uniquely qualified within schools as both educators and information specialists. Teacher librarians are experts in finding and collecting authoritative resources in print and digital formats to support the curriculum. Teacher librarians have the skills to evaluate information and the tools to curate it for teachers and students, therefore teacher librarians can be leaders in OER and provide professional development for teachers (Welz, 2017).

In the USA the GoOpen (See Appendix A) initiative was launched in October 2015 to encourage school districts to use openly licensed educational resources to fill resource gaps in the curriculum and as an alternative to expensive textbooks. (Valenza, 2016). There is no such initiative in Australia, however many government education departments and the non-government sector are beginning to license their resources under Creative Commons (National Copyright Unit, n.d.). OER adoption is far from mainstream, it is an evolving area that can be challenging to navigate (Throgmorton, 2017).

Structure

Literature Review

A literature review of OER use in K-12 schools and by teacher librarians was conducted using the Charles Sturt University Library, Google Scholar and internet search engines. Scholarly articles were scarce for the K-12 education sector and literature featuring the Australian context were rare, indicating a void in the literature. A recent United States Department of Education campaign called GoOpen (to encourage the use of OER) was noted in the literature and served as the impetus for further reading, and the curation of useful resources using the curation tool Pearltrees (See Appendix B). A case study timeline (See Appendix C) was proposed and used to manage the case study process.

Research Question

After the literature review, a research question was proposed and went through a collaborative peer review process using the collaborative tools Flipgrid and Voicethread. Feedback on the viability of the research question and the data collection methodology was provided. The research question was refined several times after feedback, and the data collection process was altered.

Data Collection and Metrics

An exploration of what teacher librarians in Australia and the USA are doing today in their schools with OER was of interest. Consequently, a descriptive case study was chosen because it can describe a phenomenon in a real-life situation (Yin, 2014). To gain an understanding of the phenomenon, a qualitative research methodology using multiple sources of data (Baxter & Jack, 2008) was identified as the most appropriate way to explore the research questions. Two data sources were chosen, short semi structured interviews with six teacher librarians as shown in Table 1 and document analysis of six LibGuides (digital library content management system) as shown in Table 2. It was thought that short structured interviews would allow the teacher librarians, three in Australia and three in the USA, to tell their story and the analysis of online documents (LibGuides) would show what is currently happening in the digital space of three school libraries in Australia and three school libraries in the USA.

Name (pseudonym)	Country	Experience in school libraries (years)
Caroline	Australia	15
Max	Australia	20
Michelle	Australia	15
Steven	USA	16
Kelly	USA	5
Tanya	USA	5

Table 1 Interview subjects

School Label	Country
A High School	Australia
B High School	Australia
C High School	Australia
D High School	USA
E High School	USA
F High School	USA

Table 2 LibGuides documents

Fourteen structured interview questions were developed to address the research questions and fit into a thirty minute time frame (See Appendix D). Voicethread and Twitter were used to obtain peer feedback on the interview questions and this resulted in some minor changes being made. A spreadsheet titled LibGuides Document Analysis Checklist was created for the document analysis of six school library LibGuides (See Appendix E).

The researcher approached members of her personal learning network (PLN) using email and Twitter and asked for their participation. Recruiting three Australian teacher librarians was an easy task but it was more challenging finding three teacher librarians from the USA. A connection from the USA, made during an online global collaboration with between Charles Sturt University (Australia) and Rutgers University (USA), recommended two potential subjects from her PLN. Twitter was also used as a recruitment tool but proved to be unhelpful despite the use of relevant hashtags and handles of influential people in the school library community. The third interview subject was approached via an email address listed on a blog post.

Interviews were scheduled to occur within one week from September 11 to September 17. Two interviews were conducted in person, three using Google Hangouts and one using email. The email interview was a compromise after a last minute interview cancellation from the USA. Audio of all interviews were recorded using the voice memos application on the iPhone. The length of interviews ranged between twenty five and forty minutes and provided sufficient data for analysis. The interviews were transcribed into a Word document and uploaded to NVivo (software for qualitative research). A code map (See Appendix F) was created and the documents were coded according to the code map words.

Six LibGuides were selected randomly from the openly accessible LibGuides Community for analysis, three from Australia and three from the USA. The LibGuides Document Analysis Checklist was used to record evidence of OER.

Analysis

Teacher Librarians Beliefs of OER: understanding, attitude and role of the teacher librarian

It appears from the six teacher librarians interviewed and the document analysis conducted that teacher librarians have been aware of OER for some time, however only more recently

has the term OER become part of their vocabulary. All teacher librarians shared a similar understanding of the definition of OER as educational resources that are free and available online, as summarised in Table 3. This understanding mirrors the UNESCO definition of OER mentioned earlier (Butcher, 2015). Of the six LibGuides examined, the term open educational resources or OER was absent. OER resources found were referred to as free educational resources or as Creative Commons resources. The link OER has with Creative Commons licensing and less stringent copyright restrictions indicated that in this case, teacher librarians are able to distinguish openly licensed works from the "broader swathe of content on the web" (White & Manton, 2011, p. 4). This link was also mentioned by Steven when he described OER as a "silo of open resources that educators can use freely and can remix and reuse for whatever they need for their class" (personal communication, September 15, 2017) and Caroline said that OER "does not have copyright issues attached to it, it has the share-alike element of Creative Commons" (personal communication, September 11, 2017). Although the OER movement began in 2001, it is still in its infancy compared to other educational movements (Weller, de los Arcos, Farrow, Pitt & McAndrew, 2015) and therefore the terminology may not be well known.

Name	Aware of OER term (years)	Keywords used to define OER	Attitude towards OER
Caroline	3	Educational, Creative Commons, share	Positive
Max	3	Free educational resources	Positive
Michelle	5	Free online resources	Mostly positive
Steven	1	Free open resources for reuse and/or remix	Positive
Kelly	3	Free online educational resources created by teachers	Positive
Tanya	5	Free resources	Positive

Table 3 Interviewees' awareness of OER terminology and attitude towards OER

The teacher librarians' attitudes towards OER were overwhelmingly positive but some did express reservations. For a summary see Table 3. Michelle said "I think it is a case-by-case scenario" (personal communication, September 13, 2017) and Max said "I am weighing up what is commercially provided and what in a sense is free and freely available" (personal communication, September 12, 2017). The ability to share educational resources "by teachers for teachers" (Kelly, personal communication, September 16, 2017) was important to Steven, Caroline and Kelly. Overall, the interviewees felt that, when chosen wisely, OER added valuable digital content to the curriculum that can be "interactive, current, dynamic and relevant" (Kompar, 2016, p. 58). The adoption of digital learning environments in schools is the "perfect storm of change" (Johnson, 2014) and could make OER a more attractive option for the course needs of teachers than traditional resources such as textbooks.

Teacher librarians have a great deal of experience finding and collecting print and digital resources (Welz, 2017). Teacher librarians are educators and information specialists, so they possess the skills to evaluate information, curate it and present it in a meaningful way for teachers and students (Throgmorton, 2017). It is not surprising that when the following question was posed, what is the teacher librarian's role in OER and why?, that the interviewees spoke of the aforementioned qualities and skills of teacher librarians.

Max (personal communication, September 12, 2017), Michelle (personal communication, September 13, 2017) and Caroline (personal communication, September 11, 2017) all stressed that teacher librarians are information specialists who understand the curriculum and can therefore support teachers who may be time poor by finding and evaluating relevant OER.

Kelly believes teacher librarians should be "at the forefront of openness and advocate for OER" (personal communication, September 16, 2017) by hosting professional development to raise awareness of OER. Her opinion is shared by academic, Joyce Valenza who has called upon teacher librarians to be ready to take up a curation mandate for OER as it gains momentum from the GoOpen campaign (Valenza, 2016). Similarly, Caroline said teacher librarians are experts in copyright and should be advocating for ethical use of intellectual property. OER provides an avenue for having "tough conversations with teachers about open licensing and copyright infractions" (Throgmorton, 2017). Research by White & Manton (2011) has indicated that professional development can promote the values of sharing, reuse and intellectual property by showing teachers the benefits of OER rather than coercing them to use them.

... teacher librarians are experts in copyright and should be advocating for ethical use of intellectual property.

Also related to the teacher librarian's role are the strategies they employ to curate and promote OER and these will be discussed later in this report.

Challenges of OER: Barriers and benefits

Teacher librarians from both countries identified time constraints as the most significant barrier for the adoption of OER by teachers. Teachers have many demands on their time and to learn about OER requires a substantial time investment, at least initially. Traditional resources such as textbooks are seen as an easier option because they have already been through a review process, whereas OER need to be evaluated individually by teachers (Steven, personal communication, September 15, 2017). Another barrier commonly mentioned by interviewees from both countries was lack of awareness of OER by teachers (Tanya, personal communication, September 20, 2017). Caroline was concerned that many teachers are using resources unethically because they do not understand the licensing conditions of copyright and Creative Commons (personal communication, September 11, 2017). Max (personal communication, September 12, 2017) thought that teachers with limited information and communication technology (ICT) skills might be overwhelmed by the vast number of resources available and hindered by less

than user friendly search interfaces. Max's concern is validated by research conducted by the Commonwealth of Learning (COL) that found the "main barriers to the mainstreaming of OER [is] user's capacity to access, reuse and share OER" (2017, p. 8) and by Thompson (2016) who states that user experience design of OER platforms needs improvement so that teachers and students can find content easily. Steven says a way of overcoming these barriers is for teacher librarians to "go out and advertise the services we can offer...with our flexible schedules [we] could be part of the solution" (personal communication, September 15, 2017). Collaboration with the classroom teacher, embedding OER into lessons and leading by example are methods Max (personal communication, September 12, 2017) and Caroline (personal communication, September 11, 2017) use to raise the profile of all library resources, including OER, to their teachers.

> ## ... go out and advertise the services we can offer...

The teacher librarians identified three benefits OER could have for teachers. Firstly, OER provide an alternative to using textbooks that can date quickly and are often expensive. Secondly, the flexibility of open licensing allows teachers (and students) to reuse, revise, remix, redistribute and retain content using the 5Rs Framework (National Copyright Unit, n.d.). Thirdly, the teacher librarians

> ## ... OER provide an alternative to using textbooks that can date quickly and are often expensive.

from the USA noted that many OER are created by teachers and are aligned with curriculum standards so they are ready for immediate use. These benefits, coupled with a digital learning environment or learning management system, provide teachers with a myriad of options for delivering digital content and for designing courses if they have the necessary ICT skills (Kompar, 2016) and support.

Strategies Employed by Teacher Librarians: OER discovery, curation, promotion and repositories

Connected educators cultivate personal learning networks by forging relationships with the people they interact with through Twitter and other social media. A PLN can offer support and advice when required (Nussbaum-Beach & Ritter Hall, 2011). The most popular tool for discovering OER in this case study was Twitter, closely followed by blogs. Michelle commented that personal recommendations by members of her PLN were highly valued because she was aware of their reputation and trusted their judgment (personal communication, September 13, 2017). Tanya follows educators through Twitter and blogs and looks to her PLN for recommendations and advice when searching for OER (personal communication, September 20, 2017). The JISC-funded OER Impact Study (2011) also found that peer networks and offline recommendations were important and suggests that educators with a social model of knowledge (such as those interviewed for this case study) may be more comfortable sharing and reusing OER. Kelly (personal communication, September 16, 2017) and Max (personal communication, September 12, 2017)

also suggested that reading scholarly articles was a good way to discover and learn more about OER, while Steven found it easier to go directly to the repository *OER Commons* as a "one-stop-shop" (personal communication, September 15, 2017).

According to Joyce Valenza teacher librarians have always "been around to tame the information flow, to facilitate discovery and knowledge building" therefore "digital curation is a translation and amplification of our traditional practice" (2017, para. 11). The teacher librarians in this case study use a variety of curation strategies to organise, annotate and present carefully selected resources to their teachers and students (Kanter, 2011). LibGuides and the library website were favoured as curation platforms and the place to house custom built research guides, also known as hyperdocs, for particular topics or courses. Learning management systems such as Google Classroom and OneNote were also utilised to share resources with faculty (Michelle, personal communication, September 13, 2017) and "to go where the kids are" (Steven, personal communication, September 15, 2017).

Regardless of their country of origin, the teacher librarians in this case believed talking to individual teachers directly was the best approach for promoting OER so that specific curriculum needs could targeted using a blend of OER and commercial resources. Speaking at faculty meetings and conducting professional development were other strategies preferred by the interviewees. Evidence from the *JISC-funded OER Impact Study also suggests that* "staff development activities provide an effective avenue to promote the value of sharing and reuse" (White & Manton, 2011, p. 27). Caroline also highlighted that it was important that teacher librarians are OER role models and "do it and create content by example" (personal communication, September 11, 2017).

Research by the Commonwealth of Learning (2017) found that there was a low awareness of OER repositories amongst stakeholders. The teacher librarians and the LibGuides analysed in this case indicate that teacher librarians are more aware of OER repositories than those stakeholders. The number of repositories named by the interviewees and listed on LibGuides did however vary between individuals. F High School explained Creative Commons but did not provide curated lists of OER, whereas all the other schools did. Common repositories were used in both countries, alongside more locally specific ones. Repositories that were not strictly OER and contained licensed or copyrighted material also featured and emphasised the need for careful curation by teacher librarians. Table 4 lists all repositories mentioned by interviewees and featured on LibGuides.

Repository	Country of interviewee or LibGuide	Uniform Resource Locator (URL)
ABC Splash (provided for personal, non-commercial use but retains copyright)	Australia	http://splash.abc.net.au/home#!/home
British Library via Flickr* (mostly Public Domain but exceptions)	Australia	https://www.flickr.com/photos/britishlibrary/albums
Burst*	Australia	https://burst.shopify.com/
CCMixter*	USA	http://ccmixter.org/
Compfight (contains copyrighted work and Creative Commons)	USA	http://compfight.com/
Coursera (provided for personal, non-commercial use but retains copyright)	Australia	https://www.coursera.org/
Creative Commons	Australia	https://search.creativecommons.org/
Curriki	USA	http://www.curriki.org/
Digital Citizenship course	Australia	http://www.digitalcitizenship.nsw.edu.au/
Edsite (provided for personal, non-commercial use but retains copyright)	USA	https://www.edcite.com/
EduPic*	Australia	http://www.edupic.net/
EngageNY	USA	https://www.engageny.org/
Europeana (contains copyrighted works and Public Domain)	Australia	http://www.europeana.eu/portal/en
FlickrCC*	Australia	https://www.flickr.com/creativecommons/
Free Music Archive* (mostly Creative Commons but exceptions)	USA	http://freemusicarchive.org/
Free Sound*	USA	https://freesound.org/
Gooru	Australia	https://www.gooru.org/welcome/
Imagebase*	USA and Australia	http://imagebase.net/
Khan Academy (mostly Creative Commons but exceptions)	USA and Australia	https://www.khanacademy.org/

Repository	Country of interviewee or LibGuide	Uniform Resource Locator (URL)
Library of Congress (contains copyrighted works and Public Domain)	USA	http://memory.loc.gov/ammem/index.html
The Moving Image Archive	USA	https://archive.org/details/movies
New York Public Library Digital Collection (contains copyrighted works and Public Domain)	USA	https://digitalcollections.nypl.org/
Open Culture	Australia	http://www.openculture.com/
OER Commons	USA	https://www.oercommons.org/
OpenEd (provided for personal, non-commercial use but retains copyright)	USA	https://www.opened.com/
Open Photo*	USA	http://openphoto.net/
Photos for Class*	Australia	http://www.photosforclass.com/
Pics4Learning*	Australia	http://www.pics4learning.com/
Pixabay*	USA and Australia	https://pixabay.com/
Project Gutenberg	Australia	https://www.gutenberg.org/
The Public Domain Review	USA	http://publicdomainreview.org/
Scootle	Australia	https://www.scootle.edu.au/ec/p/home
Share my lesson	USA	https://sharemylesson.com/
State Library of Victoria (Contains copyrighted works and Public Domain)	Australia	https://www.slv.vic.gov.au/contribute-create
StockVault*	USA and Australia	http://www.stockvault.net/
Ted (mostly Creative Commons but exceptions)	USA and Australia	https://www.ted.com/
TedEd (mostly Creative Commons but exceptions)	USA and Australia	https://ed.ted.com/
Trove (mostly Creative Commons but exceptions)	Australia	http://trove.nla.gov.au/

Repository	Country of interviewee or LibGuide	Uniform Resource Locator (URL)
UnboundEd (mostly Creative Commons but exceptions)	USA	https://www.unbounded.org/
U.S. Government Photos (mostly Public Domain but exceptions	USA	https://search.usa.gov/search/images?affiliate=usagov&query=
Wikimedia Commons	USA	https://commons.wikimedia.org/wiki/Main_Page
Wylio*	USA	https://www.wylio.com/
YouTube (contains copyrighted works, Creative Commons)	Australia	https://www.youtube.com/

Table 4 Repositories mentioned by interviewees and LibGuides

Conclusion and Recommendations

Openly licensed OER give teachers a flexible alternative to many commercial resources and the potential for personalised learning in a blended learning environment (Butcher, 2015).

OER complement existing print and digital resources but can be difficult to find and must be carefully evaluated. OER is an emerging global phenomenon in K-12 education and of interest to connected teacher librarians who are writing blogs, conducting webinars and writing articles to encourage other teacher librarians to embrace OER and become leaders within their schools (Valenza, 2016). The teacher librarians in this case are connected educators who do not yet consider themselves OER experts, but are willing to learn more about OER and confront the challenges of what can be a confusing information landscape for teachers and students. OER provides opportunities for teacher librarians all over the world to redefine their role and be the OER experts in their school. "We need to advertise and talk it up and we have to be willing to go where the teachers are" (Steven, personal communication, September 15, 2017). This case study recommends that teacher librarians take the lead and play a vital role in advocating for the adoption of OER by collaborating one-on-one with teachers, conducting professional development and by curating high-quality content that meets the diverse needs of their school communities.

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Appendix A.

GoOpen Districts

https://tech.ed.gov/open/districts/

Appendix B.

Pearltrees: Open Educational Resources

http://www.pearltrees.com/karenmalbon/open-education-resources-oer/id18065630

Appendix C.

Case Study Timeline

Case Study Timeline	
Date	**Activity**
29 Jul	Preliminary research on case study topic
03-05 Aug	Post ideas to Flipgrid and receive feedback
08 Aug	Literature review
11 Aug	Case study proposal submitted
13 Aug	Case study approved
13 Aug	Rethink case study after Julie's feedback and make adjustments
13 Aug	Post proposal on my blog
14 Aug	Curation of resources on the topic
16 Aug - 2 Sep	Use social media and PLN to source six interviewees
3-5 Sep	Confirm interview times
4 Sep	Write questions & seek feedback on Twitter & Voicethread
6 Sep	Make minor adjustments to interview questions
7-10 Sep	Select open Libguides - 3 from US & 3 from Aus ???
10 Sep	Create LibGuides document analysis checklist
10 Sep	Follow up two unconfirmed interview times using Twitter/email
10 Sep	Test Google Hangouts and screen capture for recording
11 Sep	Ask for feedback on Libguides document analysis checklist on Twitter and Voicethread
11-17 Sep	Conduct interviews
11 Sep	Elicit feedback from first interview subject on interview process. No changes required. Interview went smoothly
13 Sep	
14 Sep	Due to cancelled interview with Bonnie (pseudonym) USA - sent email with interview questions to a new subject, Tanya (pseudonym)
17-18 Sep	Transcribe interviews
18 Sep	Review LibGuides using document analysis checklist
20-21 Sep	Code interviews in NVivo
22 Sep	Start writing

Appendix D.

Interview Questions

Could you briefly describe your school, your position and how long you have worked in school libraries?

1. What does the term Open Educational Resources (OER) mean to you?
2. Approximately how long have you been aware of OER?
3. How did you become aware of OER?
4. Currently, are your feelings towards OER in high schools, positive or negative? Why?
5. Have your feelings towards OER in high schools changed over time? Why do you think this is so?
6. What do you think are the benefits to teachers of using OER?
7. What do you think are the barriers to teachers of using OER?
8. What types of OER are most suitable for high school teachers?
9. How do you you search for and discover OER?
10. What are your favourite tools for discovering OER?
11. Which OER repositories do you use? Why?
12. How do you organise and curate OER?
13. How do you promote OER to teachers?
14. What is the teacher librarian's role in OER and why?

Appendix E.

LibGuides Checklist

https://docs.google.com/spreadsheets/d/1l1QuBYMbBcpBY8QPB_0xbimAUbBUWNE5JjHAokkQHqA/edit?usp=sharing

Appendix F.

NVivo Code Map

https://drive.google.com/file/d/0B59poWODULJPZm5DbFd5dnoxSWs/view?usp=sharing