# Wikimedia and Libraries: From Vision to Practice

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## INTRODUCTION

The vision statement of the Wikimedia Foundation states, "Imagine a world in which every single human being can freely share in the sum of all knowledge."[1] If libraries had a shared mission statement, it would be something similar.[2] Despite this shared mission, librarians sometimes discount Wikipedia as being unreliable, low quality, and a competitor to library services. Because of the scale and prominence that Wikipedia occupies in an information discovery context, when librarians disregard or devalue the opportunity to partner with Wikipedia and the other Wikimedia projects, they may be missing an opportunity to leverage the omnipresence of this gentle giant in the online world.

But it's not just about what Wikimedia projects can bring to libraries. We can view the relationship between Wikimedia and libraries as a partnership that can create more opportunities to strengthen shared information access goals. Libraries benefit from partnering with the Wikimedia community to improve content quality while ensuring that library services and collections are more visible on the open web. Wikimedia projects likewise benefit from the research, reference, and information literacy skills and resources provided by librarians and libraries.

## We can view the relationship between Wikimedia and libraries as a partnership that can create more opportunities to strengthen shared information access goals.

This paper examines a few suppositions that some librarians have about Wikipedia, and also makes an argument for the many positives that Wikimedia projects have to offer to the library and information sector, such as scale, mission alignment, and—surprising to some—attention to quality. As illustrative examples of positive partnerships with Wikimedia, I'll share OCLC's direct experience with a globally connected community of librarians and Wikimedians working in common purpose. These also serve as examples of how librarians can collaborate with one another to learn new skills that can help propel the profession forward.

## What in the Wiki? An Overview of Wikimedia Projects

Before we go any further, I will offer some definitions to help map this territory. Wikipedia, the best known tip of the Wikimedia iceberg, was launched in January 2001. In addition to Wikipedia, there are a host of other related open knowledge projects such as Wikimedia Commons (a repository of freely usable media files), Wikisource (a repository for texts), and Wikidata (a metadata repository).[3] These projects act to support one another: for example, a Wikipedia article may draw metadata from Wikidata and show images from Wikimedia Commons, as well as link to related texts in Wikisource.

Apart from the Wikimedia projects, I will also refer to Wikibase.[4] Wikibase is the open source software that underlies Wikidata. Wikibase is also rapidly drawing interest and attention because of its capabilities as a linked data platform: it boasts built-in multilingual support, presents a simple and intuitive editing interface, supports bulk editing and import functions, provides native support for the powerful SPARQL query language, and overall enables relative ease in creating and consuming linked data.[5]

Beyond content and infrastructure, the Wikimedia universe represents what participants call a "movement." The Wikimedia Movement is the moral backbone that both supports the projects representing concrete outputs and rests on a set of values supporting freedom of information and open sharing of knowledge.[6]

## Why Should I Care About Wikipedia?

In case you are not convinced that librarians joining forces with Wikimedia projects is worthwhile, I'd like to spend some time unpacking what makes Wikipedia worth your time and attention.

### IT'S ABOUT SCALE

Wikipedia is immensely popular. It is regularly in the top 10 of most-visited websites globally (according to the website rating firm Alexa), and attracts up to 15% of internet traffic every day. In January 2020, English Wikipedia received 9.9 billion views over the course of the month[7]; even a smaller Wikipedia such as Italian received over 6.8 million views in the same time period.[8] These numbers are impossible to ignore. Your library patrons are using Wikipedia weekly if not daily; if they are not going there directly, they are following a highly-ranked search engine link that leads them to Wikipedia.

> [Wikipedia] is regularly in the top 10 of most-visited websites globally.

### IT'S ABOUT VISION

Wikipedia was launched in January 2001 with a vision of a resource that provides every person free access to knowledge in their own language. Over time, hundreds of thousands of people from around the world have worked to build and maintain the content, which includes over 52 million articles in more than 280 languages. From English Wikipedia, which tips the scales at over 6 million articles, to 200 articles in Choctaw (an Indigenous language of the Southeastern United States), this content is free for all to use.

## IT'S ABOUT PEOPLE

All work that is done on Wikipedia is carried out by passionate volunteers. These people, Wikipedians, not only do the editing, but also establish and maintain protocols and processes that support growing the knowledge base and help keep the information credible (in addition to free and open). Although there are over 38 million registered user accounts on English Wikipedia, there are just over only 138,000 "active" registered users (that is, users who have made an edit in the last 30 days).[9] The Wikimedia Foundation exists to support the activities of all the Wikimedia projects and employs around 350 people. It relies on grants and donations to help keep servers up and running and to support projects that are of global interest. There are also dozens of Wikimedia Chapters and other "affiliates," which all have their own infrastructure to help support more local activities. The Wikimedia universe is so complicated that it is a wonder it runs at all, and yet it does, fueled by the passion of the those that contribute their time and energy.

## MIND THE GAPS

Wikipedia, as giant as it is, has some obvious flaws. There is a narrow demographic representation among Wikipedia contributors; for example, English Wikipedia contributors are overwhelmingly male.[10] There also are significant gaps in content on Wikipedia. Content gaps include topics related to gender—only 17% of articles that are about people are about women.[11] Due to systemic bias, many topics, people from underrepresented populations, and entire geographic areas are similarly underrepresented. One such "gap" area on Wikipedia are articles that relate to librarianship, which have either been neglected or have yet to be written. As of when I'm writing this paper, the article on the Alaska Library Association is only five sentences long,[12] important topics like Interlibrary Loan are also given short shrift, and an article on the National Library of Chad does not exist, to name a few examples.[13] Libraries, which serve broad and diverse communities, may be able to help support "gap" initiatives to expand representation in Wikipedia.[14]

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## WHAT ABOUT QUALITY AND RELIABILITY? DOES WIKIPEDIA COMPETE WITH LIBRARIES?

The question of reliability and quality is one that comes up again and again. A now-famous 2005 study published in the journal *Nature* found that Wikipedia's scientific articles approached the level of accuracy of the same articles in *Encyclopædia Britannica*, and that those articles had a similar rate of "serious errors."[15]

Those of us who are active in editing Wikipedia would be hard-pressed to say that the entirety of the resource is of high quality. But Wikipedia is a resource unlike others; you are seeing a work in progress rather than a final, polished product. This being the case, Wikipedia has challenges with substandard articles; where quantity has soared, quality has not kept up. You may be unaware that Wikipedians have their own process for peer review, and only a relative handful of articles have made it through the rigorous process to become a "featured" or even a "good" article. The rest are in various stages of development. Wikipedia articles rest on the notion of verifiability, and by its own measure, the project has some ways to go—there are currently

over 413,000 "citation needed" tags in articles. Each one of these tags indicates the need for a quality source to back an assertion made in an article.

The overall quality of Wikipedia has not prevented it from being useful. Indeed, its popularity makes the case for its utility. Instead of asking, "Should Wikipedia be used," the more generative question is, "How can Wikipedia be used?" I hope it is not too obvious to state that it is best used as an encyclopedia, which is a helpful jumping-off place for more serious inquiries, and is a resource that can lead a user deeper into a research journey. So, let's stop saying "don't use Wikipedia," but instead encourage appropriate use.

## Wikipedia is a great starting point for research, while libraries are the source of sources.

So does Wikipedia offer "competition" to libraries? The answer is a clear "no." Wikipedia is a great starting point for research, while libraries are the source of sources. Although libraries offer reliable public access points to knowledge, their collections and services are relatively invisible on the open web compared to Wikipedia entries. Since the mission of libraries and the Wikimedia Movement are so closely aligned, librarians are well advised to be curious about Wikimedia projects and explore how these projects can help with libraries' own mission to expand access to the universe of open knowledge. This paper explores just some of the ways that those librarians are contributing to Wikimedia projects, capitalizing on the notion of mission alignment.

## The OCLC WebJunction *Wikipedia + Libraries: Better Together* Project—Librarians in the Wikiverse

Let's take a look at the OCLC WebJunction *Wikipedia + Libraries: Better Together* course for some examples of how librarians are successfully incorporating Wikipedia into their practice.[16] Since 2003, WebJunction has been the online learning place for US public libraries and has been of vital importance for library staff to build skills and find support in a profession that is rapidly evolving. WebJunction courses are geared toward the needs of adult learners already in the workplace who seek to sharpen or develop skills. This target audience generally has limited time, and they need skills that they can apply in their current jobs or workplace.

To plan and produce the OCLC WebJunction *Wikipedia + Libraries* course, we were fortunate to receive funding from the John S. and James L. Knight Foundation and the Wikimedia Foundation.[17] This project included a research phase, the design of the course, the online course itself (which took place between September – November 2017), and a post-course evaluation and reflection phase. The funding allowed us to hire our Wikipedian-in-Residence, Monika Sengul-Jones. Monika collaborated with the WebJunction team, and I took on the role of subject matter expert on the project team. At that time, Monika was a PhD candidate in Communications with a real passion for listening and learning—exactly what we needed for this project. I am deeply indebted to Monika for her work, which is at the heart of this part of the paper.

Our program had three goals for participating library staff:

1. Engage and empower their community members to build information literacy skills and to access and create knowledge

2. Raise the visibility of their libraries and their unique, local collections

3. Build their own digital, critical thinking, and community engagement skills, and encourage their colleagues to do the same

The "WebJunction way" puts the "why" before the "how." In this course, we spent very little time on the mechanics of editing Wikipedia (there are ample materials available about how to edit Wikipedia). Instead, we spent time covering behind-the-scenes topics like policies and social norms on Wikipedia. We also connected Wikipedia to work that librarians already do. If we wanted librarians to see themselves in Wikipedia, we needed to give them very good examples of what librarians with similar responsibilities are doing. "Show, don't tell" was something we tried to model in this course.

The project was also supported by the volunteer Wikipedia community from the beginning. As we developed the initial grant proposal, OCLC sought advice and support from the New York and Washington DC Wikimedia Chapters, as well as from individual editors who had experience working with librarians. Partnering with Wikipedians proved important to our overall success, and we invited several to serve as Wikipedia Guides during the course. The project team supported our online learners both in online chat during class time (using the WebEx platform) and in an active discussion space (on Moodle), which was a supplement to class time. In both spaces, our Guides were important voices, giving our learners a close-up view of the very human side of Wikipedia. Many of our Wikipedia Guides were also librarians with experience on Wikipedia, or what I will call "Wikibrarians." Two Guides were from the State Library of Queensland in Australia, showing the international reach of the Wikipedia project.

A pre-course survey conducted with potential course attendees informed our directions. The survey revealed that attendees' priorities were to:

• Increase information literacy

• Improve access to authoritative information online

• Support research and critical thinking skills

• Raise visibility of their libraries, communities

• Enrich community programs

We also learned that 70% of our participants had never edited Wikipedia previously.

In interviewing librarians who were already actively engaging with Wikipedia, we found that few of them were comfortable with the label of "Wikipedian," instead viewing themselves as "librarians who Wikipedia."

To inform the development of the course, Monika conducted interviews with "Librarians who Wikipedia." I'd like to introduce two of the librarians that were featured in this interview series to you.[18]

### Susan Barnum, El Paso Public Library, Texas

Meet Susan Barnum, a reference librarian at the El Paso Public Library in Texas. A few years ago, a colleague from a local history museum asked for reference materials about Chihuahuita, a historic neighborhood in El Paso. Chihuahuita is one of the oldest parts of El Paso and sits directly on the US-Mexico Border on the banks of the Rio Grande River. It is a neighborhood marked by poverty and is on the list of endangered places compiled by the US National Trust for Historic Preservation.[19]

Susan could have done what a lot of us might have done, which is to compile a list of references and send them to her museum colleague. But as an active Wikipedia editor she noted that there was no Wikipedia article on Chihuahuita. So, she created the article and shared that with her colleagues.[20]

To Susan, this made sense. As a reference librarian, she said, "writing the Wikipedia article makes this information available to everyone; it has longevity and visibility."

### Bob Kosovsky, New York Public Library, New York

Bob Kosovsky works as a curator in the New York Public Library with music collections. Bob began to edit Wikipedia in 2009. He was doing research on late nineteenth- and early twentieth-century sheet music. The name of one composer, Woolson Morse, surfaced repeatedly, but Bob couldn't readily locate biographical information regarding Morse so he began research in earnest. Once he had assembled the information, Bob created a comprehensive biographical article on Wikipedia.[21] Bob observed, "When I [published] that article, other editors made some alterations; but no one deleted it, they made it better. And I thought, 'Wow, that is what one can do with Wikipedia.'" Working in his capacity as a curator, Bob put the information he compiled in a place where others could benefit from it. Bob's impulse was: "Why not do this in Wikipedia so that it will help other people, too?"

As experienced Wikibrarians, Bob and Susan served as Guides and guest instructors in the *Wikipedia + Libraries: Better Together* course. Overall, we engaged 23 active Wikipedians who assisted on the project as advisors (who helped to shape course content), guest presenters, and/or Guides. Our Guides attended and presented in course sessions and contributed to chat, answered questions on discussion boards in Moodle, and even made themselves available for one-on-one consultation. This level of partnership helped the project meet its goals and also served our learners who got to see the human side of Wikipedia. The Wikibrarians offered assistance in topics ranging from assessment of article quality, how to avoid conflicts of interest, approaches to filling gaps on Wikipedia, and answering questions about the editing basics.

## COURSE OUTCOMES

So, with all this support, what were the OCLC WebJunction *Wikipedia + Libraries* course outcomes? The 236 course attendees who edited Wikipedia made over 5,900 edits to improve 799 articles. They also created six new articles and uploaded 369 photos to Wikimedia Commons (we didn't cover Wikimedia Commons in our course, so this was a surprise). At the conclusion of the class, there had been 36.1 million views of the improved articles. Keeping in mind that 70% of our participants had never edited Wikipedia before the course launched—and that we never taught the mechanics of editing—these are impressive numbers.

Our course was devised so that participants could gain skills that would help them be self-directed in terms of how they might use their learnings. As a final project, course participants were asked to develop an engagement plan for themselves and their libraries: 86 of our participants did so.

I'd like to introduce some of our course participants and talk about what they did after the course concluded.

### Kim Gile, Kansas City Public Library

Kim Gile is a community reference manager at the Kansas City Public Library (KCPL). Jazz is an important part of the history and culture of the city. She noticed that articles related to notable musicians, particularly women, who had a connection to Kansas City Jazz were missing from Wikipedia. She saw this as an avenue to create an engagement opportunity and a way to amplify knowledge about Kansas City Jazz. Kim proposed a series of editing events to raise the visibility of the city's rich musical cultural heritage in conjunction with the nearby American Jazz Museum. The event included herself and other KCPL staff members, as well as participants from the African American community her library serves.

Kim had her eyes opened during the course: "We've been told not to use [Wikipedia], and never to tell patrons to use it," she explained. "I used to think the same thing, but I'm glad to say that my mind is completely changed." She now sees that there is a role for the library to help with Wikipedia being a "robust resource for everybody."

### Denise Davis and Tom Boeche, Morton-James Public Library

Denise Davis and Tom Boeche are librarians at the Morton-James Public Library. The course helped them rethink their approach to teaching research skills. Every year, students in Nebraska City, Nebraska, come into the library to prepare for National History Day, a nationwide historical writing competition. After getting the go-ahead from the class teacher, Denise used the eighth graders' list of research topics to find complementary Wikipedia articles.

Denise used skills acquired in the course to explain to the students how to understand a Wikipedia article and where to go next. She said this process was helpful for them to understand how to be critical consumers of information. The students then met with Tom for the next steps in the research process, a walk-through of library catalogs and the stacks.

In the end, "the teacher was very pleased," Denise said. In fact, the teacher was so pleased that they asked the librarians to speak with the school about the value of the online encyclopedia; at the time, the platform was blocked for students, and they couldn't use it at school.

Denise explained that she used to disparage Wikipedia. "Now I consider myself a convert. I am pushing its value to help students be critical consumers of information."

### Karen Kast, Eagle Mountain City Public Library

When Karen Kast, from Eagle Mountain City Public Library—a small, rural library in Utah—took the *Wikipedia + Libraries* training program, she quickly connected the dots between Wikipedia and librarianship. When we checked in with her three months later, transformations for Karen and her library were underway. Karen was organizing Wikipedia training sessions with her colleagues and helping patrons use Wikipedia effectively for research. Her spark of inspiration was to share what she had learned about Wikipedia in the course with her library colleagues.

**Jean King, West Hempstead Public Library**

Finally, meet Jean King, an adult reference librarian at West Hempstead Public Library in New York. Her post-course plan was to continue to edit from the reference desk on relevant topics for her community. Jean says, "I like that I can add sources that are credible, and I am able to find information using my databases that others don't have immediate access to."

Note that the engagement plans are varied. This outcome is very different than if we had led a class on how to edit Wikipedia, or how to run an edit-a-thon, or how to prepare for a campaign like #1lib1ref.[22] The partnership we formed with Wikipedians who acted as guides, and who demonstrated how varied their own activities are on Wikipedia, helped to set the tone for our course participants.

The *Wikipedia + Libraries* course materials are available freely on the WebJunction website and we invite you to explore and use the materials yourself. However, keep in mind that our research was done with US public library staff, and their needs may not meet the needs of your community. Additionally, the materials were developed for English language Wikipedia, and other Wikipedians may have different norms and policies. Finally, the course relies on subject matter experts—Wikibrarians—to help bring life to the materials.

Some of you may be wondering how adaptable the materials from the course are, and how much work it might take to use them in your circumstances. In 2019, OCLC was invited to partner with the National Network of Libraries of Medicine to adapt these materials to develop a spin-off course for public library staff seeking the skills to assess the reliability of medical information found in Wikipedia and to improve the health information literacy of their patrons. To meet this request, the WebJunction team almost entirely revised course materials to be better suited for the specific needs of topics related to medicine and health, which are held to a very high standard on English language Wikipedia and adhere to very specific policies. Although we already had the materials from the original course in hand, adapting these materials for a new subject area was an intensive undertaking. So depending on your needs and context, you should think about which portions of the course are relevant, and which may need to be revisited.

# Linked Data and the Wikidata / Wikibase Revolution

I'm going to shift gears now and talk about linked data for resource description and discovery and look at the role that Wikidata and Wikibase play in our future. The story of Wikipedia and linked data is still being written here, so perhaps in a few years we can look together at how the story ends, or continues. Regardless, this is a story of how partnering makes us stronger.[23]

OCLC has been contributing to the Wikidata community since Wikidata launched. The foremost example was a project to embed library identifiers in Wikidata using VIAF (the Virtual International Authority File) as a hub for that activity. In 2013, OCLC, together with the Wikidata community, updated over a quarter of a million Wikidata records to include library authority identifiers, including VIAF, LCCN, GND, etc. Wikidata is also included as a source in VIAF, strengthening the ties between library authority data and Wikidata.

OCLC was not alone in experimenting with Wikidata. OCLC has conducted three International Linked Data Surveys for Implementers. Together, these surveys show change over time in the linked data implementation space. One of our major findings has been the surge in libraries using Wikidata as a linked data source, from a rank of #15 in 2015 to #5 in 2018.[24]

As library interest in Wikidata grew, OCLC hosted an OCLC Research Works in Progress Webinar introducing Wikidata for librarians conducted in June 2018.[25] This is one of the most popular webinars we've ever hosted, both in terms of attendance and views online, further illustrating the growing interest on this subject in the field.

> ## From a library perspective, Wikidata can support a wide range of applications, from authority control to resource discovery to scholarly communications.

An open question in this expanding area is where librarians fit into the Wikidata ecosystem. From a library perspective, Wikidata can support a wide range of applications, from authority control to resource discovery to scholarly communications. Indeed, librarians are warmly welcomed into the Wikidata world, but many librarians have struggled to figure out how Wikidata can support their day-to-day practical needs.[26] Since 2017, OCLC has piloted three initiatives exploring the potential partnership between librarianship and Wikidata for advancing linked data: Project Passage (2017-18),[27] CONTENTdm Linked Data Pilot (2019-20),[28] and creating a shared entity management infrastructure (2020-21).[29]

### PROJECT PASSAGE

Project Passage was a librarian-to-librarian collaborative effort exploring the real-world needs of catalogers and other metadata professionals. It provided a sandbox for hands-on experimentation, allowing participants to collaboratively ask and answer practical questions, such as, "How do I create a linked data representation for the resource I am looking at right now?" and "How does this new process compare with the method I may have already used to describe the resource?" Indeed, pilot tests of original description with linked data have been conducted by the Library of Congress and others, but Project Passage had a distinctive focus: this pilot met catalogers where they are, with resources on their to-do lists, which can be described either in the existing paradigm or a new one.

The formal objectives of Project Passage were to:

- Evaluate a framework for reconciling, creating, and managing bibliographic and authority data as linked data entities and relationships

- Build a community of users who could create and curate data in the ecosystem and imagine or propose future workflows

Like Wikidata, Project Passage was built on Wikibase. Wikidata was considered, but the pilot organizers opted for using a new and separate instance of Wikibase for managing the project data. This decision was motivated by the following:

- Interests in evaluating the software, its customization and configuration options, and its scalability expectations that the pilot would be experimenting with new property entities associated with bibliographic entities, which might not be relevant to, or accepted for inclusion in, Wikidata within the timeframe of the project

- Concerns about managing privacy for the participants' data, which was experimental in nature and not necessarily intended for publication

- An awareness that notability requirements for Wikidata may differ from those for library community resources

Our report on the project was published in 2019, co-authored by 10 of the 16 project participants, and chiefly focusing on several use cases.[30] These use cases revealed patterns or archetypes in a pool of common knowledge. Some quotes from participants help to underscore the value that catalogers derived from the experience. One participate reported, "Project Passage was the very first Linked Data project that felt like it wholly encapsulated the values that we—as library catalogers and metadata folk—hold dear." Another said, "Project Passage was the first post-MARC production environment that has the look and feel of what I do with my existing workflow."[31]

## CONTENTDM LINKED DATA PILOT

CONTENTdm is a digital collection management system that OCLC has distributed to libraries since 2002. The digital collections space represents a range of challenges vis-à-vis linked data. The CONTENTdm Linked Data Pilot project[32] focused on developing the scalable methods and approaches needed to produce richer, state-of-the-art machine representations of entities and relationships to make visible connections in these digital collections that were formerly invisible. Goals for the pilot were to:

- Convert existing record-based metadata into linked data by replacing strings of characters with identifiers from known authority files and local library-defined vocabularies

- Manage the resulting entities and relationships

- Publish the graph of entities and relationships

Like Project Passage, the CONTENTdm Linked Data Pilot was a librarian-to-librarian partnership, focused on the specific needs around migrating descriptive practices to an entity-based model, with the end goal of increasing discoverability and sensemaking.

In the project's first phase, which wrapped in December 2019, the team migrated partner metadata from CONTENTdm into the linked data cataloging platform, a Wikibase instance. The project developed several tools and features and refined them with participant input. A second phase of the project automated the data loading and reconciliation workflows for partners "focused on a needs assessment and prototypes for managing metadata in the Wikibase environment."[33] Finally, a third phase tested the end-user discovery experience based on the data and tools developed within the Wikibase environment. Like Project Passage, the CONTENTdm Linked Data Pilot was a librarian-to-librarian partnership, focused on the specific needs around migrating descriptive practices to an entity-based model, with the end goal of increasing discoverability and sensemaking. And again, participants enjoyed the process of learning together. One reports, "One of the things [OCLC is] offering is a way to have fun [and view] quite literally a window into new ways of thinking about what we do."[34]

## TOWARD AN ENTITY MANAGEMENT INFRASTRUCTURE

With financial support from The Andrew W. Mellon Foundation, OCLC set out in January 2020 to develop a "Shared entity management infrastructure" that will support linked data management initiatives underway in the library and scholarly communications community.[35] When complete, this infrastructure will be jointly curated by the community and OCLC and will ultimately make scholarly   materials more connected and discoverable on the web. The project will focus on creating entities for persons and creative works. The project is being carried out in close collaboration with the Linked Data for Libraries (LD4) project and member libraries globally.

This shared entity management infrastructure builds on lessons learned from librarian-to-librarian collaboration in the projects detailed earlier, with the goal that the shared entity management infrastructure will be useful for a broad range of libraries and other cultural heritage organizations. It is designed to support—and be useful in—a variety of workflows, including those based on standards such as AACR2, RDA, and BIBFRAME.

OCLC anticipates offering a range of options for access to the entity infrastructure, including publishing the URIs and metadata for the entities via the web and APIs to expand the adoption and integration of these entities in workflows in and outside of the library. The entity infrastructure also will provide methods for people to edit, enrich, and add to this set of entities. Wikibase was our initial technical platform for that collaboration. But platform alone is not the thing that makes a partnership strong. Strong, successful partnerships are built on clearly articulated goals, deadlines, and defined roles.

Wikidata is and will continue to be an important source of identifiers, alongside other systems built and maintained by libraries and other communities. So, where does the Wikimedia community sit in librarian-to-librarian partnerships? The Wikimedia  community has articulated a vision of a federated Wikibase ecosystem, and indeed, we have seen a very strong interest in the adoption of Wikibase as a platform, not only by the OCLC member community, but also by a range of national libraries and similar organizations. Wikidata is one of those Wikibase entities and will continue to play a strong and central role.

# NOTES

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5.  See ARL White Paper and Project Passage Report:

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6.  Wikimedia Meta-Wiki. "Wikimedia Movement." Updated 1 May 2021, at 12:28. https://meta.wikimedia.org/wiki/Wikimedia_movement.

7.  The numbers in this paper are from early 2020.

8.  Wikimedia Statistics. "Monthly Overview." Accessed 9 July 2021. https://stats.wikimedia.org/.

9.  English language Wikipedia keeps a number of statistics, among them active registered users. This number varies over time and this number was accurate when this paper was first drafted in early 2020. https://en.wikipedia.org/wiki/Special:Statistics.

10. There have been various attempts to define the demographic characteristics of Wikipedia editors over time. Recent research puts the number of males editing Wikipedia at between 80 and 90 percent. https://en.wikipedia.org/wiki/Gender_bias_on_Wikipedia.

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12. Wikipedia: The Free Encyclopedia. "Alaska Library Association." Updated 18 February 2021, at 21:30. https://en.wikipedia.org/wiki/Alaska_Library_Association.

13. Wikipedia: The Free Encyclopedia. "Interlibrary loan." Updated 27 December 2020, at 20:12. https://en.wikipedia.org/wiki/Interlibrary_loan.

14. For discussion on systemic bias and ideas about how libraries can contribute to filling gaps see Doyle, Kelly. 2018. "Minding the Gaps: Engaging Academic Libraries to Address Content and User Imbalances on Wikipedia." In *Leveraging Wikipedia: Connecting Communities of Knowledge,* edited by Merrilee Proffitt, 55-67. Chicago: American Library Association.

15. Giles, Jim. 2005. "Internet Encyclopaedias Go Head to Head: Jimmy Wales' Wikipedia Comes Close to Britannica in Terms of the Accuracy of Its Science Entries." *Nature* 438 (7070): 900–1. https://doi.org/10.1038/438900a.

16. Detailed information about the project and outcomes can be found on the OCLC website as well as on the Wikimedia Foundation website:

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