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Teaching Linked Data Principles Through Virtual Wikidata Edit-a-thons

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WESTERN MICHIGAN UNIVERSITY
University Libraries

INTRODUCTION

Linked Data and the Semantic Web is often identified as targets for continuing education by cataloging and metadata professionals in libraries. Our regional Linked Data interest group formed to address this need, focusing on boosting awareness and educational opportunities for library workers of both public and academic libraries of all sizes.

However, with limited release time and funding for continuing education, **professional development opportunities need to be designed with learner needs in mind: free, flexible, and fun.** In 2022, the group began hosting an annual virtual Wikidata edit-a-thon to provide a free, flexible, and hands-on way for participants to learn Linked Data principles through the creation and editing of Wikidata, Wikimedia's open knowledge base of structure data.

The flexible format used synchronous video conferencing, detailed online documentation, independent editing days for hands-on learning, and opt-in community discussion via Slack. Individual and project progress was tracked with the Wikimedia Event Dashboard.

This poster proposes the **Wikidata edit-a-thon as an ideal method** to fulfill a professional development need of library staff by introducing participants to the principles of Linked Data through this flexible and interactive event.

Indiana and Michigan Schools		Home	Editors	Items	Uploads	Activity
Class	Title	Chars Added	References Added	Views	Assessment tools	
	State University of New York <small>(history) (article development)</small>	19089	23	52		+/-
	Clark County School District <small>(history) (article development)</small>	14422	3	24		+/-
	Airport Community Schools <small>(history) (article development)</small>	13882	22	9		+/-

INSTRUCTIONAL DESIGN

This online professional development opportunity was designed to be a **constructivist learning environment**, where participants were able to build their knowledge of Linked Data through an interactive activity.

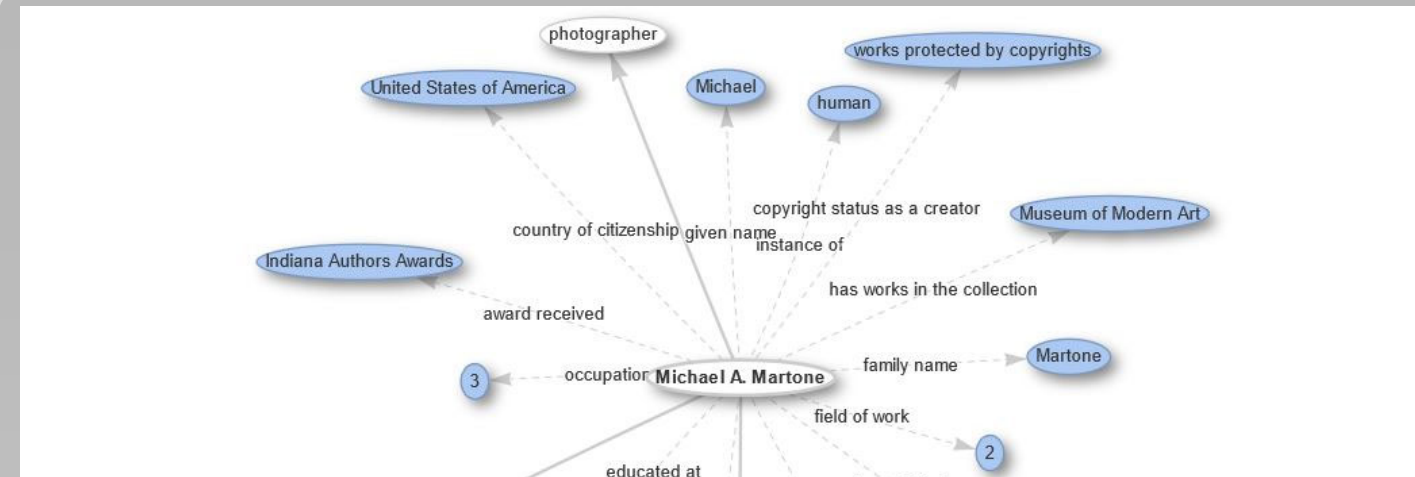
“The constructivist theory is based around the idea that learners are active participants in their learning journey; knowledge is constructed based on experiences.” – Dr. Kurt

The constructivist qualities in our event: **collaborative, interactive, interest-driven, differentiated, with ongoing access to additional resources for continued engagement.**

We wanted to create a learning experience similar to what's presented in the **Community of Inquiry theoretical framework**, which focuses on a social, cognitive and teaching presence (Elliott, 2017).

In planning the edit-a-thon, we addressed each of these areas:

- created ways for participants to socially engage with others (social)
- various paths to interact with the educational materials (cognitive)
- provided clear goals and instruction, access to instructor (teaching presence)



LINKED DATA PRINCIPLES & WIKIDATA

The benefits of Linked Data to the description and discovery of information is clear to the library world, but adoption has been slow, especially in public libraries. While the willingness to learn is there, it is felt there is a steep learning curve (Niu, 2020).

Learning how to create and use Wikidata is a low-barrier introduction to basic Linked Data principles

Linked Data Principles (Berners-Lee, 2006)

1. Use **URIs** as names for things
2. Use **HTTP URIs** so that people can look up those names
3. When someone looks up a URI, **provide useful information**, using standards
4. Include **links to other URIs**, so that they can discover more things

These principles within Wikidata:

1. Wikidata uses unique entity IDs as identifiers (**Q#####**)
2. Each item has a HTTP URI (<http://www.wikidata.org/entity/Q#####>)
3. Wikidata items have structured statements that provide useful information about the item
4. Wikidata statements often link to other items in Wikidata

EDIT-A-THON THEMES

Accessible and engaging themes for the events were important to attract participants. Subjects were not already represented in Wikidata, but had existing public data to use in the creation of new Wikidata items so that the project felt like a significant contribution. The themes chosen for the first three years included **regional book awards; community theater groups and buildings; and schools and school buildings.**

EDIT-A-THON DESIGN

- **Registration:** Zoom registration for events; Google form for Dashboard and Slack channel inclusion
- **Opening Event:** Orientation to the edit-a-thon; Introduction to Wikidata/Linked data; Our theme; Live editing tutorial; Guided editing session
- **Independent Editing:** Work with provided dataset; Create Wikidata items; Edit existing items; Questions and sharing on Slack
- **Closing Event:** Review of Dashboard statistics; Querying Wikidata; Feedback and discussion

RESULTS OVER 3 YEARS

The Wikidata edit-a-thons brought in a larger group of participants each year, which translated into greater overall edits each year. Editors set their own pace during independent editing days and were all able to contribute.

Year	Subject	Editors	Items Created	Items Edited	Total Edits
2022	Book Awards	14	133	224	2.09K
2023	Theater	37	92	250	1.8K
2024	Schools	44	133	326	2.36K

Figure: Three years of Dashboard statistics

Edit-a-thon participants shared that they

- **developed more confidence in contributing to Wikidata**
- **enjoyed the hands-on experience**
- **were interested in continuing to work with Wikidata**

CONCLUSIONS and LESSONS LEARNED

The edit-a-thon gave a flexible and differentiated professional development experience that allowed each learner to build their knowledge through hands-on editing of Wikidata.

Linked Data principles are taught and reinforced through interaction with the Wikidata data model and by giving participants hands-on experience in creating new items, adding statements, qualifiers, and references.

Participants actively engaged in the Slack discussions, asking questions and sharing information. In the three years this program has run, the number of participants has increased, as has the overall edits to Wikidata.

Event designers learned that additional metrics are needed to better track learning objectives: understanding of Linked Data principles and engagement with Wikidata.

- **Surveys** could gather data on the effectiveness and enjoyment of the training
- **Metrics** on the edit-a-thon output may be assessed using data-tracking tools such as Wikimetrics, counting page views for newly created items, and using an Item Quality Evaluator (“Program guides/edit-a-thons,” 2023).

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