

2023

Library STEAM Kits: Developing Circulatable Curriculum for Community STEAM Learning

Daphne Fauber
Purdue University

Ashley Fletcher
West Lafayette Public Library

Follow this and additional works at: <https://docs.lib.purdue.edu/pjsl>



Part of the [Adult and Continuing Education Commons](#), [Art Education Commons](#), [Cataloging and Metadata Commons](#), [Collection Development and Management Commons](#), [Curriculum and Instruction Commons](#), [Educational Technology Commons](#), [Elementary Education Commons](#), [Engineering Education Commons](#), [Science and Mathematics Education Commons](#), [Secondary Education Commons](#), and the [Vocational Education Commons](#)

Recommended Citation

Fauber, Daphne and Fletcher, Ashley (2023) "Library STEAM Kits: Developing Circulatable Curriculum for Community STEAM Learning," *Purdue Journal of Service-Learning and International Engagement*. Vol. 10 : Iss. 1, Article 13.

DOI: <https://doi.org/10.5703/1288284317697>

Available at: <https://docs.lib.purdue.edu/pjsl/vol10/iss1/13>

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.

This is an Open Access journal. This means that it uses a funding model that does not charge readers or their institutions for access. Readers may freely read, download, copy, distribute, print, search, or link to the full texts of articles. This journal is covered under the [CC BY-NC-ND license](#).

Library STEAM Kits: Developing Circulatable Curriculum for Community STEAM Learning

Cover Page Footnote

The authors would like to thank the Indiana Manufacturing Competitive Center, Caterpillar, Tipmont REMC, Duke Energy, the Kiwanis Club, and the WLPL Library Board of Trustees for their support of the WLPL STEAM programs since their inception.



LIBRARY STEAM KITS

Developing Circulatable Curriculum for Community STEAM Learning

Daphne Fauber (*Agricultural and Biological Engineering*)
and Ashley Fletcher (*West Lafayette Public Library*)

STUDENT AUTHOR BIO SKETCHES

Daphne Fauber (she/her) is a current graduate student in agricultural and biological engineering at Purdue University. She worked at the West Lafayette Public Library as the STEAM library assistant from 2017 to 2021, during which she graduated from West Lafayette High School and then completed her undergraduate degree at Purdue University in engineering technology education. Daphne's primary research interest is how open-source bioinformatics data and software can be utilized to make research accessible to high school students and teachers.

Ashley Fletcher is the Teen Services department head at West Lafayette Public Library. She completed her MLIS at Indiana University, Bloomington.

ABSTRACT

Public libraries serve as repositories for a movement described as cultivation of the Library of Things. In the wake of COVID-19, the West Lafayette Public Library enhanced its existing Library of Things collection through the creation of science, technology, engineering, art, and mathematics (STEAM) kits. Since 2017, the West Lafayette Public Library has held regular free STEAM programs for the community; those programs were put on hold during the height of the COVID-19 pandemic, which concurred with a library renovation. These kits provide the community with the ability to learn STEAM concepts at home engaging, hands-on activities that may otherwise be cost-prohibitive. Through this program, the West Lafayette Public Library facilitates accessible STEAM education activities for those of all ages without direct librarian supervision. Since the library's reopening, the program has only expanded.

Generally, feedback on the program has been positive; however, more diverse offerings as well as robust advertising may be necessary for wider community impact. The STEAM kits were made with the assistance of student employees and volunteers whose expertise was essential to the success of the program. Likewise, the program was significantly strengthened by community partnerships with local organizations that shared similar goals. The purpose of this essay is to inform other education professionals about the process required to facilitate a STEAM kit program as well as the successes and difficulties the authors faced along the way.

INTRODUCTION AND BACKGROUND

The Library of Things (LoT) collection model is one of the newest markers that US public libraries are still vital parts of their communities. A survey of public librarians conducted by EBSCO Information Services in 2017

showed that more than 20% of respondents indicated that they have free museum passes, board games, or sports and recreation equipment in their collections (Ross, 2017). Around the same time, *American Libraries* published an infographic highlighting some of its favorite nontraditional collections, which include bird-watching kits at the Shirley M. Wright Memorial Library in Trempealeau, Wisconsin, and an apple picker at Island Free Library in Block Island, Rhode Island (Dankowski & Mead, 2017). This innovative service model is rapidly growing, but the literature shows few formalized practices and standards.

Robinson and Shedd define a LoT as “any collection of physical objects that serve a utilitarian purpose as tools, equipment, or goods; that circulates beyond the walls of the library; that provide a cost-savings benefit to patrons by supplying something for which they have an existing need; that have an inherent appeal to patrons; and that defy standard processes for acquiring, cataloging, and circulation” (Robinson & Shedd, 2017, p. 3). This definition is open-ended due to the nature of the LoT reflecting a community’s unique mix of needs and interests. US public libraries have varying attitudes toward managing their collections, from risk-averse (Hester, 2017) to experimental and risk-tolerant (Lax, 2020). The Hillsboro Public Library and the Broadview Public Library have offered a road map for their preferred approaches toward building LoT collections, which reflects these diverse attitudes.

Regardless of the various approaches, adding a LoT collection can facilitate a number of positive outcomes. Libraries have built stronger relationships with local schools and supported workforce development through LoT initiatives (Bannwart & Minich, 2020). Borrowing items as an alternative to buying is a way to encourage zero-waste, environmentally friendly communities (Enis, 2016). The appeal of things can additionally be used as a gateway to utilizing other parts of the library and assist in breaking down socioeconomic barriers to access (Lax, 2020; Robinson & Shedd, 2017).

At the start of 2020, the West Lafayette Public Library’s (WLPL) LoT collection was limited to board games and puzzles. In response to limited program opportunities due to COVID-19, the WLPL worked with community partners and students to establish more robust LoT materials for furthering the science, technology, engineering, art, and mathematics (STEAM) programs that had been put on hiatus. STEAM kits, curricula that patrons could check out and use at home, began to be circulated in 2020 as an expansion to the existing LoT

materials. Specifically, the STEAM kits represented a transformation in WLPL LoT programming, as the library was now circulating curriculum, not just objects. The WLPL STEAM kits have continued to be great assets to the community post-pandemic restrictions and paved the way for a larger LoT to serve the West Lafayette community. The purpose of this essay is to provide a road map for other education professionals on the process required to facilitate a STEAM kit program as well as the successes and difficulties the authors faced along the way.

METHODOLOGY

Pioneering WLPL STEAM Programs

The WLPL in West Lafayette, Indiana, serves a tax district of 44,595 people (as of April 1, 2020) and participates in a borrowing agreement with the Tippecanoe County Public Library that adds an additional 141,656 people eligible for a limited use card (Indiana State Library, 2021; United States Census Bureau, 2022). From data pulled in September 2022, the WLPL had 6,179 active patron accounts and checked out approximately 12,597 items on average per month in 2022 (Fletcher, 2022a). The West Lafayette community is noteworthy as the home of Purdue University, and as such the library serves full-time residents and diverse populations that fluctuate in number with the university’s academic school year.

The WLPL introduced STEAM topics to its programming calendar in 2017 when hiring a part-time STEAM library assistant to work with the new Teen Services librarian. The first services offered were free K–6 STEAM events twice a month. The STEAM initiatives also included establishing the STEAM Mentorship Program, giving opportunities for local high school students to serve as volunteers at the STEAM events. These events tackled topics from exoplanets to forensics and all featured hands-on activities for kindergarten through sixth grade students. In 2019, the elementary programs were reduced to once a month and replaced by planning-intensive teen programming, with events such as STEAM career panels and the Crime Scene, a career convention themed around true crime.

In 2020 the WLPL, like nearly all libraries, faced considerable logistical challenges due to the COVID-19 pandemic. All in-person events were canceled, and doors were closed to the public in mid-March. The WLPL initially offered virtual programs and take-home crafts and kits to substitute for the in-house programming

experience but saw decreasing turnout and return on investment as time went on. Compounding barriers included an upcoming building renovation, planned to disrupt public access to materials and parts of the building for an estimated 18 months. Circulating STEAM curricula in the form of kits supported the WLPL's goals of continuing to support STEAM learning in the community while diversifying physical take-home collections.

Additional principles and motivations supporting this decision were:

- Encouraging at-home, independent learning and exploration;
- Contributing to the sharing economy, reducing waste and consumption (Enis, 2016);
- Reducing household financial burden related to acquiring access to STEAM learning materials; and
- Supporting workforce development championed by the State of Indiana.

Creating WLPL STEAM Kits

Nearby libraries, such as the Mount Prospect Public Library in Illinois (n.d.) and the Plainfield-Guilford Township Public Library (n.d.) in Indiana, had easily accessible information about their STEAM kit collections on their websites. The WLPL Teen Services librarian reached out to peers at these libraries to have exploratory conversations about the practical aspects of managing nontraditional materials beyond board games and puzzles. Both libraries were clear on the positive staff and patron perceptions about the value of their kits, though both were also forthright about the major investments of staff time and item maintenance.

The WLPL team had experience already in packaging complex items for patron use from the existing circulating board games collection and brought that knowledge into this new project. Additionally, some basic assumptions gained from the aforementioned conversations laid the groundwork for the project:

- Pieces of the kits would eventually be lost, meaning that selection should favor kits with replaceable parts.
- Processing kits for circulation is time-intensive and requires specialized knowledge and training.

- Not all STEAM-adjacent toys and equipment are fit for library circulation.
- Funding for maintenance needs to be anticipated.
- Kits need to be viewable to patrons without being on public shelves due to the amount of space they require.
- Fines for missing or damaged items need to be communicated to users.

A workflow that considers item management needs and staff limitations was established, and the progress was tracked on a checklist. Each item was cataloged by the librarian, and then the parts of the equipment or kit were analyzed to determine the most practical packaging. On the exterior, a container list that summarizes kit components and a container label with the kit name and donor recognition were attached. It was determined that kits would be retrieved on demand, represented on the patron side by a browsing card that included a photo and a basic description of the kit, identified additional materials needed, and listed three to four library books or DVDs that could further individual exploration of the topic (Figure 1).

Some equipment already in the WLPL's possession was suitable, with some transformation, for life as a STEAM Kit and served as important practice material free of funding pressures. These items included donations and equipment bought for programs that were no longer being used.

The WLPL's first STEAM kits were the Beginning, Intermediate, and Advanced Snap Circuit Mini-Kits. The WLPL had received a donation of several incomplete



Figure 1. An Image of the Original Packaging and Browsing Card for the Blocks & Blueprints STEAM Kit

Elenco Snap Circuits sets, modular plastic components that could be connected to create complicated electrical circuits. These sets come with large booklets providing instruction for hundreds of circuitry projects. Snap Circuits are engaging, introduce users to educational STEAM topics, and have premade curricula.

Additionally, Elenco supplies parts piecemeal, meaning that replacing any parts would be relatively easy and inexpensive. Since the donated sets were incomplete, the team embarked on an effort to select activities from the accompanying booklets that relied only on available pieces and established three kits of varying difficulty levels. These kits provide users with a feel for the equipment and a chance to gauge their interest in the topic before investing in a new purchase.

Once current supplies were exhausted, the next step was to secure funding to continue the collection. The WLPL received a \$1,000 grant through the Indiana Manufacturing Competitive Center to initiate the project, starting with STEAM kits that connected to manufacturing skills, careers, and fields. A long list of potential kits was brainstormed by searching other US public libraries, reading reviews of STEAM toys on websites, browsing catalogs, and diving into the staff's own interests. The final selections were chosen to be intentionally diverse in topics, intended ages, and complexity (Table 1). Cost was also a factor, as one of the goals was to reduce financial barriers to at-home STEAM exposure by providing free access to typically cost-prohibitive educational materials.

The collection had an opportunity to expand in early 2022 after receiving a second Indiana Manufacturing Competitive Center grant, also for \$1,000. In year two an effort was made to include some kits that would appeal to teen and adult patrons as well as to focus more on the arts component. Due to building changes and new display options, the design of the display cards was updated to a tag system, and the display unit is in a more visible location (Figure 2). These changes have resulted in an increase in circulation.

Collecting Community Feedback

WLPL used two primary tools for data collection: user surveys and circulation numbers. Each kit came with a paper survey that asked about the people using the kit and whether the kit would be recommended to others and provided room for open-ended comment. The total number of times an item is checked out by library patrons—its number of circulations—is information captured automatically by a library's integrated library system.

The number of returned surveys was anticipated to be low, but the information was valuable. Responses that users would recommend a given kit or equipment to others indicated that they were satisfied with the kit/equipment. Additionally, open-ended comments would illuminate experiences with an individual kit, the community's interests, and ways to improve. Frequent check-outs, resulting in high circulation numbers, indicate surface-level and specific interest in accessing STEAM toys and equipment, exploring new activities, or simply taking advantage of what the collection has to offer. Combined, these three components measure how successful the project was in matching community interests.

In late 2022, a second survey was opened to the public and asked questions about knowledge and perceptions of the STEAM kit collection and the motivations behind using it. The results of this survey will help guide future marketing of the collection and potentially influence new items or library practices.

RESULTS

The goal of the STEAM kits project was to create a free community platform for at-home, independent STEAM learning through the expansion of the existing LoT. However, to be able to best serve the community, the team had to evaluate to what degree various kits circulated as well as patron feedback and patron desires.

Circulations of the various STEAM kits have been high throughout their existence. During 2022 alone, individual STEAM kits ($n = 21$) circulated an average of 16 times, for a total of 342 circulations across the entire collection (Fletcher, 2022b) (Table 2). To put this number into perspective, children's books ($n = 22,404$) had an average circulation of 2.55 circulations over the same period.

This indicates that interest in STEAM kits within the community is significant. However, using circulation numbers alone makes it difficult to decipher how many unique patrons are using these items as well as overall satisfaction. In order to collect wider qualitative data on STEAM kit impact and use, information from surveys was analyzed.

Initial surveys, implemented throughout 2021, were three-question forms included in each kit. Any filled-out surveys were collected at check-in. Most patrons did not fill out the included survey, and paper feedback requests in the kits were phased out at the end of 2021. The few

LIBRARY STEAM KITS

Table 1. Descriptions and Date of Initial Circulation for the Pilot Cohort of WLPL STEAM Kits

Kit Name	Kit Description	Date Available
Blocks & Blueprints	Learn about architecture, spatial thinking, fine motor skills, and more with the Blocks & Blueprints kit. Each blueprint features a footprint of a different structural challenge and illustrations that show the design from three different angles.	2/24/21
Car Designer Lab	Explore motion, energy, and force and learn how friction affects movement and more. Then design, build, and evaluate your own rubber band roadsters! This kit comes with four guided activities to assist in learning about friction, force, traction, and the design process.	3/26/21
Force & Motion	Learn about gravity, energy, friction, and more as you experiment with forces and learn how they affect motion! This kit introduces patrons to physics concepts through a collection of 7 guided labs.	3/10/21
KNEX Real Bridge Builders	The Real Bridge Builders set is designed to assist students in their study of the history, function, structural design, geometry, and strength of bridges. They will also investigate concepts related to the physical properties of materials and their application in the placement, design, and construction of bridges. Enjoy building 7 famous bridges with this construction education kit!	5/5/21
LittleBits Korg Synth	The LittleBits synth kit is a modular synthesizer, developed with world-renowned musical instrument maker KORG. Explore the science of sound while making music and creating instruments.	2/11/21
LittleBits Space Rover	Build a planetary rover using electronic building blocks, and control it with your smart device.	2/24/21
Magnets	Our ready-to-use lab has everything students need to explore magnetism, hands on! You get 7 easy-to-follow experiment cards with skill-building investigations on the front and scientific information on the back plus all the materials students need for unlimited exploration and discovery, including bar magnets, compasses, electromagnets, and more.	3/17/21
MicroBit	The MicroBit is a microprocessor that is easy to code using either Python or block-based programming languages. This specific kit introduces entry-level electric circuitry and programming skills through several guided activities. More activities are available online for further exploration.	3/23/21
Reflection & Refraction	Learn how lenses and prisms reflect and refract light using the Lakeshore Reflection & Refraction kit. Use a ray box, mirrors, and guided activity cards to learn how light can be bent, bounced, combined, and separated!	3/10/21
Snap Circuits Advanced	Build circuits with switches, motors, and lights and explore controlling electric current. This advanced-level kit contains equipment for 20 different projects.	2/11/21
Snap Circuits Beginner	Build circuits with switches, motors, lights, and more. This beginner-level kit contains equipment for 9 different projects.	2/11/21
Snap Circuits Intermediate	Build circuits with switches, motors, lights, fans, and equalizers and explore controlling electric current. This intermediate-level kit contains equipment for 18 different projects.	2/11/21
Sphero BOLT	Drive your own robot using code or your phone! Sphero BOLT is a small circular robot that responds to input from the app or can be given preprogrammed instructions. It also has sensors that allow programming based on certain conditions. Great for a first introduction to coding and robotics!	2/24/21
Stikbot Studio	Learn how to make stop-motion videos with StikBot Studio! Pose the figures and use the green screen options to put your figures anywhere in this world and beyond. The StikBot Studio apps also allow you to add sound and special effects to your videos before you publish them so you can make a true cinematic masterpiece.	2/22/21
Straw Builders	Use this simple engineering toy to create structures, shapes, moving objects and more with brightly colored straws and connectors.	2/11/21

LIBRARY STEAM KITS



Table 2. Five Most Popular WLPL STEAM Kits in 2022 by Number of Circulations

Name of Kit	2022 Circulations
Straws & Connectors	27
Sphero BOLT	27
Snap Circuits Intermediate	26
Blocks & Blueprints	26
Stikbot Studio	24

Table 3. A Summary of Responses to Initial Patron Feedback Surveys

Kit	Patron Survey Feedback
Blocks & Blueprints	<i>Great for families with multiple ages & different levels. Would be nice to have more blocks, kids had to take turns and toddler kept stealing blocks; only enough for 1 person.</i>
LittleBits Korg Synth	<i>I used it to make cool sound effects. I also played the first few measures of Mozart's sonata! The sequencer was programmed to play the left hand part and I played the right hand on the keyboard.</i>
Magnets	<i>It was fun :) I was fine, but I would like stronger magnets. I learned about electromagnets.</i>
Sphero BOLT	<i>My niece and nephew loved the bolt. It was their first introduction to robots and coding!!!</i>
Sphero BOLT	<i>My son thinks this is the best robot ever. It is his favorite. As Mom, I love all the educational activities available on the app.</i>



Figure 2. Images of Example WLPL STEAM Kits as of Late 2022. a. The Display Where STEAM Kits Are Advertised with Their Smaller, Updated Browsing Cards; b. The Let's Go Code Kit, a Newly Added STEAM Kit, with Its Browsing Card

responses received via this method of data collection were positive and are presented in Table 3.

The team was much more successful in facilitating responses with an online survey distributed via social media, newsletters, and small flyers inside the library in late 2022. These surveys were intended to collect feedback from the wider WLPL community, not just those who were actively utilizing the STEAM kits. As such, 75% of respondents ($n = 24$) had never borrowed a STEAM kit, and nearly 38% of respondents did not know they were a service that the WLPL offered (Figure 3).

Despite the broad array of respondents who had not previously interacted with the STEAM kits, widely

LIBRARY STEAM KITS

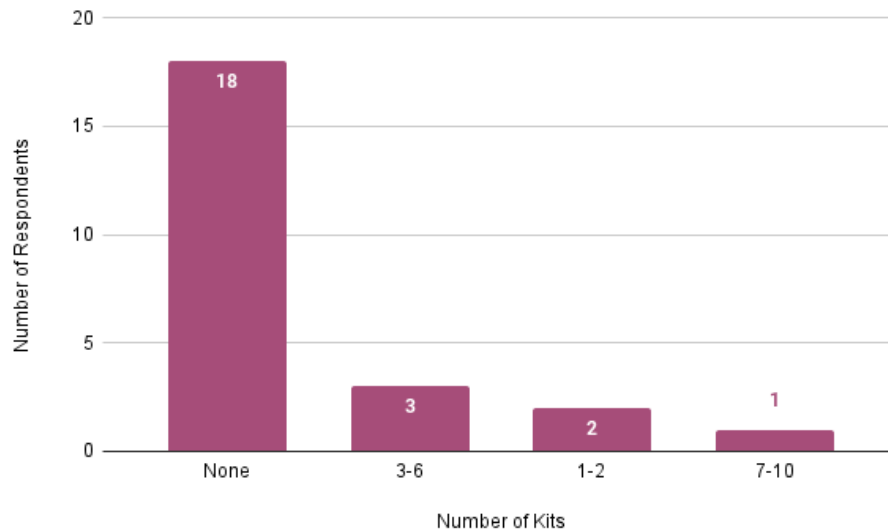


Figure 3. Respondent Answers to “How Many STEAM Kits Have You Borrowed from WLPL in the Past 12 Months?”

Table 4. Condensed Respondent Answers to “Select All That Apply”

Statement	Times Selected
I don't know what STEAM kits are.	9
STEAM kits make the library more valuable to the community.	9
I would recommend STEAM kits to friends and others.	7
I wish there were more kits meant for adults.	6
I/my children get to try new things with STEAM kits.	5
I/my children have developed new interests because of STEAM kits.	2
The items in the kits meet my expectations from the descriptions.	4
STEAM kits have allowed me to try out a product instead of buying it.	4
STEAM kits have helped me with my own hobbies or interests.	3
No opinion.	1
Staff seem to have trouble working with the STEAM kits.	1
Funding for STEAM kits should be used elsewhere in the library.	0
STEAM kits are confusing to access and use.	0

positive responses were received (Table 4). Nearly 38% of respondents said that STEAM kits make the library more valuable to the community, and nearly 30% indicated that they would recommend STEAM kits to friends and others. In addition, nearly 13% said that the

kits helped their own exploration of their hobbies and interests. Other than the lack of knowledge about the kits, the largest gap in STEAM kit services seemed to be in activities with an adult audience: 25% of respondents said they wished there were more STEAM kits aimed toward adults.

Overall, quantitative and qualitative feedback has shown that the WLPL STEAM kit program has become an asset to the community. However, it is clear that further work needs to be done to serve the interests of older patrons. The most important improvement the WLPL needs to reconsider is how information and awareness of the LoT, including STEAM kits, is being shared. This information will continue to be used as the WLPL evolves the program to best serve the community.

COMMUNITY IMPACT

The STEAM kit initiative and the programming that came prior would have been a daunting task for the sole department librarian to handle without knowledgeable assistance. The STEAM library assistant, as a current student and future STEAM education professional, brought a number of assets to the table that were necessities for this project.

The assistant had broad exposure to a number of popular youth-oriented STEAM tools and a wealth of hands-on experience as both a student and an instructor. When embarking on the STEAM kit project, familiarity with the function, reliability, and accessibility of many available products aided in selecting pieces for the collection. Teaching the department librarian how to get

started with the equipment once it arrived meant that less time was spent learning a skill from scratch.

Essential to the success of the program were the deliberate connections to community STEAM organizations. The project team reached out to established local educational organizations with a history of community engagement and service to lead workshops. However, knowledge of which organizations to contact was often discovered through word of mouth or attendance at other community STEAM events. These connections strengthened our initial STEAM programming series by bringing in outside expertise for standalone events and building collaborations with larger entities such as FIRST LEGO League. A Purdue engineering technology education project team, led by Dr. Greg Strimel, presented a proposal highlighting several options for STEAM tools that would benefit the library in programming scenarios and lending collections. The LaPorte Public Library provides a scaffold for how to create STEAM and LoT services that align with community needs, which was not utilized for this project but is a recommended resource for high-level community educational goal alignment (Bannwart & Minich, 2020).

Processing is detail-intensive and time-consuming, so becoming an expert in approaching very different equipment in a consistent manner was paramount in making sure the kits could be circulated soon after receipt. The additional staffing hours available to dedicate to this project contributed to its success.

The literature and lived experience of libraries across the country hint at the positive outcomes that come from implementing a LoT. The WLPL is able to see these outcomes realized as survey respondents voice their satisfaction with the kits and the value they believe the kits bring to the library. Results shown in Table 4 indicate that the collection benefits different users in different ways; some see the value in “trying before buying” and the freedom to explore without commitment, while others use the collection as a launchpad to develop new interests and hobbies. The project has also resulted in an ongoing relationship between the WLPL and the Indiana Manufacturing Competitive Center, which has strengthened the ability of both to positively impact the community.

STUDENT IMPACT

The WLPL STEAM programming has served as a platform for uplifting student voices through authentic experiences in community program construction and

maintenance. Both college and high school students have served as STEAM library assistants, providing the perspective of key stakeholders and serving as generational ambassadors in order to ensure relevant and appropriate programs. This paid position created the opportunity for young people to directly affect the type of programming available to them and their peers through a local public institution. While impactful to the community, the position also provided a unique job experience that set up future STEM professionals to be proficient in mentoring, education, and advocacy.

Daphne joined the inaugural WLPL STEAM programming team as a STEAM library assistant in late 2017 when she was a senior in high school. She had a career interest in STEM education and had been recently accepted into Purdue’s engineering technology education undergraduate program. She served as one of the STEAM library assistants until the end of 2021 due to her imminent graduation from her undergraduate program.

In her role as STEAM library assistant, Daphne gained experience in informal education, a career path that was not heavily explored in her undergraduate coursework. This experience included program development, grant writing, community needs assessment, volunteer coordination, curricula development, and item management. While performing these duties, Daphne gained professional connections with community partners with similar visions and goals. During the development of the STEAM kits, Daphne was able to directly apply the knowledge and skills gained from her undergraduate program to create self-directed kits covering STEAM topics.

As a student, one of the biggest challenges with the position was the limitation of time and resources. The frequent changes to the STEAM programs and the desire to innovate on the format, on top of a rigorous class schedule, contributed to expedited burnout. The creation of the STEAM kits was also difficult due to poor mental health, stress, and uncertainties associated with the COVID-19 pandemic.

For Daphne, being a part of the WLPL STEAM team allowed her to be better prepared for meeting the needs of her future classroom. It taught her to think on her feet, be resourceful, connect with community partners, and write grants. The experience garnered a greater appreciation for public libraries and those who have made a career serving the public through them.

Public libraries often try to accommodate a large number of interests with limited resources. Events and support

from postsecondary student groups can be a welcome addition if the individual library's policy allows it. Students should not hesitate to reach out to their nearby public libraries and see what opportunities are available.

CONCLUSION

The WLPL has expanded its LoT to create a diverse collection that allows patrons to experience STEAM learning activities, along with other equipment and tools. The community has met these efforts with enthusiasm, whether it be in the impressive circulation numbers or informal feedback. However, the WLPL still has progress to be made in enhancing the collection and the ways in which the collection is advertised. The role of the WLPL STEAM programs and kits will continue to evolve with community needs and serve as a space where people can gather to teach, learn, and explore.

The purpose of this essay is to give other formal and informal education spaces a road map for the implementation of their own collections. Just as the authors were inspired by public libraries that shared their expertise, this essay seeks to further build upon those experiences to share ideas and guidance. The WLPL STEAM program has had many challenges. Nonetheless, the benefits of the program have been wide-reaching, from participants to mentors to facilitators. The STEAM team at the WLPL hopes that readers will learn from both the difficulties and successes in order to best meet the needs of their communities.

REFERENCES

- Bannwart, S., & Minich, J. (2020, October). How a Library of Things can affect services and STEM learning initiatives. *Computers in Libraries*, 40(7), 32–36.
- Dankowski, T., & Mead, B. (2017, June 1). *The Library of Things*. American Libraries Magazine. <https://americanlibrariesmagazine.org/2017/06/01/library-of-things/>

- Enis, M. (2016, September 15). The future of stuff. *Library Journal*, 141(15), 40.
- Hester, K. (2017). Is your library a LOT. *ILA Reporter*, 35(2), 8–10. <https://www.ila.org/publications/ila-reporter/article/60/is-your-library-a-lot>
- Indiana State Library. (2021). *Statewide reciprocal borrowing covenant libraries date covenant signed (It remains in effect until the library board rescinds it)*. <https://www.in.gov/library/files/StatewideRBCovenants.pdf>
- Lax, B. (2020). What are these things doing in the library? *OLA Quarterly*, 26(1), 54–61. https://journals3.library.oregonstate.edu/olaq/article/view/vol26_iss1_11/4461
- Mount Prospect Public Library. (n.d.). *Mount Prospect Public Library STEAM/ Science Kits*. <https://mopl.org/kids/steam-science-kits/>
- Plainfield-Guilford Township Public Library. (n.d.). *STEM kits & kid's board games*. <https://www.plainfieldlibrary.net/stemcollection/>
- Robison, M. D., & Shedd, L. (Eds.). (2017). *Audio recorders to zucchini seeds: Building a Library of Things*. ABC-CLIO.
- Ross, T. (2017, September 26). *A brief survey of America's Libraries of Things*. EBSCOpost. <https://www.ebsco.com/blogs/ebscopost/brief-survey-americas-libraries-things>
- Fletcher, A. (2022a). *Sept_23_2022_WLPL_active_patrons_database_request*. Unpublished.
- Fletcher, A. (2022b). *2022_circulations_STEAMkits_childrens_books_database_request*. Unpublished.
- United States Census Bureau. (2022). *U.S. Census Bureau quickfacts: Tippecanoe County, Indiana*. <https://www.census.gov/quickfacts/tippecanoeountyindiana>

ACKNOWLEDGMENTS

The authors would like to thank the Indiana Manufacturing Competitive Center, Caterpillar, Tipmont REMC, Duke Energy, the Kiwanis Club, and the WLPL Library Board of Trustees for their support of the WLPL STEAM programs since their inception.

Fauber, D. & Fletcher, A. (2023) Library STEAM Kits: Developing Circulatable Curriculum for Community STEAM Learning. *Purdue Journal of Service-Learning and International Engagement*, 10, 72–80. <https://doi.org/10.5703/1288284317697>