Wandering the Web – STEM and STEAM: Selected Ideas for Children's & Young Adult Programming

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gradually regularized its outsourcing process to make it part of the foreign language cataloging workflow.

The procedure is as follows. The cataloging librarian accumulates enough material for an efficient shipment (generally between ten and twenty-five books at a time, usually all the same language) and adds barcodes to the books or DVDs. These barcodes enable the rapid creation of a “set” within Alma, and the creation of a spreadsheet of those titles being sent. Barcoding the material also reduces reliance on slips inserted in the books in order to match books with records. The librarian then contacts the outsourcing company, alerts them that a shipment is on the way, and packs the box. Once the material returns, generally about six weeks after dispatch, the librarian unpacks the box, matches the books with the records that have been put into the Libraries’ online save file in **OCLC Connexion**, and does the final steps (downloading the record into the Alma LSP, marking the call number on the title page) to enable the material to get to the shelf.

Lessons Learned

While outsourcing is not a major part of the **UCI Libraries’** cataloging workflow, it

does enable the library to catalog and add to its collection material that would otherwise be impossible to add without significant staff training in new languages. It allows the library to be responsive to changes in teaching and learning focuses on the **UCI** campus, and it allows for a greater diversity of languages and material within the Libraries’ collections. Making use of our cataloging partners, **UCI Libraries** can be much more flexible in terms of our collections and cataloging output.

Using companies that provide cataloging services allows the **UCI Libraries** to collect in areas that would otherwise present significant cataloging challenges. While outsourcing cataloging has its own challenges (it costs money and reduces already tight budgets; it takes time to collect, pack and send the material, and then takes time at the end of the process to reconcile the new records and to unpack the boxes; and it presents a challenge simply because it represents a deviation from the regular workflow), **UCI** has benefitted significantly from its ability to outsource cataloging. It saves time and money while allowing the Libraries’ collections to be wider and broader than would otherwise be possible.

Going forward, **UCI Libraries** will probably expand its use of outsourced cataloging as it loses further language capability from within its Acquisitions and Cataloging departments.

It is also probable that this will be expanded to other languages as the University creates new programs and the library adds new languages to its collection. It is hoped that there is some scope for expanding the amount of shared cataloging within the **University of California** system.

For any other library considering outsourced cataloging, the experience of **UCI Libraries** has been generally very positive. While the turnaround time means that books are cataloged more slowly than if there were an under-worked cataloger with excellent language skills at **UCI**, those conditions do not exist. The considerable cost of outsourced cataloging remains considerably less than hiring and training a new cataloger and enables the Libraries to remain far more flexible in terms of language abilities. It is important for a library that is thinking about beginning a program of outsourcing small batches of cataloging to think hard about the process and how records will be retrieved and marked (whether they will be sent with barcodes, what the status will be set as, whether there is a note in the location, etc.), but due to the reliable nature of the process it does not require the same solutions as relegating a book to a semi-permanent backlog might. 🌸

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STEM and STEAM are, well, still going full-steam ahead (sorry!)! If your batteries are running a bit low on makerspace ideas, get your engines revved up again by following some of the examples, lesson plans, and templates here. These resources are from a variety of websites, commercial and noncommercial, to consider for programming ideas for engaging children and teens in school and public libraries, and to encourage future teachers and school librarians (Note: Mention of commercial websites does not constitute an endorsement of the vendor’s products by the author or by this publication. Included for informational purposes only.).

Steam-Powered Family — <https://www.steampoweredfamily.com/steam-activities/> — “Ultimate Guide to STEM Activities – with over 100 Activity Ideas!” This mom-blog is by a homeschooler with a background in animal sciences, computer programming, and psychology. She researches childhood trauma and mental health, offers definitions and resources

for families and educators to begin or expand their STEM and STEAM activities.

DEMCO — <https://ideas.demco.com/blog/8-inexpensive-stem-ideas-pokemon-go-library/> — the well-known library supplier offers plenty of ideas through their blog, activity guides, webinars, and idea gallery, as well as their products for school, public, and other types of libraries. In this short piece, find information on Pokémon GO and affordable STEM ideas for library programming.

We Are Teachers — <https://www.weareteachers.com/steam-books-classroom-library/> — provides a variety of information and products on the teaching life. School and public libraries also will benefit from free printables and ideas for programming. This particular link includes 50 STEM books to consider for your library collection, including titles on coding, environmental titles, math concepts, and historical figures who changed the world.

STAR*net — <https://www.starnetlibraries.org/steam-in-libraries/what-is-stem/> — Sci-

ence-Technology-Activities & Resources for Libraries – offers extensive ideas and links to reliable sources for bringing STEM into the library. Among the information provided are links to a National Research Council Report, “Identifying and Supporting Productive STEM Programs in Out-of-School Settings”; the 2019 National Science Foundation’s “STEM for All Video Showcase”; as well as posters, presentations, and projects for libraries on STEM topics.

Microsoft Education Educators STEM Lessons — <https://www.microsoft.com/en-us/education/education-workshop/default.aspx> — presents “Hacking STEM Lessons & Hands-On Activities, with free lesson plans on a variety of topics from communication to models to space. Classroom kits are also available, which inspires public librarians to collaborate with teachers and support local school curricula. An Activity Library offers more lessons that can be adapted to other than classroom settings.

continued on page 32

Jumping Into and Then Climbing ... from page 30

informed them of which subaccounts should be outsourced and the time frame for the library's holdings to be set in **OCLC**. A second profile had to be set up with **OCLC**. Outsourcing commenced with the new fiscal year when orders started to be placed in September 2009.

By 2013, very few departmental liaisons came to the library to review the books, rejected books were minimal, and the approval plan profile had been modified to the extent possible. **Johnson** approached **McCormick** about outsourcing the physical processing of all books purchased from **YBP**. This meant the approval books could no longer be returned to **YBP** but it also meant a quicker turnaround from receipt to shelving for all **YBP** books. As part of the new process, the approval books would go straight to the stacks instead of undergoing a two-week review process in Technical Services. This would save time and effort for Technical Services staff and serve the library users better by providing the books promptly.

YBP's processing of books began in August 2013 with the finished materials arriving in October. Some materials were not completely shelf-ready for a variety of reasons. Oversized materials needed a call number prefix but since the classification of a book into the oversize collection depended on the book's being measured, this could not be done by **YBP**. Books

for which there was no copy available were to be originally-cataloged in-house. Finally, sometimes the bibliographic record used by **YBP** did not have a call number at the time processing needed to be done. In those cases, a bibliographic record would be supplied but no spine label would be sent.

In 2015, **McConnell Library** migrated from Innovative Interface's Sierra system to **OCLC**'s WorldShare Management Services (WMS). **McCormick** worked with **OCLC** and **YBP** to migrate outsourcing over to the new library management system. There were a few glitches and delays, but eventually outsourcing worked smoothly again. The **OCLC** master bibliographic record is the local bibliographic record for WMS libraries. For libraries like **McConnell Library** that are not part of the Program for Cooperative Cataloging (PCC), the ability to change the bibliographic record is limited. Migrating to WMS took away detailed local cataloging control and the need for authority work, thus adding another justification to accept outsourced bibliographic records as "good enough."

In 2016, as part of a state-wide budget shortfall, public universities were asked to come up with 2%, 5%, and 7% proposed cuts. **Radford University** was no exception and each college on campus, including **McConnell Library**, had to find ways to cut costs at each of the three levels. Savings in processing time were weighed against the budget shortfall and the decrease of importance of the print book collection in comparison with the increased

eBook collection. We proposed ceasing physical processing to save money for the library. While the cuts ultimately were not needed in 2016, they were in 2017 and cataloging and physical processing returned to CaTS. Electronic invoices continued to be generated by **YBP** so that holdings would be attached to the bibliographic records during the acquisitions process.

Conclusions and Recommendations

Cataloging and acquisitions staff had concerns initially about outsourcing because it affected their work, but those concerns are long over. They appreciate the efficiencies of loading order and invoice records and the time it gives them to tackle other work, including increased time required for electronic resources ordering, cataloging, and maintenance. They have also gained the opportunity to cross-train in other departments in order to help when staffing needs arise.

Outsourcing has been positive for **McConnell Library**, but it comes with costs. One can look at staff cost savings in comparison to outsourcing costs but the reality is that the personnel budget is different, and more stable, than the library materials budget. **Johnson** and **McCormick** would recommend outsourcing cataloging and physical processing to libraries that have the money to do so. Technical Services staff should be included from the beginning. Consult with other libraries and start with a pilot project that can be changed, expanded, or shut down as needed. 🌱

Wandering the Web from page 22

Knowledge Quest STEM and STEAM Blog — <https://knowledgequest.aasl.org/category/blogs/stem/> — includes school librarians' experiences and recommendations for incorporating STEM and STEAM in school libraries, which can also be adapted for public library children's and young adult makerspace and similar programming: 3-D printing, augmented reality, makerspace kits, monthly STEAM challenges and more can liven up children's programming and offer suggestions for future educators and librarians.

Makerspaces.com — <https://www.makerspaces.com/makerspace-guide-school-and-library/> — "Ultimate Makerspace Resource Guide" is a powerhouse of "101+ Makerspace Resources for Schools and Libraries." From describing, defining, showing and telling to benefits of makerspaces, beginner guides, information for special education environments, materials and supplies, tools, and equipment, projects, furniture, storage, and more—librarians will revel in the hands-on world of makerspaces and will find just about anything they need to start, modify, or expand their program offerings.

PBS Kids: Design Squad Global — <https://pbskids.org/designsquad/> — The hands-

on activities and videos from this site can be used in any educational setting to engage children and teens in STEM and STEAM projects. Lesson plans, activity guides, training, and more are available to encourage exploring, designing, and making, vetted by one of the foremost educational networks in the world.

SWNFLN: Southwest Florida Library Network — <https://swfln.org/steam/> — Get ready for hour-long continuing education library tutorials (geared, obviously, for Florida libraries, but worth the time to explore) on STEAM topics ranging from low-budget maker programs to music on the cheap to video games to virtual reality, and more! Professionals present excellent ideas that can be adapted to any library setting. Webinar tutorials including American Sign Language translators.

Hour of Code — <https://hourofcode.com/us> — Hour of Code takes place annually during Computer Science Education Week, but Hour of Code can be hosted any time of the year. Begun as a one-hour introduction to computer science, it has since grown to explore computer science in a variety of ways in communities around the world. See the tutorials, how-to guides, and activities available. This is a grassroots effort that is supported by hundreds of partners and more than 200,000 educators around the world.

S&S Worldwide — <https://www.ssw.com/steam/?src=side2> — is an online family business, selling educational materials. However, they have an extensive list of blog posts related to STEM activities, including holiday crafts, invention convention ideas, DIY projects, as well as promoting their classroom supplies. Creative youth librarians can adapt the ideas and activities to school or public library programming.

Girlstart — <https://girlstart.org/> — STEM curriculum and resources for all educators, as well as resources to promote girls' advancement in STEM learning. Programs of interest to librarians for partnerships include Girlstart After School, Community STEM Education, and STEM Extravaganza. Geared primarily for schools, the programs and ideas can be inspiring to enterprising school and public librarians looking for opportunities to collaborate.

STEM Activities for Kids — <https://stemactivitiesforkids.com/> — Articles, descriptions and instructions, blog, STEM challenges. 🌱