10 Technologies and Resources for Makerspaces

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Organized by Make Media, Maker Faire is a festival for people of all ages that has been dubbed “part science fair, part county fair, and part something entirely new” (Maker Faire, Inc., 2017). Originally launched in the Bay Area of the United States in 2006, Maker Faire is a gathering of inventors, engineers, educators, tech enthusiasts, artists, science clubs, students, etc. from across the country who want to share something that they have made or learned. The Faire is now also held in New York, and Mini Maker Faires are held in major cities all around the world. The events are family-friendly (50% of people attend the event with children), and they encourage participation in hands-on activities and the learning of new skills. Maker Faire features not only new technologies but also experimentation and innovation in science, engineering, art, performance, and craft.

These Maker Faires are an opportunity for libraries to see first-hand what they can implement in their own space. The website makes it easy to find a faire near you. Can’t get to an event? The website’s Media Center provides links to photos and videos from the Maker Faire YouTube channel that can inspire ideas from the office. The site also provides instructions on how to make your own Maker Faire; or, follow the link to MakerEd.org, where you can receive professional help with building a makerspace program. The Shop section of the website allows you to purchase things like 3D printers, microcontrollers, and maker kits that you can filter by factors like price, difficulty, and popularity. This website and the Maker Faires will provide the latest developments in the world of makerspace, which will help institutions like libraries and schools stay ahead of the curve.

Renovated Learning is a blog and business website run by a media specialist/teacher librarian from Tampa, Florida named Diana Rendina. She has been a teacher librarian since 2010. When her STEM magnet school cut their art programs, Diana was inspired to find a way for students to express themselves creatively, which led to the transformation of the library into a makerspace. The blog was originally created to share with her students, but when the makerspace movement took off in 2014, Diana expanded her reach.

Diana’s blog offers a wide variety of useful resources. She provides links to two books she has written, Challenge-Based Learning in the School Library Makerspace and Reimagining Library Spaces: Transform Your Space on Any Budget. You can also find links to makerspace resources, like additional helpful blogs, project ideas, helpful posts and articles, Pinterest pages, social media links, resources to help find grants and funding, as well as instructions on how to reimagining your library space, complete with a slide presentation. Librarians and educators also have the opportunity to work directly with Diana via virtual or in-person speaking engagements. Renovated Learning is one of the most useful tools out there for makerspace development, acting as a one-stop-shop for librarians diving into the makerspace world.
The makerpromise is a campaign begun by two nonprofit organizations, MakerEd and Digital Promise, to help equip schools, K-12, with the resources and support they need to provide quality maker learning for their students. It is a national initiative that was started during Obama’s administration. Due to the Congressional interest as well as the Partnerships that have been established, this particular K-12 maker program brings a lot of resources and funding to the table. It is geared specifically for maker programs in schools, and by signing the promise, a school becomes part of the program gaining the following:

- Access to professional development (in person and online).
- A toolbox of student project ideas and guides to implement including CBL (challenge based learning).
- Maker contests for students like filmMaker, and bi-weekly newsletters.

The main standout here is that within the makerpromise platform the school maker space user has access to several maker organization’s resources from one entry point. It’s a central location that each of these partners have acknowledged and are working to make successful.

Make: and its companion website, Makezine.com, cover makers, their projects and technologies as well as the communities that grow up around them. It is a bi-monthly publication that has been around for 13 years, and is considered the ‘bible’ for many makers. Visitors to this site will find information about project ideas and guides, upcoming maker faire events and camps, articles about innovators and makers in the field, and even an online retail space for maker products.

One of the best elements of the site though is its ease of navigation. Considering the amount of information available, it has the potential to be overwhelming for the typical consumer, however, it avoids this problem through its user-friendly design. It incorporates easily identifiable subject tags, as well as simple and descriptive menu buttons to direct both beginning and advanced makers to the information they are seeking. The addition of a news style frontpage with visuals aids in user selection. An added tool in the Project menu is the ability to select projects by difficulty and duration by clicking on a tool and clock character to filter the projects accordingly. Makezine.com has made the process of becoming a maker much easier.
Encode App
By Michelle Zigler

Encode is an app designed entirely for the purposes of learning how to code on your own personal device. This app is entirely free, and is available for both iOS and Android devices, including tablets. Through the many lessons and challenges they offer, a beginner could learn how to code on the go during their free time.

This app also offers a section entirely devoted to the web. In addition to lessons focused on coding, they also provide lessons and challenges which teach the essentials of CSS and HTML so a user can learn how to create their own website from scratch. This app has received a 4 out of 5 star rating, and is being updated often with new versions to improve upon the previous one.

Encode is a great and easy way for anyone to learn coding techniques without having to pay for costly classes. This app would be useful in libraries as a way for librarians to easily teach and instruct patrons cost-free ways of learning how to code.

Makerspace for Education
By Michelle Zigler

The website makerspaceforeducation.com was created by three women who were involved in the Master of Technology program at the University of British Columbia. Together, Trish Roffey, Catherine Sverko, and Janelle Therien created this site specifically for educations as a way to spread and share their ideas.

By using the drop down tabs at the top of the homepage, users can gain all kinds of ideas and knowledge on how to create their very own makerspaces. These include mechanisms of makerspaces, as well as materials to create them. For each makerspace they suggest, they also include PDF instructions, as well as tutorial videos to give you a step-by-step guide on how to successfully create a makerspace on your own.

Lastly, they have have their own community through their website to get other educators involved. The site includes an entire page devoted to other teachers who have contributed their own makerspaces to the website. Additionally, they have a blog and makerspace gallery to share more of the creative ideas that can come from makerspaces.

This website is a great and innovative way for not only teachers, but also librarians to be able to learn about makerspaces and find useful ways of including them within their own organizations.
The DoInk app is a handy tool to have on a library’s iPads in their makerspace. It allows users to create videos and still images with special effects. DoInk was featured in “Best New Apps in Education” on iTunes, and while not a free app, is incredibly affordable at $2.99. The app allows users to use up to three image sources at a time, and then input a host of cool effects. DoInk allows users to flex their imagination, while also getting hands-on with technology.

The green screen background can be made of just about any material, as long as it’s green. Things like fabric, tablecloths, and posterboard all work. The DoInk website has a large amount of tips, tricks, and tutorials to help users get started creating with the Green Screen app.

Color Me! Murals are made by the company Mural Magic. As coloring for adults and teens has gained in popularity over the last few years, Mural Magic developed a way to make giant, colorable murals in a wide variety of designs. These murals are printed onto a matte, repositionable sticky back vinyl, that allows the users to move their murals around if they want. The murals start at approximately 4 feet by 4 feet, and grow larger from there. Mural Magic can even create custom sized murals if a customer wants.

The Color Me! Murals are a great way for library patrons to get hands-on with their creativity in the makerspace. Setting them out on a large table, and providing markers or colored pencils, allows patrons to color as much or as little as they would like. While more research is needed, Muthard and Gilbertson (2016) found coloring may help reduce stress and anxiety. Between the individual benefits for patrons, and the cool hands-on experience in the library, Color Me! Murals are a great addition to any makerspace.
If you are looking to start your own makerspace or need ideas to expand your current tech offering, look no further than the Daring Librarian. This blog is written by Gwyneth Jones, a teacher librarian with a strong tech background who goes to speak all over the nation spreading her love for libraries wherever she goes. She has many great articles and stories about tech and making in libraries but the real gem is her compiled Makerspace Starter Kit.

This robust Amazon buying list has everything you need for a Duct Tape Craft Cubby, Lego Creation Station, and a Makey Makey Coding Corner. All of these supplies come together for a very reasonable price of $350. If that price point is out of your range, Ms. Jones has you covered there as well with tips on how to fundraise and crowdsource supplies for those on a budget. The Daring Librarian truly has everything you need to jump in and get making.

Makedos are a fantastic, budget-friendly way to kickstart any library’s makerspace. These reusable toolkits are a simple, open-ended way to turn everyday cardboard into masterpieces. Kits start at just $12 which include 30 tools such as a safe-saw, scru-driver and many many scrus. All Makedo tools are reusable and safe for children over the age of four. From here, let your imagination run wild. With such a basic, universal resource as cardboard, library visitors are really encouraged to explore their raw creativity to build whatever their heart desires.

If you don’t know what to build - never fear! The Makedo community is expansive with galleries, challenges, and project ideas for your inspiration. There is even an iPad app called Makeree with tutorials and project prompts to further stimulate the inventiveness of learners. When you’re done crafting, you can upload your creation to the Makedo gallery to share it with all the other makers out there.
Sources


