TIEIA Time in the Library

Creating a Makerspace for Tweens

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T he presence of a tween space in the library was something that our tween population had been requesting for some time. Upon moving into a new library building, we had established a Kids' Advisory Board to help us take the pulse of kids in our community and to give them a forum to share what they wanted.

Members of our mini-board communicated that there were so many areas of the children's library that catered to younger children, but there wasn't a location in the library for tweens only. Because they weren't quite teens yet and the children's library meant swerving through a mass of toddlers, it became difficult for the children's librarians to plan services and programs specifically for this target age group.

One of the benefits of forming an advisory board is to give kids the ability to affect change. Small steps were made to move certain pieces of technology to other areas within the room, and board members helped in picking out furniture options that were age appropriate. We began to make a conscious decision to create more appealing programs for the tweens in our community.

Techsploration

Offering exposure to emerging technologies has always been one of the overarching goals in our library. As children's librarians, we take this posture seriously as we want to help build the tech skills necessary for success, while also fostering a sense of enjoyment in the use of technology.

One of the first programs that took up residence in our

Technology Lab was iKids, a class for nine- to twelve-year-olds. Using programs such as Garage Band and iMovie, we equipped kids with the gadgets to make their own photo collages and music videos. The class was such a success that we now offer it annually as part of the winter technology series, and it has even spawned other classes that focus on creation-based technology. A program called Art Appreciation allows kids to explore various art mediums using apps, and then asks them to showcase and critique their work collectively.

Confident that we were serving the technology needs of our young patrons, we began to take a more active role in pursuing an increase in STEAM programming. Starting with the school-age population in our community, we began to see a few holes in some of the age ranges we were targeting. There were sprinkles of kitchen-sink science and LEGO building among our events, but we sought to offer a more robust STEAM initiative.

Blazing the Trail

As makerspaces began popping up across the country, Kiera Parrott, our then-head of children's services, began to consider

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A father and son assemble a solar robot to test in the Library's fountain.

bringing maker culture into the children's library. The definition of a makerspace is a place where people can come to collaborate, create, and share resources.[1]

All of these elements had been present in many of our programs, so we were already in the midst of mini-makers. One of the first steps was to launch a few programs in collaboration with teen services. Dubbed "Tween Make Week," we hosted programs that dabbled in robotics and engineering, while also offering some of our more advanced tech classes like Stop-Motion Animation. The response was so overwhelming that the programs had to be registered using a lottery system.

The library had recently opened a Digital Media Lab (DML) for adult patrons, providing them with sophisticated equipment for their digital projects. The DML housed the first 3-D printer in the library, and over time, younger generations were just as eager to reserve the space for individual projects. It was clear that young patrons had a desire for increased exposure to new technologies, specifically those in the makerspace arena. In our community, it became evident that the maker movement had indeed arrived.[2] With echoes of the suggestions that had been made by the Kids' Advisory Board, we realized that the time had come for an innovative new tween space in the library.

Fit to a T

Determining the location for space was the first order of business. The obvious location ended up being the technology lab within the children's library. The room held our technology classes, and during the day, it was full of eager computer users clicking away on websites like PBS Kids and Kerpoof.

There was ample space outside the tech lab walls to place the existing computers for patron use. The process of retrofitting the lab would take some work, but the time frame was short and we were in the midst of one other initiative and summer reading. The children's staff has never been one to shy away from new and challenging projects, so we dove right in.

Surveying our current list of equipment, we realized we already owned quite a bit. Several pieces would be moved into the new space, and we formed a wish list for the equipment we wanted to purchase. We definitely wanted a 3-D printer, which we knew would be the largest draw for our audience.

Since the first year of the project would be a test drive, our budget would include not only the initial purchases, but also materials for programming throughout the year. The decision

LED Throwies are a fun way to light up an afternoon in any makerspace.

Robots that spin are a great summertime project.

to keep the room closed while school was in session allowed the staff to utilize the space and technology during downtimes. In addition to the existing items, there was also quite a bit of furniture that was already in place. The fourteen-by-twelve-foot room had both counter space and seating for kids to work and could hold about ten visitors comfortably.

The T|E|A Room

In looking at all the elements that made up the new space, from materials to planned activities, it became apparent that the focus was on specific a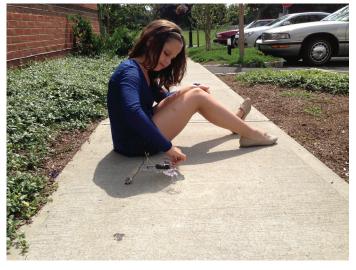reas within STEAM education. The decision was finally made to dub the space the T|E|A Room, which stands for Technology, Engineering, and the Arts. In addition to a makerspace, the room would also be an art studio and learning lab for tweens. This would make the room multifaceted in how kids used the space. It also allows flexibility in seeing how the room evolves over time.

Knowing that our target audience was going to be tweens, we decided to open the T|E|A Room to kids in grades three to six. The room would be available for reservations, with caregiver supervision, as well as open for set T|E|A Room programming after school. We found that designating two specific days per week for programs would work best, and having the room open around afternoon tea was a pleasant realization.

Some of the initial equipment purchases included a list of the following: Makerbot 3-D printer, Raspberry Pi, iPad, Lightbox,

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Canon EOS Rebel Camera, and a button maker. Additionally, there were the expenses related to programming such as an endless amount of duct tape, paper supplies, and rubber bands for the Rainbow Looms. Enthusiastic families made donations of Snap Circuits and vintage electronics to provide an over-abundance of tinker-friendly items. Everything found within the room would be fair game for bookings. We decided to schedule specific Makerbot time slots so a librarian could train kids on how to print 3-D objects independently.

Coding and Crafting

The initial roster of events included a few traditional do-it-yourself (DIY) themes coupled with new ventures like simple robotics and circuitry. We rotated the classes to fit within the broad subjects of technology, engineering, and the arts. Based on the room size, we had to limit classes to about six participants, but would offer each class twice a week.

This model has been adapted depending on the topic and during school breaks, and we have started to offer Open T|E|A Rooms that can welcome a larger crowd for a more casual afternoon of activities, from origami and paper crafts to wire-jewelry making. Children's staff members take turns facilitating classes and have used their own talents and passions to create crowd-pleasing lessons. While the children's department boasts an ample amount of tech-savvy librarians, it became apparent that this was new territory. It would take research and a bit of exploration to hone the skills necessary for finding one's way around such a space.

Throughout the past six months, we have hosted a slew of programs that continue to attract a new population of kids to the library. Our makerspace has brought in kids who wouldn't typically look to the library to serve their extracurricular needs. And changing the perception of the library has been particularly rewarding. The idea that a library is meant for reading and quiet study has been abandoned, and it now becomes a place where Spinbots can decorate the sidewalks and Play-Doh can conduct electricity.

The makerspace model has brought many collaborative experiences to the library, both during programs and with families using the materials together. For the Intro to Coding classes using the Hopscotch app, we rely heavily on some of the more experienced coders to assist with instruction. These older tween patrons, nicknamed the T|E|A Scouts, are considered our power users. This participation also gives the volunteers a sense of ownership of the space, further emphasizing the idea that it's their room.

We have also witnessed family members inhabiting the T|E|A Room, working together on art projects and 3-D prints. One father and daughter spent several hours around the holidays printing a 3-D ornament. Growing the intergenerational offerings of the T|E|A Room is one of the goals for the upcoming year, and having parents learn to solder with their children is just one way of providing experiences for families to savor.

Making a Mark

The success of makerspaces within libraries is contingent upon spreading the word throughout the community. For the T|E|A Room, this meant reaching out to local schools, youth organizations, and parent groups. Don't assume that the public is well versed on the makerspace movement. Educating your users on how makerspaces can foster both creativity and collaboration among students is a surefire way to gain local support. If you find that the term "maker" does not appeal to your patrons, alter the name to Creation Space, Tinker Studio, Fab Lab, or anything else that stimulates interest.

We have also kept a record of programs and resources on the T|E|A Room webpage. Documenting successful programs will hopefully provide inspiration for future makers, library professionals, and families to try on their own. Believing that all children have the ability to be creative, we are eager to witness a whole new generation of budding makers take root.

To learn more about the T|E|A Room, visit darienlibrary.org/tearoom. ☙

References

1. Lauren Britton, "A Fabulous Labaratory: The Makerspace at Fayetteville Free Library," *Public Libraries Online*, October 26, 2012, accessed April 15, 2014, http://publiclibrariesonline.org/2012/10/a-fabulous-labaratory-the-makerspace-at-fayetteville-free-library.
2. Evgeny Morozov, "Making It: Pick up a Spot Welder and Join the Revolution," *New Yorker*, January 13, 2014, accessed April 28, 2014, www.newyorker.com/arts/critics/atlarge/2014/01/13/140113crat_atlarge_morozov?currentPage=all.

ALL ABOARD!

The Pauline Haass Public Library in Sussex, Wisconsin, recently got a great addition to its children's department, courtesy of a local craftsman. Shown here, little Emmett is enjoying the track. The 4-ft by 6-ft table, 18 inches high, was constructed of solid oak hardwood and covered with putting green carpet. According to its maker, 65-year-old retired teacher Mike Jenkins, it was made "sturdy enough to withstand excited children climbing on it." Jenkins spent $110 on materials and donated his time to make the table. For the last 5-1/2 years, Jenkins has been the part-time maintenance coordinator for the library, and he often works on special projects for them.

Photo courtesy of Kathy Klager, Director, Pauline Haass Public Library, Sussex, Wisconsin.

GOING 3-D!

Earlier this year, the Indiana Free Library hosted a 3-D printing workshop. While the library doesn't own a 3D printer, local IT manager, Doug Fletcher, spoke about the history, types, and uses of 3-D printers. He shared his 3-D design and printing experience with a group of about thirty adult and teen attendees. With three different 3-D printers at the workshop, participants could see how each one worked and the resulting objects that were printed. Lauri Steffy, technology librarian at the Indiana Free Library, shared a simple 3-D modeling software called Tinkercad. Participants were encouraged to play with the software to create their own 3-D model. Models that were created were printed for the participant to take home. The library is planning additional programs this fall. Photos contributed by Lauri Steffy, Indiana Free Library.