

Supporting
ARTICLE



**SCHOOL LIBRARIANS
AS INNOVATORS.
THE TRADITION
ENDURES AND
EXPANDS.**



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Innovation isn't change for the sake of change. It's driven by a sense of purpose and meaning. It's what happens when you say, "There's got to be a better way," and then you experiment and take creative risks to see what happens (Spencer and Juliani 2017, 95).

School Librarians have always been innovators and problem solvers. Historically, we were the early adopters of technology like overheads, VCRs, and the first versions of databases like LexisNexis. Librarians in the 90s gleefully purchased the first versions of e-books for their libraries and worked thousands of hours adding their book collections to early OPACs so that their patrons could access library resources using their new personal computers. Because of the innovative mindset of these and earlier school librarians, teachers have always known where to go when they needed new ideas, collaborations, or resources, and students have always come to librarians for the latest books, help with their classwork, or to discuss new directions in thinking.

Over the last few decades, school libraries have undergone a tremendous transformation. The technological age has ushered in a new type of library where online databases are king for research,

students are issued their own laptops in one-to-one districts, and the integration of technology into the school environment has become a major initiative in most schools. Consequently, librarians across the country have been faced with the idea that they must pivot to remain relevant in the school environment. We knew we must innovate or become obsolete.

Today the job of a school library professional looks very different from those of the past. These days, we have 3D printers, Raspberry Pi computers, laser engravers, and sewing machines available for our students. Librarians provide Cricut machines and teach collaborative lessons with Bee-Bot robots and Makey Makey kits. Libraries still offer books, but our collections have flipped from majority nonfiction to majority fiction, with the focus more on reading for pleasure since research today is largely conducted in online databases. We offer huge collections of e-books and digital audiobooks. Many of us have wholeheartedly embraced makerspaces, which foster innovative thinking, collaboration, creativity, and many other 21st-century skills our students will need when they enter the workforce. School libraries are still the campus source for information and research, but now they are also emerging as

community centers, safe spaces, and SEL (social-emotional learning) support locations.

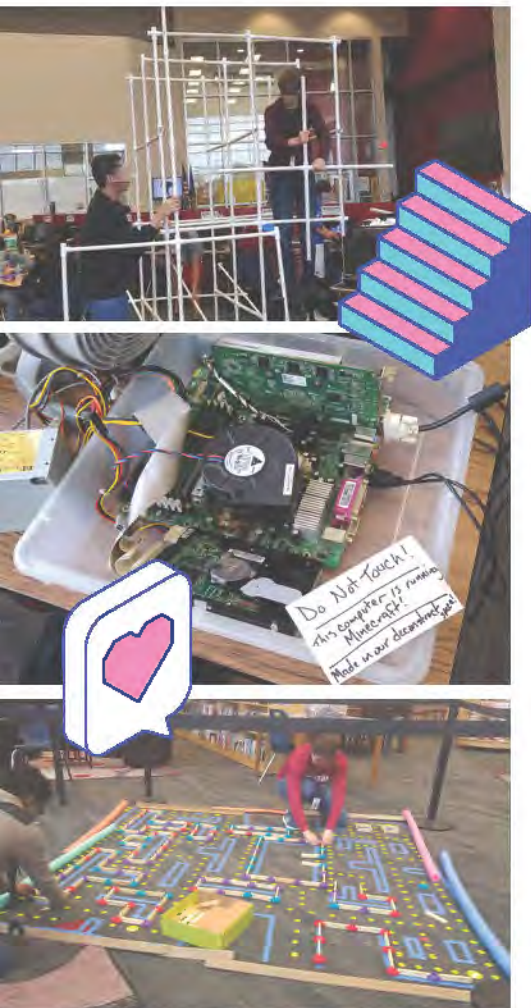
My Makerspace Story

Somewhere around 2010, I became aware of the maker movement and I began looking into the idea that perhaps makerspaces belonged in school libraries. For a while, I soaked in knowledge at conference maker sessions, lurked online in maker discussions, and haunted maker websites. While I recognized the value of the maker movement, I just wasn't sure it belonged in my high school library. When I finally understood that makerspaces were not only valuable but vital to our students, I wrote and received a \$5,000 grant I named Makerspace-a-Month, which would launch my makerspace program with one maker opportunity per month for a year. Since then, I have never looked back.

The authors of *Invent to Learn* express the value of makerspaces succinctly:

A makerspace offers the potential today for students to engage in the real work of mathematicians, scientists, composers, filmmakers, authors, computer scientists, and engineers, etc." (Martinez and Stager 2013, 245)

My engagement in the maker movement has transformed our library into an innovation center and the hub of the school. Together, my students and I have used Sphero robot balls and tape to create a life-size Pac-Man game.



We've used PVC pipe to create 40-foot structures that reached the library ceiling, and we have engaged in community builds that spanned multiple weeks, several combined tables, and dozens of building tools such as K'NEX and GraviTrax. My students have deconstructed computers and built other contraptions using those salvaged parts, such as a server for our Minecraft Pi units so students can game together.

These same students have made more than eight hundred items on our 3D printers and used our LEGO pieces to invigorate their creative thinking. In recent years, we have added a Moth Slam library club that performs slam poetry and does Moth-style storytelling at our campus. We have held drone races and built a wall-size piano using conductive paint and Arduino boards. Our most-recent accomplishment is an interactive mural installation that involved three departments at our high school collaborating and working together to accomplish the task. Our high school library also has a music jam zone where students make music together every day. The music jam zone includes an electronic keyboard, electronic drum kit, acoustic guitar, ukulele, bongo drums, bass guitar, and electric guitar. I have learned to embrace engaged chaos.

Benefits to Learners

One of the foundations of the maker movement is the idea that failure is not the end. It is only the beginning of innovative problem-solving and creative thinking. This idea fits in perfectly with the ethos of innovation and transformation that have always existed in school libraries. In *Mindset: The New Psychology of Success*, the author wrote:

...failure can be a painful experience. But it doesn't define you. It's a problem to be faced, dealt with, and learned from. (Dweck 2008, 33)

I cannot express how much joy has been experienced by our students as a result of open-ended makerspace experiments that succeeded after several failed tries. However, joy is just the tip of the open-ended makerspace experience. This kind of organic learning has taught my students resilience, collaboration, and teamwork. They have taken a concept from idea to design and re-design, and eventually succeeded. They have engineered projects from start to finish learning many, many things along the way. They have improved their critical thinking skills, communication, and flexibility. They have learned to think outside the box to solve problems. They have persevered in the face of failure. When I reflect on the ways makerspace has transformed our library alongside our teachers and students, I feel overwhelmed with gratitude for the people who began this movement. Indeed, it has not only changed their lives but also mine.



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Curricular Connections

The next step in our innovation journey came from the knowledge that libraries also support curriculum, and that has not changed over the years and generations. This support is an important part of the legacy of libraries. From the desire to continue this service to our stakeholders came the curriculum-connected makerspace. At my high school we have engaged in many types of curriculum-connected makerspaces, such as using the cardboard challenge with our physics classes to make cardboard boats they must sail across the school swimming pool in races. Our green screen and 3D printers are often used in connection with project-based learning experiences, and we regularly collaborate with teachers using our makerspace to teach and reinforce the concepts students are learning in class. I also have several amazing colleagues in my district who are using KEVA planks to teach science, Sphero robots to teach history and coding, Bee-Bot devices to teach math, and much, much more.

Because of my choice years ago to include makerspace as part of my library program, my library has become a vital, thriving hub in our school. A lot of hard work has gone into that transformation, including much grant writing for funds alongside tremendous support from



our library director, district, and campus administration. However, the makerspace movement has not been the only factor in the transformation of our library. I have intentionally and consistently created a space that welcomes every student, and I have actively protected our students and our library as a safe space. The culture in our library is one of acceptance, and we have grown as a community as a natural outcome of that fact.

Libraries as Community Centers

We school librarians have a great deal to learn from public libraries. Public libraries have always served as

local gathering places in their towns as well as *de facto* community centers where the towns in question needed them to provide that space. Taking this cue from public libraries, many school libraries are increasingly focused on becoming community centers within their buildings. At my school, we are using that newly achieved power to provide monthly service projects and activities for our students. In that way, we are expanding their world view as we teach our students to become better citizens and to care for others in their adult life. One of my recent DonorsChoose grants was for the supplies needed to make bags



to hand out to people who are currently experiencing life without a home, so that was our first outreach activity this year. The project following that one will be to make pet beds, kerchiefs, and toys for local animal shelters. Always, we school librarians are reaching for more ways to serve our school communities, while also impacting learners' educational growth.

As Tracy Brower has written:

Strong communities have a significant sense of purpose. People's roles have meaning in the bigger picture of the community, and each member of the group understands how their work connects to others' and adds value to the whole. As members of community, people don't just want to lay bricks, they want to build a cathedral. (2020, 3)



“ Libraries have always been places of innovation and learning. I have every confidence that we will come out of the other side of our current tribulations with even more of that staunch determination to stand up for the rights of all people that the librarians of the past taught us. ”

Making your library a space where social communities are welcome is vital to increasing the use of your space and building your capacity for supporting your school community. One way to do this is to welcome special groups into your library during school lunchtimes, and before or after school. We have been working on this strategy for a couple of years at Clear Lake High School, and in library spaces we now host daily a Magic the Gathering card playing group, the Smash Brothers Gaming Club, LEGO Club, Chess



Club, and Cubing Club during school lunch and after school. We also have a room that can be booked for other club meetings on an as-needed basis, and it is well utilized by clubs and their sponsors.

Library Professional Learning Communities

Social media has been a tremendous boon for school librarian professional learning communities. Not only has social media connected librarians across the country, but also the world. Librarians are helping each other around the globe, sharing their successes and knowledge across all platforms, and their generosity has positively impacted libraries, librarianship, and, ultimately, learners. Speaking for myself, the kindness and generosity of other librarians on social media has helped me generate new ideas and increase grant funding for school library projects and programs. I've also been inspired to do more and serve more while increasing my capacity for quality, relevant, and engaging library instruction in support of curriculum. I would not be the librarian I am today without these amazing professionals. They are the foundation of my innovation.

Our Future

Libraries have always been places of innovation and learning. I have every confidence that we will come out of the other side of our current tribulations with even more of that staunch determination to stand up for the rights of all people that the librarians of the past taught us. Their legacy informs our actions now and into the future as we continue to be innovators on the leading edge of education, effectively supporting the curriculum, the school community, and those who have our hearts: our students.



Shirley Dickey is librarian at Clear Lake High School, Clear Creek ISD, Houston, Texas. With thirty-five

years in education, she has presented at AASL and in Texas on topics such as 3D printing, genrefication, makerspaces, fake news, libraries as safe spaces, hot YA titles, and tech tools for libraries and their patrons. She is also a member of the podcast team for the *Unshushed Librarians* at <<https://sites.google.com/view/unshushedlibrarians/home>>. Shirley is a member of Texas Library Association (TLA), Texas Association of School Librarians, TLA's *Young Adult Round Tables*, *Young Adult Library Services Association*, *Texas Computer Education Association*, *ALA*, and *AASL*.

Recommended Resources

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