Learning with and without Technology

By Karin Perry and Holly Weimar

Teens are surrounded by technology. "88 percent of teens text their friends at least occasionally, and fully 55 percent do so daily" ("Teens, Technology and Friendships," www.pewinternet.org/2015/08/06/teens-technology-and-friendships). Kids born today will never live in a world where there aren't devices like smartphones and tablets. Whether or not they personally own one, it is most likely that their school does. This means there are many new opportunities for youth to gain a variety of skills.

In this article we write about an array of tools—online, digital, and analog—that library staff working with teens can use to support youth acquisition of a variety of skills. We think that this assortment will help library staff help teens learn in a range of environments: those that are technology-based and those that focus on the use of physical objects.

KARIN PERRY is an Assistant Professor of Library Science at Sam Houston State University. She spends most of her time reading YA books. Her book, *Sci Fi on the Fly: A Reader's Guide to Science Fiction for Young Adults*, was published in July 2015. She is the author of the "Audio Talk" (audio book reviews) column for VOYA. Perry presents in Texas and elsewhere about books and technology. She is currently working on a book about Sketchnoting with students and another reader's advisory book for VOYA. HOLLY WEIMAR is an Associate Professor and Chair of the Department of Library Science at Sam Houston State University. Her research focus includes virtual learning presence, educational sketchnoting, and researching in the school library. In addition to teaching and scholarly and administrative duties, she is also the internship coordinator for the library science program. She enjoys visiting school library interns in the field and learning about all the important work that they are doing together with the school librarian. Currently, she is working on an educational sketchnoting project with Karin Perry and Mary Ann Bell.

Building Things: Build with Chrome and LEGO

Build with Chrome is a web application where teens build using digital LEGO blocks (www.buildwithchrome.com). It was originally developed for the LEGO Festival of Play. Then in 2014 the application was opened to everyone and anyone. By signing in with a Google account, teens from around the world can build their own creations and see what others built. Users have the option of building from scratch or going through tutorials or challenges in the Build Academy. The possibilities are endless with the multiple brick and color options. Once created, Builds can be published for others to view.

Of course the analog version of LEGO is also a great way for teens to create and build. Building may be solitary or in collaborative groups. For realistic building, there is the LEGO Creator series of cars (think Ferrari), buildings, and jet planes. More specifically builders can create replicas of the White House, the Louvre, and even the Leaning Tower of Pisa. If interested in building a wall made of LEGO, Pinterest and sites like RenovatedLearning.com have great ideas for constructing one of those. Don't forget you can give teens the chance to talk about what they build digitally, or with physical bricks, and describe what they like, don't like, and what they learn with each type of building experience.

Build Electrical Circuits with Squishy Circuits

Hands-on inquiry-based learning is the perfect way for teens to learn how things work. At a 2011 TED Talk, AnnMarie Thomas demonstrated how homemade play dough conducts electricity. (Available at www.ted.com/talks/annmarie_thomas_squishy_circuits.) By combining the use of conductive and insulating doughs, a circuit is created. (Thereby creating "squishy circuits.") There is a Squishy Circuits

Store online where kits may be purchased (about $25 each). At the Squishy Circuits site you'll find videos on how to make the dough, how to make the circuits, and other instructional resources for more complex experiments and projects. Squishy Circuits are also available through other venues, such as Amazon, Maker Shed, and Science Buddies.

Saving the World with Board and Online Gaming

Have you seen Pandemic? In this game teens get a chance to learn how to solve a world problem, which helps them to expand their knowledge of real-world problems and events. Two to four players start at CDC headquarters and travel between cities treating diseased patients while looking for a cure. They must decide how to balance treating patients while at the same time working on developing a cure for the four different viruses that plague the populace. Strategy and cooperation with other players is important and must be used to cure the diseases for a win. Game play usually takes about 60 minutes. Some other board games that require the important 21st-century skill of strategy include Memoir '44 (replay of WWII battles), Game of Thrones (somewhat similar to the fantasy by George R. R. Martin and the popular HBO series of the same name), Ticket to Ride (building of the first U.S. railroads), and the tried and true game of chess.

To coincide with the physical board games Pandemic and Memoir '44, teens can play Pandemic II and World War Online. In Pandemic II (www.pandemic3.com) players choose to be either a virus, parasite, or bacteria with the goal of killing everyone on the planet. World War Online (www.worldwaronline.com) is a unique combination of war, strategy, and community. It is a free to play browser-based game with players from over 100

nations taking part. Playing games in both physical and digital environments gives teens more opportunities to think and talk about when technology provides ways to expand understanding and when it's a hindrance to that. Library staff and youth development experts can facilitate those conversations with the teens with whom they work.

Life Happens

Teens have a lot of options for keeping track of their lives. Writing a diary or creating a to-do list can happen both digitally and with "old-fashioned" pen and paper. For teens, selecting the right pen, paper, or other tool to create a to-do list or to write a diary entry might have a lot of personal meaning and importance. Choices abound: Pilot, Zebra, Uniball, and Sharpie pens are popular and come in a variety of colors. Moleskins, specialty notebooks, or printer paper may do the job. Teens may even find that different types of projects require different writing tools—digital or analog.

When teens want to go the digital route for life management, there is an array of tools they may use. For example: Wunderlist (Android, iOS, Windows, Web, Mac), Quest (iOS only), and Begin (iOS only). Wunderlist and Quest accomplish the same thing. Teens keep a list of tasks to complete and then cross them off when finished. The advantage of Wunderlist is that the app syncs across platforms so what is on a smartphone will also show up on the computer. Quest enables teens to "level up your life" and grow an 8-bit character. As teens complete tasks they earn items to advance their character in a "game." Once tasks are finished, teens level up and watch the character grow. Then there is Begin. This productivity app focuses on short-term due dates. Teens enter tasks that need to be completed today or tomorrow. At the beginning of each day, the app clears out the old to-dos and teens start fresh.

Career Readiness: Junior Achievement/ Future Business Leaders of America

Future Business Leaders of America (FBLA) is the oldest student organization for teens preparing for careers in business. The organization provides service learning opportunities and conferences for leadership development. For educators or advisors, a specialized business curriculum is available. Another organization that supports teen learning about the business world is Junior Achievement (JA). The focus for JA is more entrepreneurial, with experiences focused on starting a business and managing finances. Both organizations provide online information to help educate their members, but the face-to-face interactions prove to be highly engaging and inspiring.

Gaining Career Skills Online

TeachingKidsBusiness.com is definitely a place to go online to gain business and entrepreneurial skills. Under the site's "Skills" tab there are several programs and activities to complete that help prepare teens for the business world. There are instructions for creating a resume, a planning sheet to help teens decide what their "thing" is, activities to help teens learn how to network, and tips for working on attitude and self-image.

Learning how to handle money is also really important for teens to find out about. FamZoo Family Finance is a free iOS app that allows parents to set up their own online virtual bank to manage a teen's allowance, chores, budgets, goals, loans, spending, saving, and charitable giving. What we like about this one is that it seems to encompass a lot of what parents want teens to know about money, including what loans are all about, which is something not frequently included in budgeting apps. YALS