

# teacher | librarian

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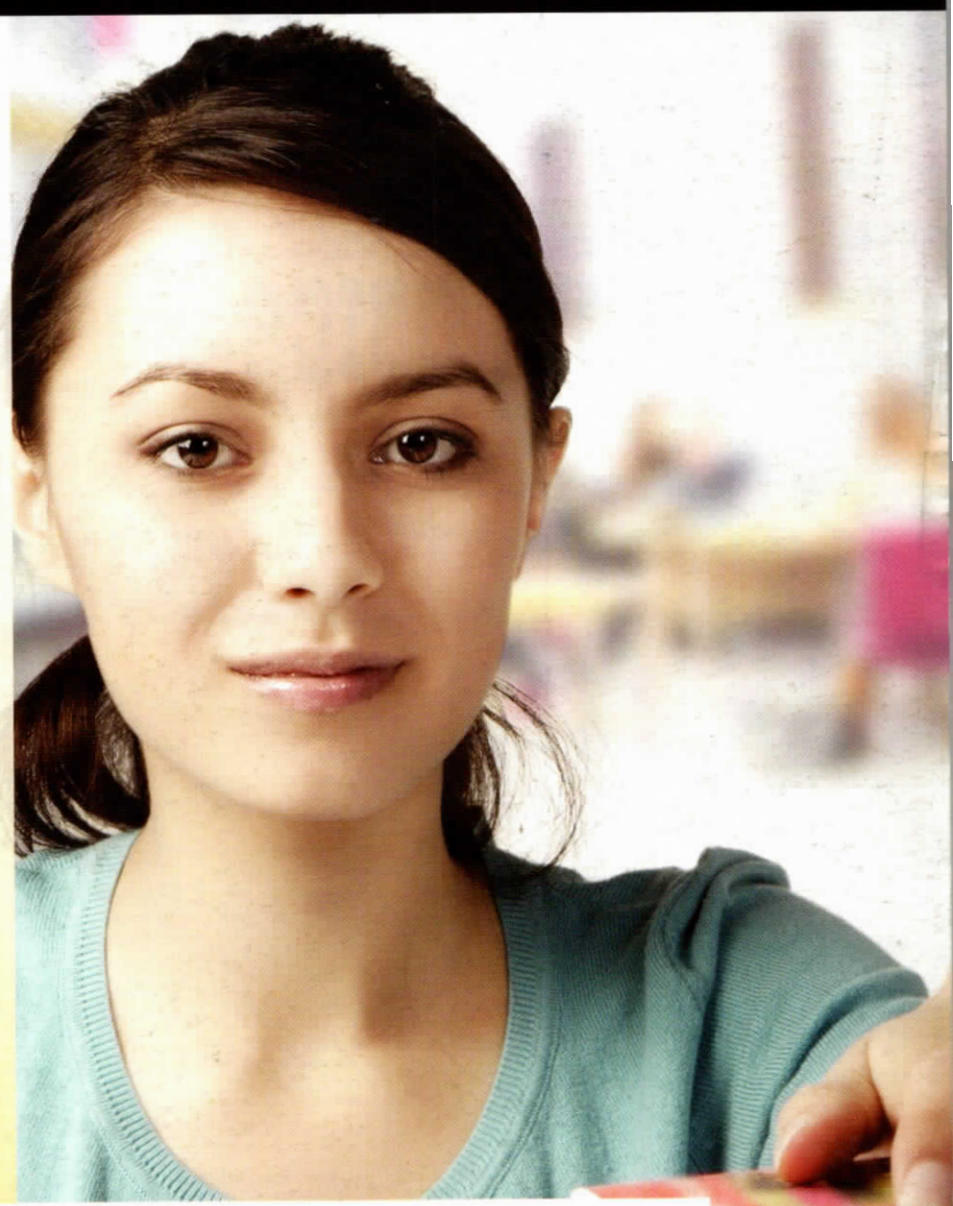
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Maker Movement  
Makerspaces  
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Learning Commons  
Professional Relevance



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### **BUILDING A CULTURE OF CREATION**

Andy Plemmons offers firsthand experience introducing maker culture and activity to his library and students. Starting simple and moving to robotics and 3D printing, Plemmons demonstrates realistic ways to start and grow making in school libraries.

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### **MAKE IT SO: YOU CAN START A MAKER CLUB AT YOUR SCHOOL LIBRARY!**

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### **SCHOOL LIBRARY MAKERSPACES: MAKING IT UP AS I GO**

Ana Canino-Fluit shares her experience and success in establishing a maker club in her small school. She also related maker activity to both AASL's *Standards for the 21st-Century Learner in Action* and the CCSS Anchor Standards.

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### **REALITY CHECK: AUGMENTED REALITY FOR SCHOOL LIBRARIES**

Marybeth Green, Joy Hill Lea, and Cheryl Lisa McNair argue that augmented reality for school libraries is closer than we think. The authors discuss research related to augmented reality in learning environments and strategies for implementation in school libraries as a plan for research or a product of research. Strategies include create, curate, locate, and gamify. A very interesting article on an important topic.

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### **WHY DO I STILL NEED A LIBRARY WHEN I HAVE ONE IN MY POCKET? THE TEACHER LIBRARIAN'S ROLE IN 1:1/BYOD LEARNING ENVIRONMENTS**

Jennifer LaGarde and Doug Johnson have produced an important "call-to-arms" for teacher librarians. The article addresses the challenge to teacher librarians to remain relevant—and employed—as the world of information and information technology threaten traditional roles and practices. The authors present several ideas and actions that can be used to change, adapt, and survive.

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### **WHY A MIDDLE SCHOOL LEARNING COMMONS?**

Chad Stephenson and Jason Stone address the question "Why a Learning Commons?" for librarians, administrators, technology coordinators, and other middle school teachers. The article tells the story of the learning commons created by the San Francisco Friends School, among the first for middle school students in the United States.

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### **LOOKING BACK ON A YEAR OF TRANSITION FROM TRADITIONAL LIBRARY TO LEARNING COMMONS**

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## NOTEBOOK



# Summer

David V. Loertscher and Elizabeth "Betty" Marcoux

A hhh – summer! The “break” to which we have been looking forward. Yes, time to pause, but also time to refresh and rethink!

As most educators know, the “summer break” isn’t only a time to relax and enjoy a respite from Monday to Friday workdays, but it also is a time to contemplate what next year is going to look like.

We believe this issue can help you with your reflection. One of the hottest topics to emerge recently is the Maker Movement and Makerspaces. We have included multiple articles that may help you think about the potential for a makerspace at your school, what will work with your situation, and how to begin or continue this process. Several schools are holding events that involve many concepts of the makerspace agenda; some schools are collaborating with public libraries and other community organizations to create an opportunity for students to enjoy the concepts of creation. Look for something in your community.

Kurti et al have spent much time developing thoughts and strategies about the makerspace movement, and they have put them on paper for all of us to enjoy. This article is a thoughtful, insightful, and important analysis of the philosophy and pedagogical underpinnings of the movement. Their analysis and argument are strong, and the benefits they tout are inspiring. The authors will follow up with two more articles on the maker movement which will be published in the next two issues of TL and posted on our website. Continuing with the maker theme, both Plemmons and Buerkett offer thoughts about what tools and resources might be needed, how to acquire them, and how to use them effectively. Canino-Fluit offers a reality check about implementing the concepts of creation/makerspace while aligning such activities with both the AASL and CCSS standards. Worthwhile reading to consider how these ideas may fit into what already is your very full plate.

This issue also draws from several field experts who offer suggestions for how to increase the viability and visibility of the school library in a technology-influenced world. Green, Lea, and McNair talk about the concepts of augmented reality and how it can be considered when planning for research. They offer strategies addressing both creation and curation. LaGarde and Johnson discuss the challenges faced by teacher librarians in the shadow

# Makers, Self-Directed Learners, and the Library Learning Commons

David V. Loertscher

Every day, in every school, we encounter learners with a huge variation in what they know, what they are able to do, and their ability to learn. It has always been so, but the diversity of learners, their language backgrounds, and their encounters with the world of information and technology makes for quite a different and complex challenge.

In the United States, we are faced with changing standards and tests that challenge us to spit out from the system a product as uniform as Twinkies or the number-one choice on any fast food restaurant's list. Since the measuring stick is changing but the pressure on teachers to produce is going up, one wonders what is going to happen when the news of massive failure on the new tests spreads across the country and through the media.

Concurrently, voices are getting louder and louder that advocate the idea of the world of creativity, making, inventing, thinking outside the box, becoming an entrepreneur. Many people are talking about the self-directed learner versus the cookie-cutter regurgitator. These people advocate for a diversity of outcomes as the essential direction in order to hold first-world positions, opportunity, and affluence.

Teacher librarians are in a position to not only recognize the various pressures on teachers, testing, technology, and the exponential growth of information and networking but also can, through their library learning commons program, do more than just try to hold on, hoping that the current craze will subside if we just ignore it.

We continue to encounter brave professionals who first recognize leadership opportunities and take a "both and" approach, rather than an "either or" stance. There is one sure way of understanding this maker movement, and that is to experience it, for instance, at a maker fair. The inspiration for the uTEC Maker Model in this issue and presented below came from just such a visit by Bill Derry, Leslie Preddy, and myself. The New York Makeraire in the fall of 2013 had hundreds of booths and probably 100,000 visitors looking, interacting, talking, and marveling over young people, college students, adults, entrepreneurs, volunteer organizations, and professional organizations demonstrating what they had invented. The infectious environment as one walks from one amazing idea to the next is stimulating yet overwhelming the longer you stay.

The uTEC Maker Model pictured here and also in the centerfold of *Teacher Librarian* charts a journey from using to creating and takes note of the dispositions that are developing along the path. The model has two purposes: (1) to help adults recognize behaviors they may only usually see in spurts and (2) to provide a visual representation for creators or budding creators to help them recognize that they are on the same path as the greatest inventors and makers in world history. Why the need for a visual representation? In education, teachers bent on covering, delivering, and pushing mastery often see any deviation from a prescribed set of assignments as an aberration than creative expression. Such behaviors are often punished and squelched.

Following along the uTEC model with us will help to recognize and elevate creativity rather than judging alternative thinking and behavior as negative,

## U FOR USING

☐ Enjoy, sample, engage, play, participate in, or experience what others have created

We are all users and enjoy the creations of others, from games to microwaves to cell phones, to art and music and the automobiles we drive. We love new models and often want to be the first to own them, but we trust the creative approach of the inventor and use the item as intended.

## T FOR TINKER

☐ Play, mess around, question, research, make changes to others' creations

We often become curious or dissatisfied with an invention and start experimenting with its purpose or the way it works, or we arrange the music or change the game. We might repurpose an item to use it in a different way than the inventor intended.

## E FOR EXPERIMENTING

☐ Build, try/fail, repurpose, modify and test theories, learn from failure/success

At this level, we get serious about tinkering and begin experimenting with an idea, invention, musical sound, or video technique as we wonder what would happen if . . . This requires much trial and error, record keeping, thinking, and rethinking.

## C FOR CREATING

☐ Invent, produce, entrepreneurship, novel products, ideas, inventions

The ideas have now come into focus, and a product or item

*continued on pg. 38* ►

# Using

# Tinkering

**Enjoying; Sampling; Engaging,  
Playing**

**Participate in or experience  
what others have created**

**Playing, Messing Around;  
Questioning, Researching**

**Making Personal changes to  
others' creation**

**B  
R  
M  
L**

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Bill Derry  
David V. Loertscher  
Leslie Preddy

Strategies: Work & Time - C



**uTEC**

# Maker Model

## Experimenting

ing; Trying/ Failing;  
rposing

ying and testing theories;  
ning from failure / success

## Creating



Inventing;  
Producing;  
Entrepreneurship

Novel product;  
Ideas; Inventions

**My Developing Dispositions**

Organization - Teamwork - Problem Solving - Persistence - Resilience

Actions: Know - Imagine - Inquire - Design - Collaborate

Roles: Presenter - Mentor - Coach - Communicator - Leader

appears as a prototype ready to push out into the world of ideas, production, and demonstration.

## MY DEVELOPING DISPOSITIONS

### Strategies

- Work and time
- Organization
- Teamwork
- Problem solving
- Persistence
- Resilience

### Actions

- Know
- Imagine
- Inquire
- Design
- Collaborate

### Roles

- Presenter
- Mentor
- Coach
- Communicator
- Leader

Along our path to becoming a creator, either knowingly or unknowingly, we have been required to build new skills and abilities, and upon reflection, we are surprised about what we now know and are able to do. We experience pride in our work and taste excellence, but we might also encounter new questions that makes us start all over again.

As adults, if we recognize that curiosity and play are leading to tinkering, repurposing, trial and error, or serious experimentation, then we make it known to both individuals and groups that this behavior is not only acceptable but welcome. The action may not fit into what we are doing with the children or teens at the moment, but we are flexible enough to allow it to occur. It can be disrupting, annoying, or even a direct challenge, but as mentors, we learn to deal with the unexpected. What others might perceive as off script, off task, confusion, or conflict, the mentor sees as growth potential and encourages the be-

haviors to achieve a larger goal and perspective.

For the learner, curiosity and invention become a natural part of learning. It is not a matter of rebellion or malicious intent—it is a matter for serious pursuit of the greater good, self-fulfillment, and a sense of accomplishment. I begin to understand the meaning of personal expertise, cooperative group work, and collaborative intelligence. Creation becomes a part of life and living, my way of making a difference.

In a larger sense, curiosity, critical thinking, creativity, problem solving, and work-arounds become a normal and natural part of education. The learner has the ability to knuckle down and get work done in an intended way but is often focused on new ways to accomplish a task more efficiently, and productivity increases.

Examples abound everywhere. We discover how to use a Google document for collaborative writing, commenting, and thinking. Learners start using one technology tool to create a presentation and end up using another to build a simulation of how something works. We start off expecting the acquisition of a prescribed body of facts but end up with deep understanding, reflection, and application to a current problem.

For the teacher librarian torn between two worlds of direct instruction versus constructivism, the library learning commons is the place to foster both environments. We make room for both formal and informal learning, and we do so in both our physical learning commons and in the virtual learning commons.

For those trapped in scheduled classes, perhaps “making” takes over as the “curriculum” of the library learning commons. Such a notion concentrates on building the self-directed learner—the explorer of the world of print and multimedia; the inquirer, whether an individual or group; the tinkerer/experimenter; and creator. It becomes a matter of mentoring rather than another top-down teaching plan. Such an idea is probably foreign to most, but perhaps it is something to brainstorm our way through and develop a possible proof-of-concept experiment. The expectation for

the library learning commons behavior is that I go there to explore, think, create, do, participate in, perform, and come into command of my own learning. Perhaps such a place makes the learning commons central to my education, to my life and career. And I can do all this participatory development both in the physical and the virtual world simultaneously. Does this turn the learning commons into a giant learning laboratory? What an idea! Actually, it has been a part of the dream of what a school library is really for—an idea dating back to the 1960 standards for school libraries—but is often masked by other priorities. Is it a return to our roots but in the new world of exploding information and technology?

The idea of maker and making challenges each of us to rethink our roles as teacher librarians. For those pushing toward the learning commons concept, it challenges our thinking and planning. It adds another dimension to the capture of that diverse learner, a way to build not only essential skills and understanding but also to push beyond that in a variety of ways rather than a set framework. It also reminds us once more about the crazy ones:

*Here's to the crazy ones. The misfits. The rebels. The troublemakers. The round pegs in the square holes. The ones who see things differently. They're not fond of rules. And they have no respect for the status quo. You can quote them, disagree with them, glorify or vilify them. About the only thing you can't do is ignore them. Because they change things. They push the human race forward. And while some may see them as the crazy ones, we see genius. Because the people who are crazy enough to think they can change the world, are the ones who do.—Apple Computer*

We all have had a teacher who liberated our thinking and released in us qualities that we did not recognize in ourselves. How did they do it? And, more importantly, how can we pass it on? It is a path worth pursuing. Is making in your future?