MakerSpaces and Collections of Things to Inspire Digital and Technological Literacy

Katelynn Scott, MLIS
School Library Media Specialist
Alfred G. Waters Middle School
Middletown, DE
Katelynn.Scott@appo.k12.de.us
Have you ever given in to a fad?
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- How many of you have thought about creating a makerspace in your library?
- How many have been intrigued by the idea of buying a 3D printer?
Jump on the Makerspaces Bandwagon!

• Yes, makerspaces do involve S.T.E.M.... that magic acronym which opens funding and increases cool factor

• BUT they serve a deeper, more valuable function in library settings...

Literacy!
Come to the dark side...

We have cookies!
5-years ago at AGW

- Previous librarian was “keeper of the books” and was uncomfortable teaching
- Library was used for book check-in and check-out and standardized testing on the desktop computers
- Lunch was never allowed in the space
5-years ago at AGW

~ Most important for today ~

• Principal and staff defined literacy as the *ability to read and write effectively*, much to the chagrin of certain departments

• Library collection included books, magazines, a large professional development section of dated teacher materials, and some educational DVDs
But as Bob Dylan sings,
Summative products = no longer just tests, quizzes and papers

Educational shift #1 = performance tasks and inquiry based learning
Literacy = no longer just the ability to read and write

Educational shift #2 = an expanding definition of “literacy” (and more!)
Tools for learning = no longer just paper and pencil

The SAMR model (substitution, augmentation, modification, & redefinition) guides our academic practices with iPads.

Educational shift #3 = a building focused around technology.
Today at AGW

• Librarian co-teaches with every teacher in the building at some point – research, technology, writing, etc.

• Library is used for book circulation, teaching, collaborative work space, lunch bunches, book clubs, the makerspace, and coding club after school

• Librarian also works to secure multiple grants and community support for new programs and materials
Today at AGW

~ Most important for today ~

• Principal and staff are developing a working definition of literacy as *the ability to make meaning from a variety of sources and to communicate that understanding to the world.*

• Library collection includes books, a few high interest teacher items, 3D printers, a green screen, building supplies and tools, board games, drones, robotics equipment, podcast equipment, and more!
So what?
What does this have to do with libraries everywhere?

The library and librarians can play a central role in the development of a more literate community through expanded collections and makerspaces.
Understanding #1: One of the biggest goals of the library is literacy

• Libraries have *always* been in the business of helping to create a more literate society

• When AGW wanted to shift toward developing *new* literacies, the library had to adapt to offer programs and a collection in that direction.

• Shifting our definition of literacy helps us to set new goals and achieve exciting outcomes
Understanding #2: STEM isn’t new and it isn’t a magic acronym

- The library has always encouraged STEM literacy: science reference databases, technology how-to books, engineering books, math tutorials
- We have to build *true* literacy in these areas – not the “STEM-aka-isn’t-it-fun-to-build-with-popsicle-sticks” bandwagon
3D printing as an example

3D printers are cool & affordable! Yay!

- Problems: glitching errors take time to fix, we’re frequently just printing trinkets and junk
- Potential: *can* help develop creative literacy, technological literacy, and digital literacy
- AGW Rules: only print objects that solve a problem or help or school community AND were designed or modified by the students
- Literacy: free CAD software builds digital literacy, students repair the printer and gain technological literacy
Understanding #3: the collection must reflect and support a broad definition of literacy

- A collection of (carefully curated) things with a space to use them can foster creativity, curiosity, engagement
- Those elements lead to literacy as students explore what is available and combine resources in new ways
Reading programs &
new literacies programming
AGW Examples:

• Lunch book clubs
• After school movie parties
• Girls Who Code club after school
• Lunch bunches: tinker time, 3D design time, robotics time, podcast development, scratch coding
• Enrichment class for making and developing tech tutorials
Collections of books & collections of things
AGW Examples:

- **Art supplies**: coloring utensils, various papers, glues, adult coloring books
- **Building supplies**: cardboard tubes, boxes, egg cartons, clay, power tools + hand tools, PlayDoh, Legos, K*Nex, Duplos, Lincoln Logs, Keva Planks
- **Technology**: DSLR cameras + GoPro, Cubelets, MakeyMakey, LittleBits, Snap Circuits, drones, Sphero, Ollie, podcast equipment, green screen, 3D printers
- **Collaboration**: board games, card games, word games, strategy games, puzzles
Important Questions to Ask Students

• How do you create a digital product rather than a print one?
• How can you use this technology in a new way?
• How can you show your understanding by making or creating something?
• How can you work together to build something that has not previously existed?
Important Questions to Ask Ourselves

• Are we achieving positive outcomes?
• Are we meeting needs?
• Are we motivating patrons to learn in new and fresh ways?

Are we developing true literacy?
Evaluate if students are growing their literacy

• Are we achieving positive outcomes?
  – 73% of student at AGW showed increase proficiency in the areas of technology and digital creation after repeated exposure to the collection of things
  – Traffic, attendance at events, and circulations increased in the three years since the inception of the makerspace
Evaluate if students are growing their literacy

• Are we meeting needs?
  – Teachers request materials more frequently via e-mail and in-person visits
  – Students report satisfaction with the collection and programs
Evaluate if students are growing their literacy

• Are we motivating students to learn in new and fresh ways?
  – Lots of people smile!
It’s more than a fad... it’s developing meaningful literacy!

WE ARE
THE MAKERS
OF WHAT’S NEXT
Questions?

Katelynn Scott
Katelynn.Scott@appo.k12.de.us
www.agwaters.org
302-449-3490 ext. 2134