

NASS IDEAS Award, 2017

Delaware
Department of State



Serving Delaware & the World
Jeffrey W. Bullock, Secretary



Program Title: Delaware Libraries Inspiration Spaces

Project Lead: Dr. Annie Norman, State Librarian and Director, Delaware Division of Libraries

Brief Description: Inspiration Spaces are centers located within Delaware public libraries where entrepreneurs, makers, career-seekers, students, and lifelong learners can gather to create, build skills, and experiment with new technology. The resources and programming made available at Inspiration Spaces statewide build on successful partnerships and services that foster innovation and help people do more for themselves and their communities.

NASS Subject Area: State Heritage

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Executive Summary

History –

Delaware Libraries Inspiration Spaces grew out of a \$2.8 million Broadband Technology Opportunities Program (BTOP) grant from the Gates Foundation and the National Telecommunications and Information Administration (NTIA) received by the Delaware Division of Libraries in 2010. This grant award was used to establish the Job Center @ Delaware Libraries, which was designed to assist Delawareans throughout the state with job searches and job skills. These Job Centers officially launched in July, 2011 at libraries across the state.

Over time, as the economy rebounded and skills improved, Job Centers began seeing an increase in the need for entrepreneurship services and STEAM resources (science, technology, engineering, arts, and math.) As a result, the Job Centers were re-branded as Inspiration Spaces, with expanded partnerships, services, and programs to support innovation.

In 2013, NTIA completed a before/after case study evaluation of Job Center @ Delaware Libraries services that heralded the success of these programs and emphasized the need for continued support. In particular, the study pinpointed the critical need for access to computers and technological literacy filled by the libraries. “According to interviewees, the primary impacts include the acquisition of employment because of access to computers and broadband to facilitate job searching and lifelong learning, and in some cases, the improvement of digital literacy skills,” the study read.

At the end of the three-year grant, the Delaware General Assembly approved funding to sustain and expand the programming to include more support for entrepreneurs.

The official launch of the Delaware Libraries Inspiration Space took place on Oct. 14, 2014 at the Wilmington Public Library.

Significance –

The programming and resources available at Inspiration Spaces supports the goals of the Delaware Department of State and the Delaware Division of Libraries by broadening access to knowledge and providing opportunity for Delawareans from all walks of life to do more for themselves and their communities.

Inspiration Spaces are currently located in all three Delaware counties, at the Wilmington, Dover and Georgetown public libraries. Several other Delaware libraries also host Inspiration Space resources, programs and events.

Patrons can access leading software programs for design, photography and coding such as Cura, SketchUp, Blender, Scratch, Adobe Premiere, Adobe Photoshop, and MinecraftEdu. Available reference materials and software geared toward small business and entrepreneurship include Quickbooks, Business Plan Pro, ReferenceUSA, and Learning Express.

In addition to laptop and desktop computers, Inspiration Spaces also feature hardware such as DLSR cameras, green screens, lighting kits and Wacom pen tablets.

Seven Delaware libraries also feature 3D printers that work in tandem with available modeling programs. Inspiration Space patrons can design objects using computers at home or at the library, then have their products printed at the library most convenient for them.

Inspiration Spaces also offer entrepreneurship programs and resources, including a portal to incorporate a new Delaware business online. Inspiration Spaces continue to provide the Job Center services that have been helping Delawareans advance their careers since the start of the program.

Impact and Results –

Inspiration Spaces and the services they offer have been a catalyst for positive change in the lives of thousands of Delawareans who have visited them, from people looking to improve their employment prospects to artists and innovators in need of the resources to channel their creativity.

The public libraries that house Inspiration Spaces have become mini-makerspaces – collaborative, creative settings where people can enthusiastically experiment with technology and ‘Do-It-Yourself’ activities.

In 2015, 10-year-old Colin Consavage used 3D printing technology at the Wilmington Library Inspiration Space to design and produce a working prosthetic hand for himself. Born with limited mobility in his left hand, Colin was inspired by a jointed hand he saw at a Maker Faire (a gathering of DIY enthusiasts who often turn to technology to produce new and novel items for use in real-world applications or as art objects.) Working from open-source plans available online, Colin used Wilmington’s 3D printer to produce the pieces for his hand, then assembled them at home. By simply flicking his wrist Colin can easily grip objects with his left hand, write, draw, and even arm wrestle – tasks he was not able to perform before he produced his prosthetic hand. Impressed with the prototype Colin made at the Wilmington Library Inspiration Space, engineering students at Penn State University are working with him on an improved design.

Inspiration Spaces have also been a source of new job and career opportunities for hundreds of Delawareans in recent years. Since the inception of the program, 1,275 job offers have been reported at Inspiration Spaces statewide and more than 51,000 people have visited Delaware Libraries Inspiration Spaces and used their services.

New and expanded partnerships with Inspiration Spaces include the University of Delaware’s Department of Mechanical Engineering, Barrel of Makers, and the Delaware Financial Literacy Institute. The Delaware Division of Libraries has also entered into an agreement with the U.S. Department of Labor under the federal Workforce Innovation and Opportunity Act (WIOA) and hopes to receive a share of funding in the future to support Inspiration Spaces.

Supporting Materials



Web and social media marketing –

MakerSpace

Makerspaces at Delaware Libraries are shared spaces where people with similar interests can meet to learn, teach, socialize and collaborate around making things. We encourage all Delawareans to engage each other through experimentation, play and creative problem solving.



Entrepreneurship/Small Business

Offering programs and assistance to start a business or take your business to the next level. Through our extensive Partner Network, we are able to offer programs for the entrepreneur in libraries throughout the state, as well as making connections to small business assistance in Delaware.



Job Center

Looking for your first job? Hoping to land a better job? Re-entering the work force? Our FREE program offers workshops designed to help you be successful!





Inspiration Space

Workshops/Classes



YOUR INSPIRED FUTURE

3 Week Lunch Time Workshop Series

Thursdays, February 4, 11 & 18, 2016

11:00am - 12:00pm

The Inspiration Space at the Wilmington Public Library exists to do just that – INSPIRE YOU! Create an inspired 2016 by taking the workshop “Your Inspired Future”. Identify and define what you enjoy doing, what is important to you, and what skills and abilities are natural to you. Inspiration Space resources can help you apply your results to your life.

Let us help you make 2016 a truly inspired year!

Inspiration Space

Wilmington Public Library

10th & Market Streets
2nd Floor

Register: www.delawarelibraries.org/workshops

Please be prepared to attend all three sessions.
A workbook needs to be completed in advance.
Registration is required.

More information contact: janet.wurtzel@lib.de.us



Inspiration Space

Workshops/Classes



PLANNING FOR YOUR BUSINESS SUCCESS

Thursday, February 4, 2016

1:30 PM - 2:00 PM

Planning is the key to business success.
Learn the steps -

Step 1: Describe & Understand your
Business Idea.

Step 2: Define your Business Goals.

Step 3: Prioritize the actions needed to meet
your goals and be action oriented every day.

Information is power so be prepared to ask
questions and take good notes!

Inspiration Space

Wilmington Public Library

10th & Market Streets
2nd Floor

www.delawarelibraries.org/workshops

Registrations Strongly Suggested
Register and see a full list of workshops
at the above link.

More information contact: janet.wurtzel@lib.de.us



Unleash Your Potential

Inspiration Space at Delaware Libraries

Entrepreneurship Financial Literacy Lifelong Learning Job Center Small Business MakerSpace Technology



Wilmington Public Library

10th and Market Street, Wilmington, DE

302-270-4829

Computers & Digital Literacy

Registration
is required.

5/5 @10:30am Computer Basics
5/5 @12:30pm-Email Basics
5/5 @2:30pm- Internet Basics
5/12 @10:30am-Computer Basics
5/12 @12:30pm-Email Basics
5/12 @3:00pm-Facebook Basics
5/19 @10:30am-Internet Basics
5/19 @1:00pm-MS Word Basics
5/19 @3:00pm-MS Excel Basics

Regular Weekly Programs

Walk-In Job Search & Entrepreneurial Assistance
Mondays: 10am-12pm
Mondays: 2pm-6pm
Wednesdays: 3pm-7pm

Second Chances: Job Assistance for Challenged Backgrounds
Mondays & Wednesdays: 12-2pm
Tuesdays & Thursdays (John Dickinson Room): 12-2pm

In Her Shoes: Job Assistance for Women w/Challenged Backgrounds
Every Tuesday: 6pm-7:30pm
Every other Wednesday (5/13 & 5/27 in DuPont Room): 6pm-7:30pm

APEX Expungement Forum: Wednesdays: 10am-12pm

Adult Education w/Christina School District (GED Preparation)
Thursdays, Fridays & Saturdays: 9:30am-1:30pm

Special Programs

Tues: 5/5 @6:00pm- Success Secrets for America's Millionaires
Thurs: 5/7 @11:00am- How to Start a Business Working Full-Time
Thurs: 5/14 @11:00am-Social Media Marketing Success
Thurs: 5/21 @12:00pm-Sustainability and You
Thurs: 5/21 @1:30pm-Social Security Information Session
Thurs. 5/28 @10:30am-Doing Business with the Federal Government
Thurs. 5/28@ 2:30pm-Stress and Emotional Management Strategies

For more information or to register for programs visit: www.delawarelibraries.org/workshops

Unleash Your Potential



With workshops to help you find a new career or job, classes to develop new skills, information on how to start a new business or grow your small business... whatever your passion, Delaware Libraries can help.



Visit a public library
Inspiration Space today!

Dover (302) 222-8509	Seaford (302) 222-3618
Georgetown (302) 222-3618	Wilmington (302) 922-0753

Classes & workshops also available
at these public libraries:

Appoquinimink • Bear • Brandywine Hundred
Bridgeville • Claymont • Corbit-Calloway
Delaware City • Delmar • Elsmere
Harrington • Kirkwood • Kent County
Laurel • Lewes • Milford • New Castle
Newark • Smyrna • South Coastal • Woodlawn

delawarelibraries.org/IS

This service is made possible through support from the Delaware Division of Libraries, a state agency dedicated to unleashing the potential in libraries and all Delawareans.

Delaware
Division of Libraries

Featured Programs & Services available in Delaware Libraries

Check with your local library for availability & more.

- 3D Printers
- DSLR Cameras
- Green Screens & Lighting Kits
- Cura
- SketchUp Make
- Blender
- Scratch
- Adobe Premiere Elements
- Adobe Photoshop Elements
- Wacom Tablets
- MinecraftEdu
- Quickbooks
- Business Plan Pro
- Mavis Beacon Teaches Typing
- ReferenceUSA
- Learning Express

What is an Inspiration Space?

It is a mini-makerspace, which are collaborative, creative spaces where people can enthusiastically learn about and experiment with technology, entrepreneurship, and DIY activities.



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Delaware
Division of Libraries

Starting a Business? Career Change? Looking for a Job?



With workshops to help you find a new career or job, classes to develop new skills, information on how to start a new business or grow your small business... whatever your passion, **Delaware Libraries** can help.

Visit a public library Inspiration Space today!

Wilmington
(302) 270-4829

Dover
(302) 222-8509

Georgetown
(302) 222-3618

Classes & workshops are also available at ALL public libraries.
Check with your public library for upcoming events.

Learn more
delawarelibraries.org/IS

DelawareLibraries



New Business? Want to form an LLC? Start Here

guides.lib.de.us/business



Residents can create an LLC or incorporate online or at a Delaware public library. The online option is quick, safe and cost-effective.

Global Delaware, the Division of Corporations, the Division of Libraries, and all public libraries across the state have teamed up with Delaware-licensed registered agents CT Corporation and IncNow to make business registration available directly from the state for the first time.

Learn more at
delawarelibraries.org/IS

DelawareLibraries



Unleash Your Potential



With workshops to help you find a new career or job, classes to develop new skills, information on how to start a new business or grow your small business... **whatever your passion, Delaware Libraries can help.**

DelawareLibraries.org

Get FREE resources online at guides.lib.de.us/entrepreneur



Visit any Delaware Libraries Inspiration Space!
delawarelibraries.org/is

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DelawareLibraries.org

Get FREE resources online at guides.lib.de.us/entrepreneur



Visit any Delaware Libraries Inspiration Space!
delawarelibraries.org/is

Job Offer Reporting	Reported Job Offers	Average Per Month
July 2011 - Sept. 2013 (Job Centers @ Delaware Libraries)	585	22
March 2014 - Aug. 2016 (Delaware Libraries Inspiration Space)	690	23
	Total 1,275	

Visitor Reporting	Visitors	Average Per Month
July 2011 - Sept. 2013 (Job Centers @ Delaware Libraries)	27,623	1,023
Nov. 2014 - Aug. 2016 (Delaware Libraries Inspiration Space)	24,053	1,093
	Total 51,676	

Claymont boy prints hand, wins arm wrestling match

Saranac Hale Spencer, The News Journal

7:24 a.m. EDT October 29, 2015



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

People print all kinds of things at the library – résumés, book reports, even business plans.

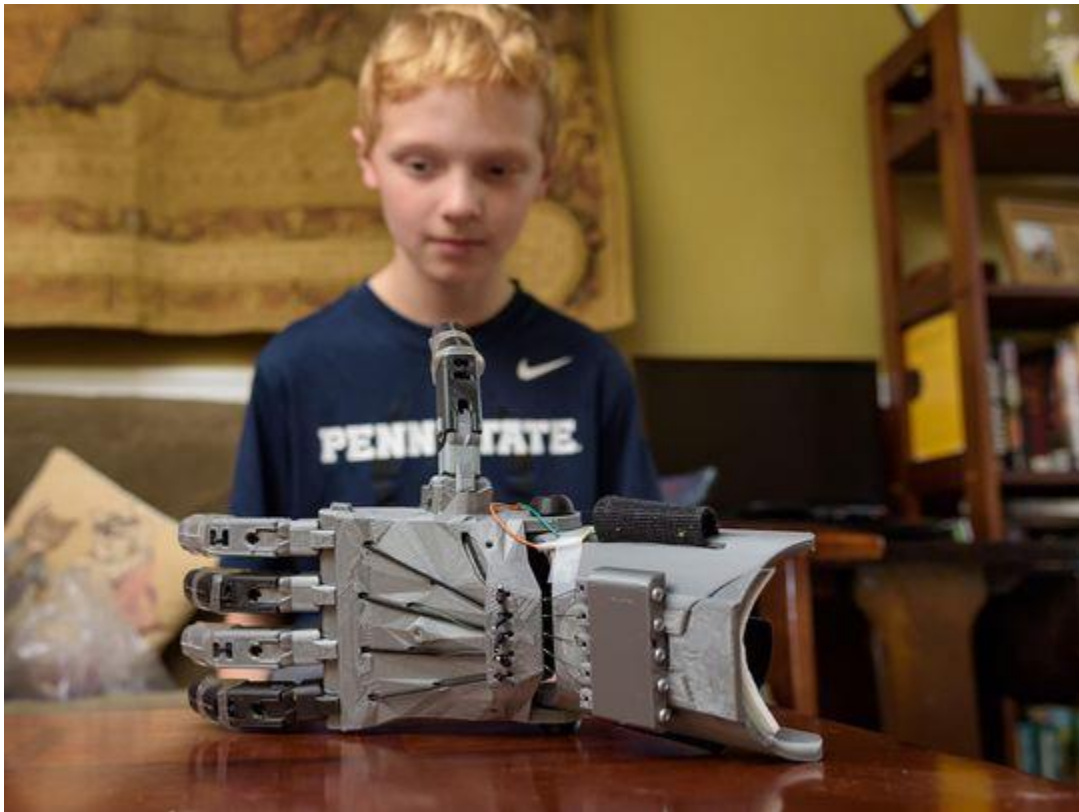
Colin Consavage, age 10, printed himself a hand.

Colin was born with his left hand in a fist – the result of amniotic banding that kept one hand stunted. He used a 3-D printer at the Wilmington Public Library to make himself a mechanical replacement.

One of the best things about the prosthetic hand – which is almost the size of his father's – is that it's bigger than his right hand, Colin said. "For nine years of my life, this hand has been smaller," he said, opening his eyes wide and clamping the clutches of the prosthetic around his right hand. "Mwah haw haw haw – it's payback time," he said.

That 3-D printer is one of several in libraries across Delaware – a new addition to the “innovation spaces,” which evolved from job-placement centers that were created with federal stimulus money after the recession.

“Libraries are all about information,” said Renee O’Donnell, the librarian who helped Colin print his hand. And, she said, 3-D printers are the newest way of communicating information – they give people a way to communicate new ideas and inventions.



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

A \$1.9 million federal grant – with a \$750,000 matching grant from the Bill and Melinda Gates Foundation – paid for three years of funding for the job-placement centers, said Beth-Ann Ryan, deputy director of the Delaware Division of Libraries.

That funding started in 2011 and, by the end of it, the libraries had found that most people who were coming in to use the services were interested in building up their own ideas into businesses.

They were interested in innovating, Ryan said, so, the libraries recast their job-placement centers as “innovation spaces.”

In 10 libraries across Delaware, patrons can make the blueprints for an object and have it printed – formed in plastic – for free. They print everything from replacement parts to prototypes for new inventions.

The idea for a mechanical hand first struck Colin when he saw his mother and little brother forming the sign language word for love on a jointed plastic hand at a Maker Faire a few years ago – Maker Faires are sort of an updated version of a science fair, infused with the hip appeal of the do-it-yourself craze.

“I thought, ‘That would be cool as a glove,’ ” Colin said last week in his Claymont living room.

Last spring, after the 3-D printers arrived at the library, he and his mother, Clare Consavage, found the website for a group called e-NABLE, which has what amounts to digital patterns for prosthetic hands on the Internet.

So, they measured him up and asked the Wilmington library if they could print it there.



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

Although the library's cutoff length for a printing project is five hours, O'Donnell split the project into a few sessions. It took about 12 hours to print, each finger done separately and jointed together by Clare and Colin.

The printer itself – a Maker-bot Replicator 2 – is a black box that's a little bit bigger than a toaster oven and is open on three of its four sides with a platform covered in blue painters' tape on the bottom. The painters' tape makes it easier to lift the projects off when they're done.

A long, arching giraffe neck carries an electric cord and a tube that feeds in the plastic filament to the printer head, which whirls and jolts around on the platform, melting the plastic into micro-thin layers that build up from the bottom into the shape of the design.

Because the finished object is made up of layers of those plastic strings, it has ridges sort of like a clamshell and is so surprisingly light that it's easy to pick up with too much force.

Putting all of the parts together into a hand that would clasp its fingers at the flip of his wrist took Colin and his mom about two days. When it was done – at 10 on a school night – Colin picked up a Pringles can and pitched it across the room.

Triumph.

He had saved the can for exactly that occasion. He hadn't been able to pick it up before.



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

Colin didn't want to take off the hand to go to bed, and the sound of his mother sanding down the pointed tips of the screws that hold it together kept him awake that night.

"He gets asked a lot about his hand at school," Consavage said, so, having the prosthetic is empowering.

Other kids think it's cool, Colin said. At school, "I won an arm wrestle," he said.

Taking that as a challenge, his little brother, Riley Consavage, slid from his perch on the couch and walked to the other end of it where Colin was sitting, grasped hands with him, and put all the force of his 8-year-old self into his arm.

"Let's not break it," said Colin, before his hand hit the cushion.

"The nice thing is, all the parts are printable," their mother said.

It's not a perfect prosthetic – Colin is working with a team of engineering students at Penn State to get a more advanced version – but it has been good for him.

"For one thing, I've been able to pick up Pringles cans," he said.

Earlier that day, he had wrapped a pen in paper towels and fit it into the giant grip of the printed hand and wrote: "Hi." And, "It's working."

His mom often says that they're "unlucky, but lucky," since he was born with one small hand, but it's his left one and he's right-handed.

Colin likes to draw and has invented two characters: one called Super Bob and one called Repus Bob, who is the opposite of Super Bob – his name spelled backwards. Colin also draws a tap-dancing walrus that wears a top hat and carries a cane.

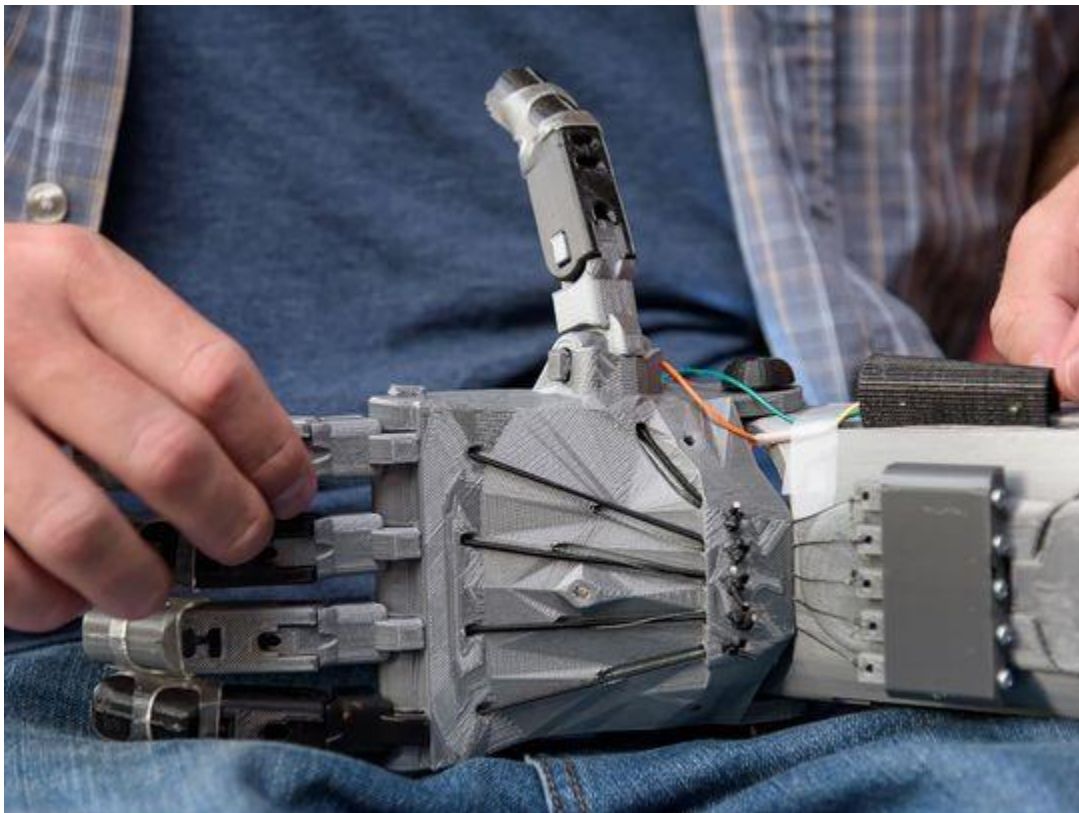
Into the future

Paulo Arratia, an associate professor of engineering at the University of Pennsylvania says 3-D printers are the “democratization of the making process.”

They make it easy to turn an idea into an actual object

Putting them in libraries, he says – “what a wonderful idea ... allowing the public to tinker, to play.”

Arratia uses the printers – more sophisticated versions than the ones available at the public library – for research. Right now he’s working on a project that would, as he describes it, put a chemistry lab on a chip. A tiny, easy-to-carry chip would have everything necessary to detect malaria from a small drop of blood or saliva, he said.



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

Some labs are working on printing human tissue and industries are starting to use 3-D printing technology in day-to-day operations – the Federal Aviation Administration has approved of the use of some airplane components made with 3-D printers and is working on guidelines.

On the consumer end of the spectrum, printers that make food might not be terribly far off. Nestlé is tinkering with the idea right now, said Arratia, who has tried eating a printed pretzel. It tasted like a pretzel, he said.

He likened 3-D printers to microwaves – a few decades ago, people didn’t think that they’d be in every kitchen and now they’re a standard feature. He gives it about 10 years until 3-D printers are common in homes.

They aren't likely to replace large-scale manufacturing – they aren't nearly as efficient – Arratia said, explaining that one of the things they'll be most useful for is making replacement parts. He summed it up this way: We'll still need to manufacture cars, but 3-D printing will allow us to make a part for the car.



(Photo: DOUG CURRAN/SPECIAL TO THE NEWS JOURNAL)

The director of the Lewes Public Library, Ed Goyda, did just that with one of his first projects on the library's printer. Part of a toilet-paper dispenser at the library broke, and the company that made it didn't sell a replacement part – the library would have to buy a whole new dispenser.

"It's a simple cylinder," Goyda said of the part that broke. So, he measured it out and printed a new one – in red. It's been in use ever since.

The printer in Lewes usually runs for about five hours a day, Goyda said, and a number of people have come in with plans to print replacement parts.

"Children love to watch thing-bot work," he said – they'll stand, mesmerized, watching as it works diligently along, building up a chess piece or Christmas ornament one-tenth of a millimeter at a time.

"For me, it reminds me of the replicator in 'Star Trek' – make me a cup of tea, please," O'Donnell said as she gave a class recently in the Wilmington Inspiration Space, tipping her shoulder toward the printer like it's a hat.

"Well, here's the start of at least making the mug," she said.

Contact Saranac Hale Spencer at (302) 324-2909, sspencer@delawareonline.com or on Twitter @SSpencerTNJ.

VIEW ORIGINAL STORY HERE: <http://delonline.us/2hOsp9X>