

# "Thanks for setting this up for us!"

Evaluating 3D Printing @ Gerstein + MADLab



**180**  
Certified  
Users



**151**  
Hours of  
Printing



**188**  
Bookings

# About the Service



Launched  
October, 2014

\$1.50/half hour  
(cost of  
materials only)



Two Makerbot  
Replicator 2 3D  
Printers

1 Makerbot  
Digitizer 3D  
Scanner



Open to all U of  
T students, staff,  
and faculty

Training,  
certification, and  
reservations  
required

# Service Goals

#1

**Provision of optimal 3D printing experience for patrons that correspond to priorities of UTL strategic plan and makes effective use of staff time and expertise**

## Service Goals

**#2**

**Promotion of MADLab space and services as well as Gerstein library services and resources**

# Service Model Parameters

## *Assets*

- \* secure & private space
- \* collaborative and collegial partnership
- \* operational support and a semi-dedicated GSLA
- \* easy-to-use and (relatively) reliable equipment

## *Liabilities*

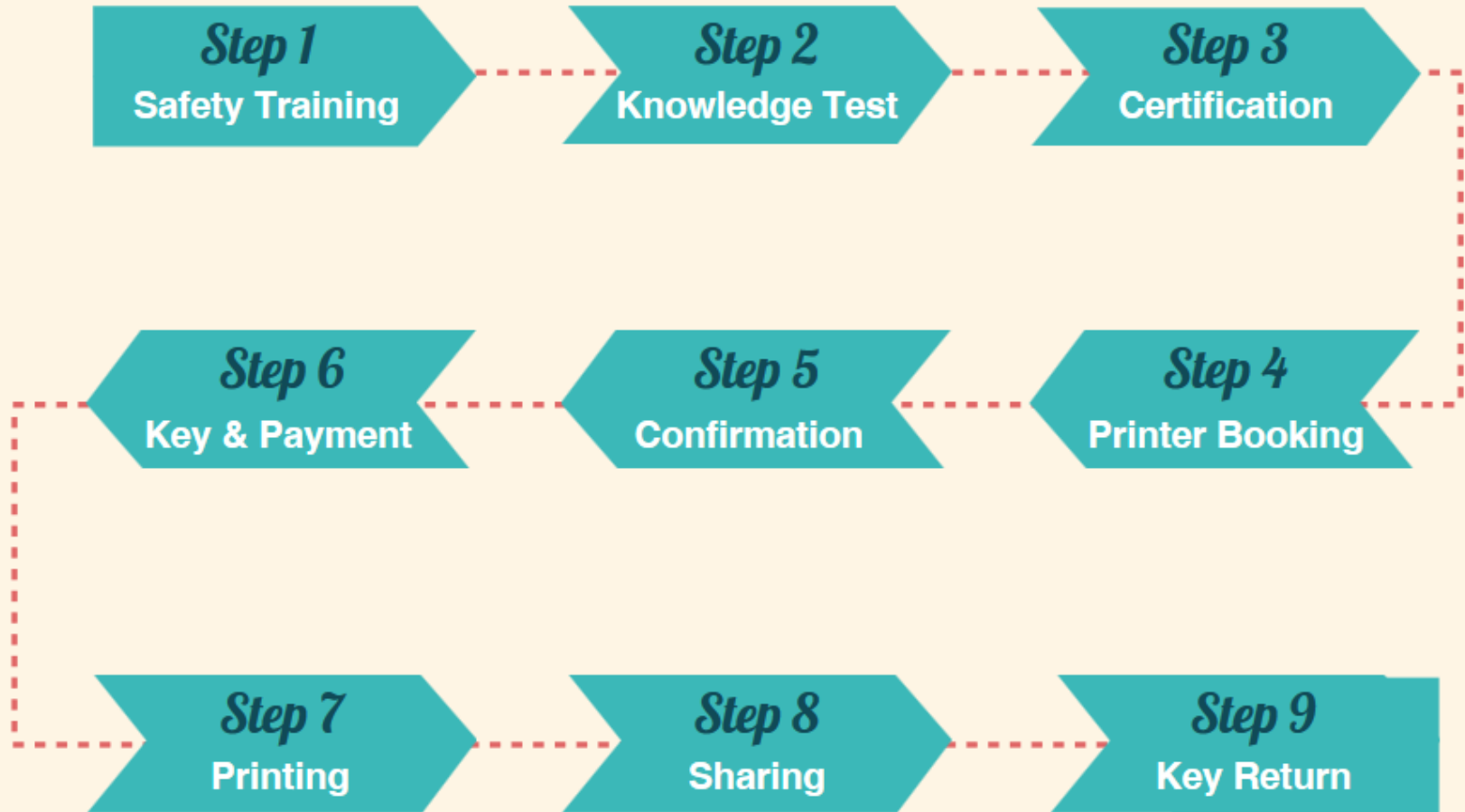
- \* no design expertise
- \* no dedicated full-time staff
- \* no ventilation

## How We Got Started



## Environmental Scan

# User-Mediated Service Model



# To what extent does our service...



enable our users to create and print 3D realizations of scientific knowledge?



provide a space for play and experimentation, and for users to test their knowledge of 3D design and printing?



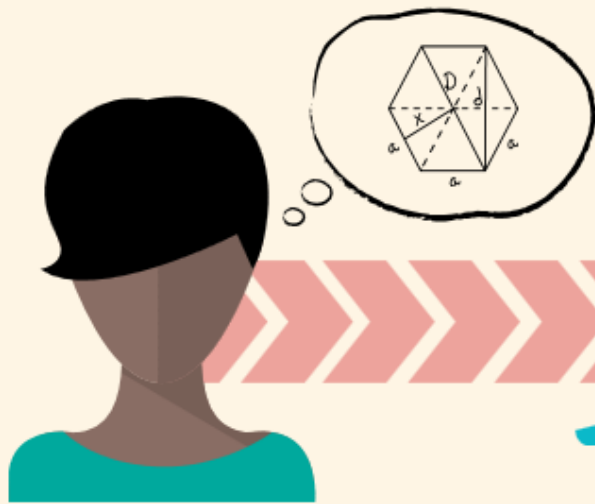
provide training and opportunities to gain hands-on, practical experience and develop professional skills?

## Who Are Our Users?



Engineering (33%)   Arts & Science (33%)   Other (33%)

# User-Mediated Service Model



*Imagine*

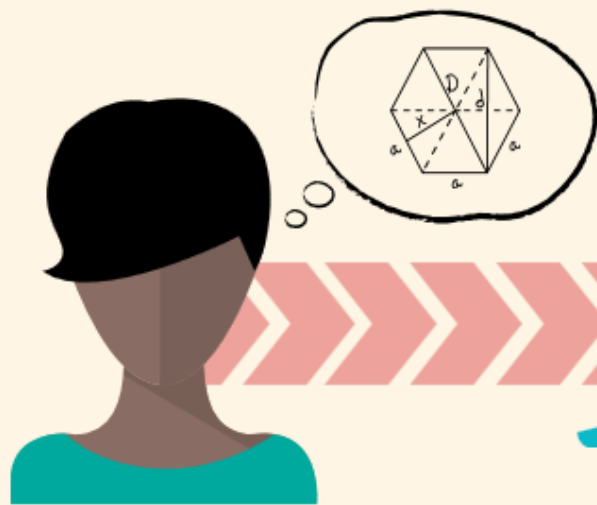


*Design*



*Print*

# User-Mediated Service Model



*Imagine*



*Design*

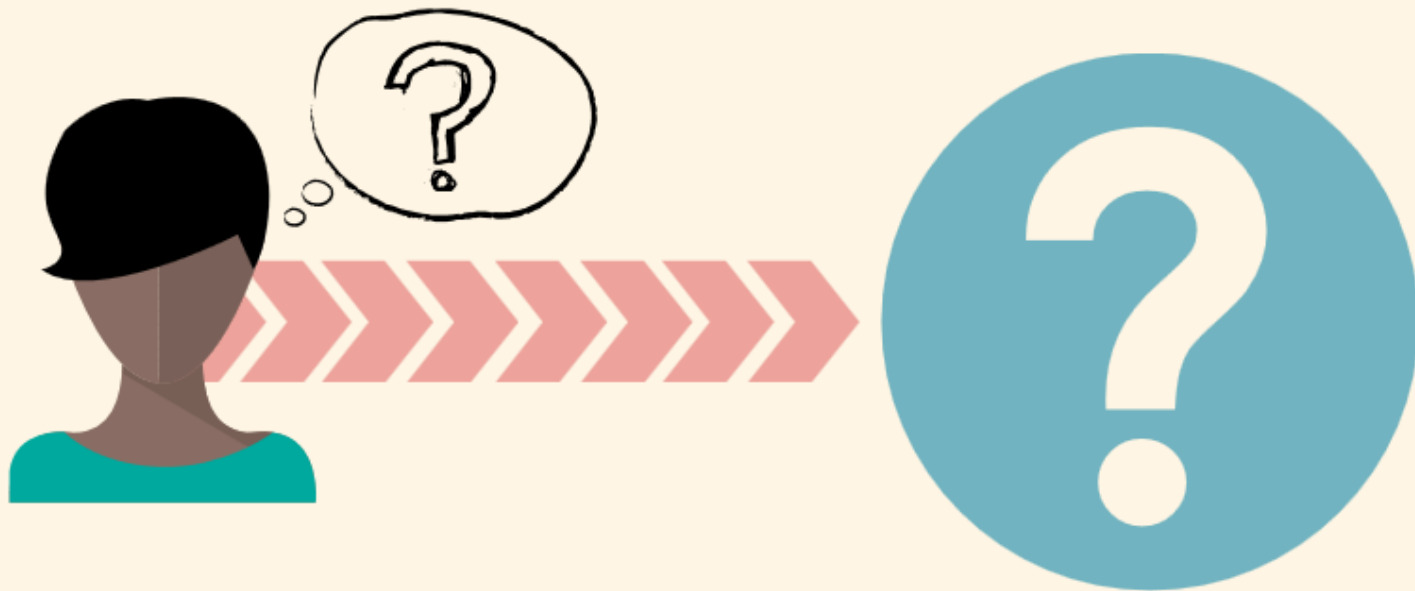
workshop  
knowledge test  
certification  
booking  
payment  
key



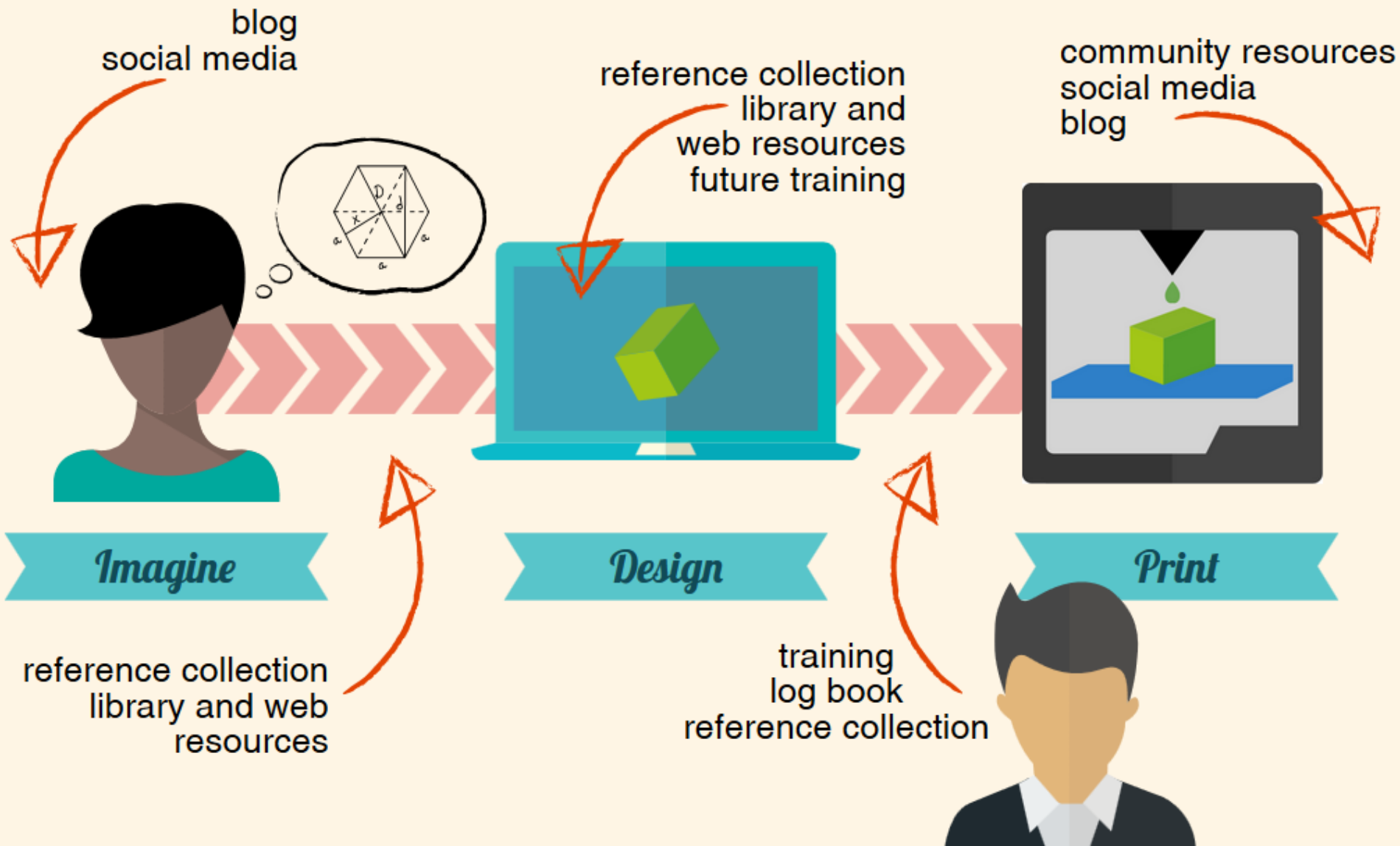
*Print*



# User-Mediated Service Model



# User-Mediated Service Model



## Methods



**Log-book entries for each print job**



**Post-training session evaluations**

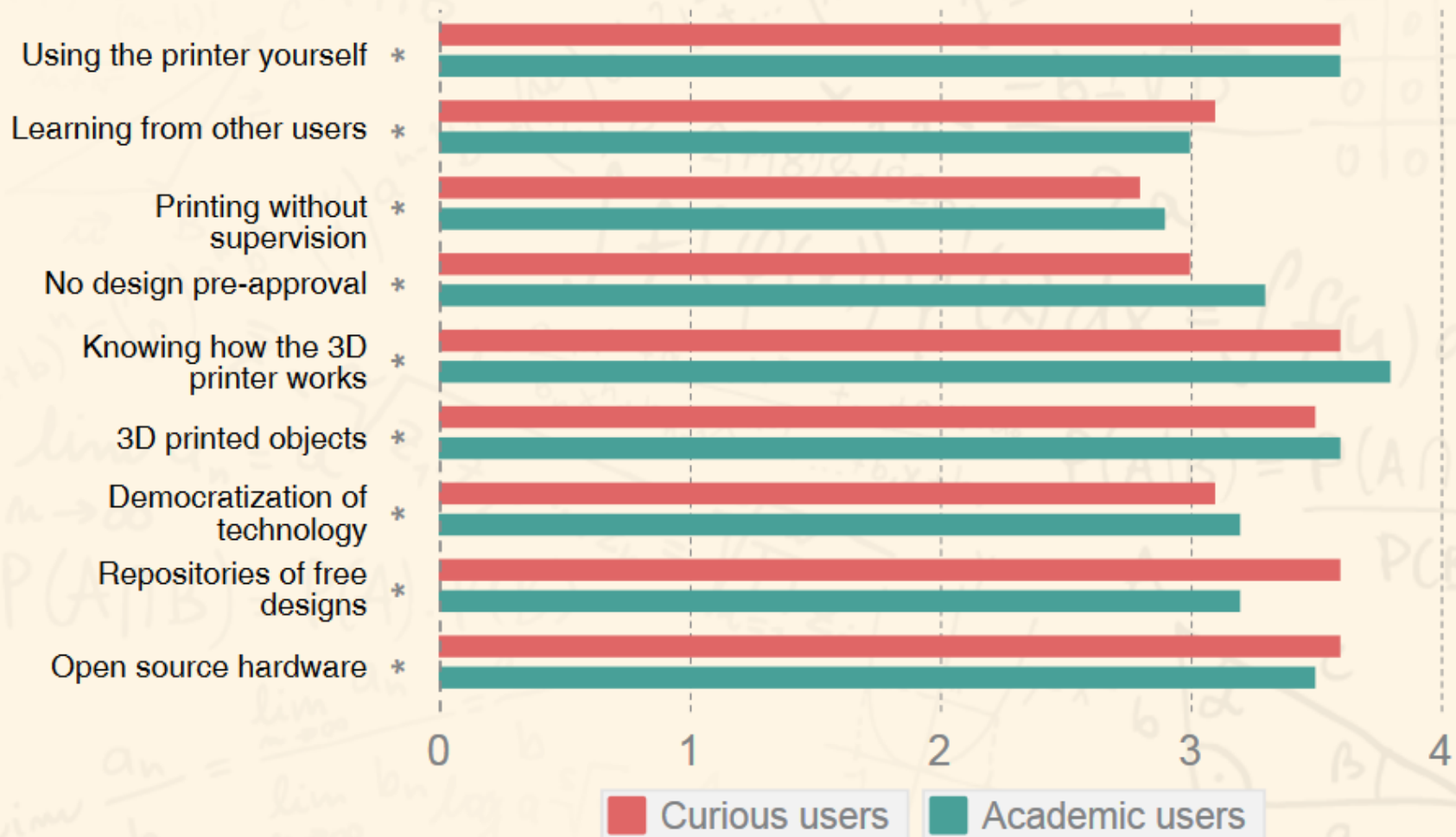


**Online user-satisfaction survey results**

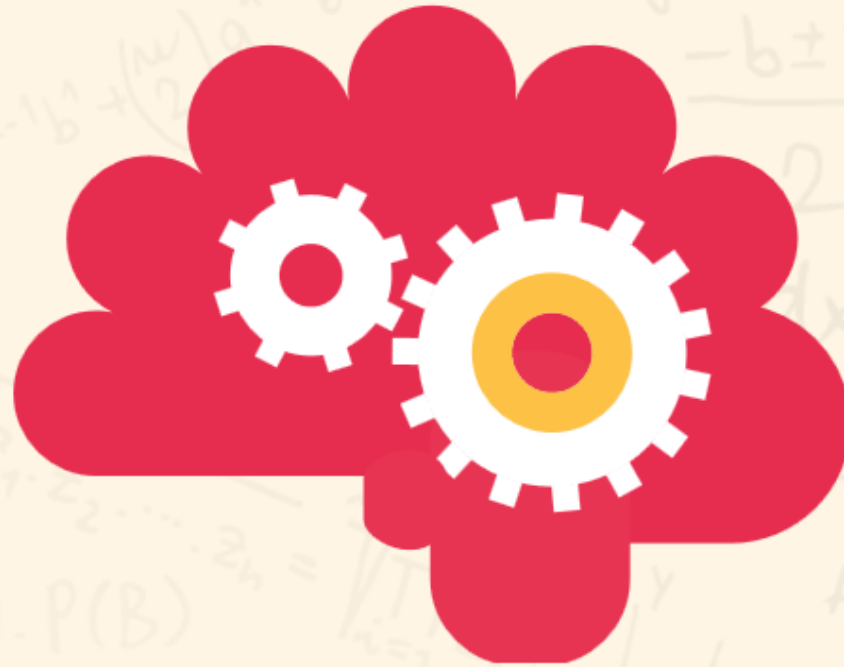


**Documented observations by library staff**

On a scale of 1 to 4, rate the importance of the following aspects of 3D Printing @ Gerstein + MADLab



What might this tell us?



Learning the technology is important, not just the 3D printed object itself

Do you think 3D printing skills are important in your professional or academic field?



Yes (65%) No (13%) Don't Know (21%)

Since attending safety training, have you put 3D printing as a skill on your resume?



Yes (24%) No (36%) Haven't yet but plan to (40%)



Yes (19%) No (58%) Don't Know (23%)

Would you prefer the library to print your object for you?

What might this tell us?



Curiosity now leads to professional skills later

On a scale of 1 to 4, rate your satisfaction with the following aspects of the 3D printing service

Instructional materials



Helpfulness of staff



On a scale of 1 to 4, rate your satisfaction with the following aspects of the 3D printing service

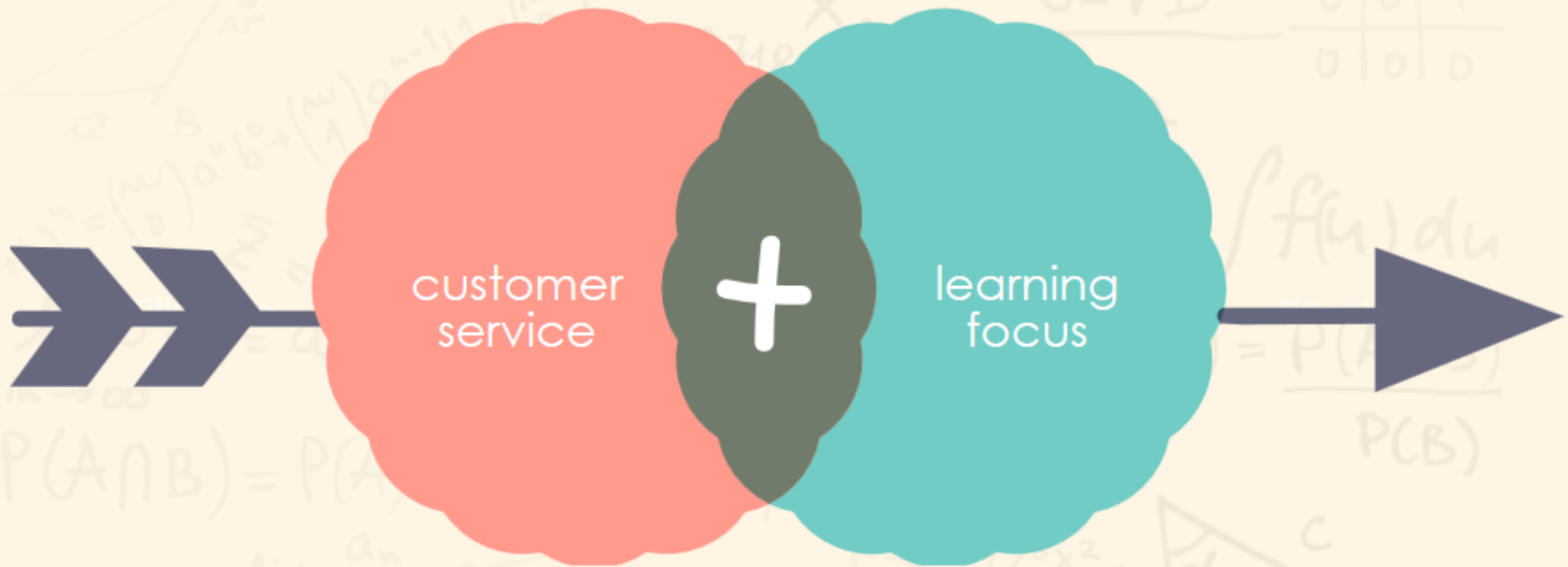
Instructional materials



Helpfulness of staff



# What is the librarian's role?

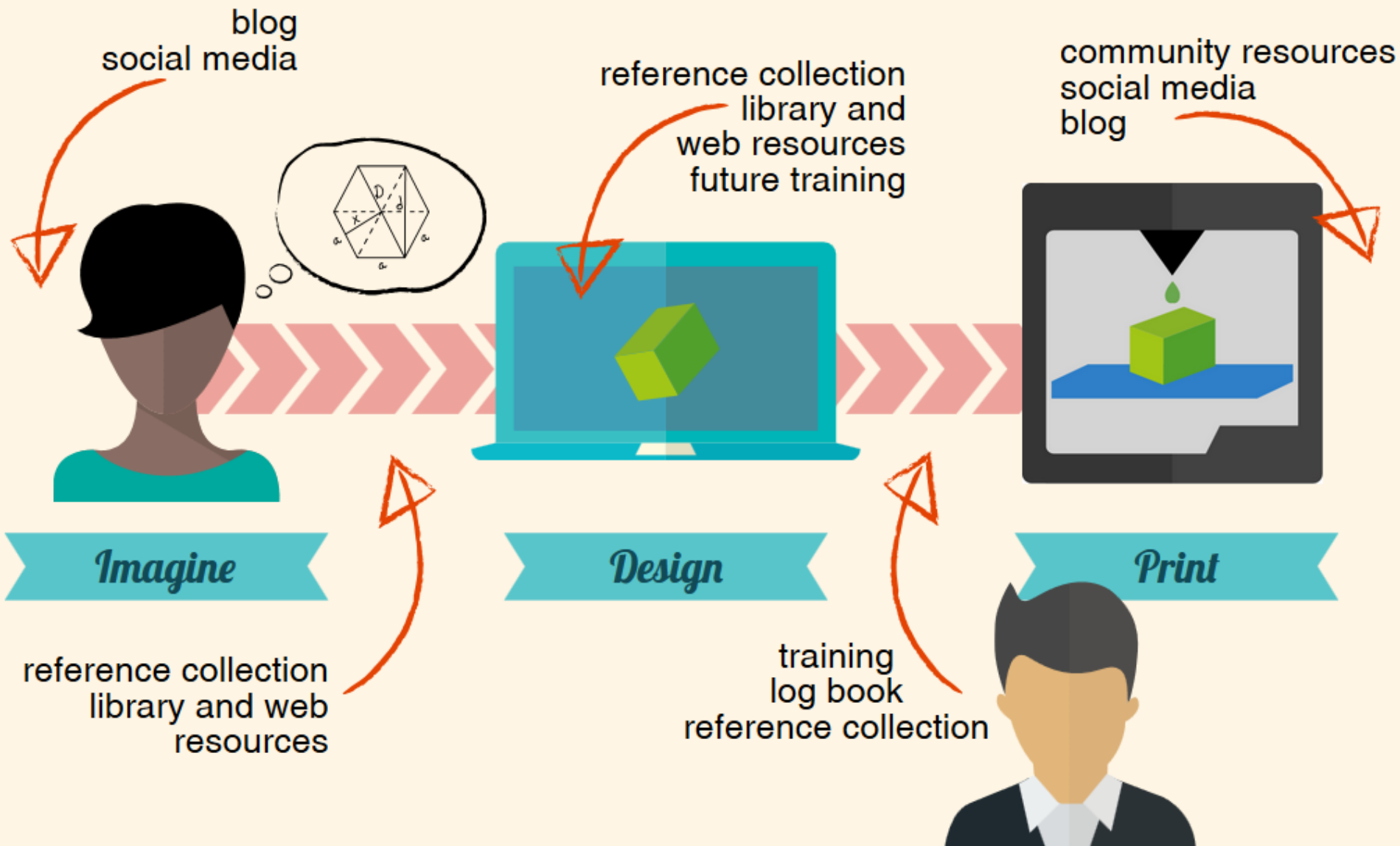


# Paradox

\_\_\_\_\_ of the \_\_\_\_\_

***User-Mediated Model***

# User-Mediated Service Model



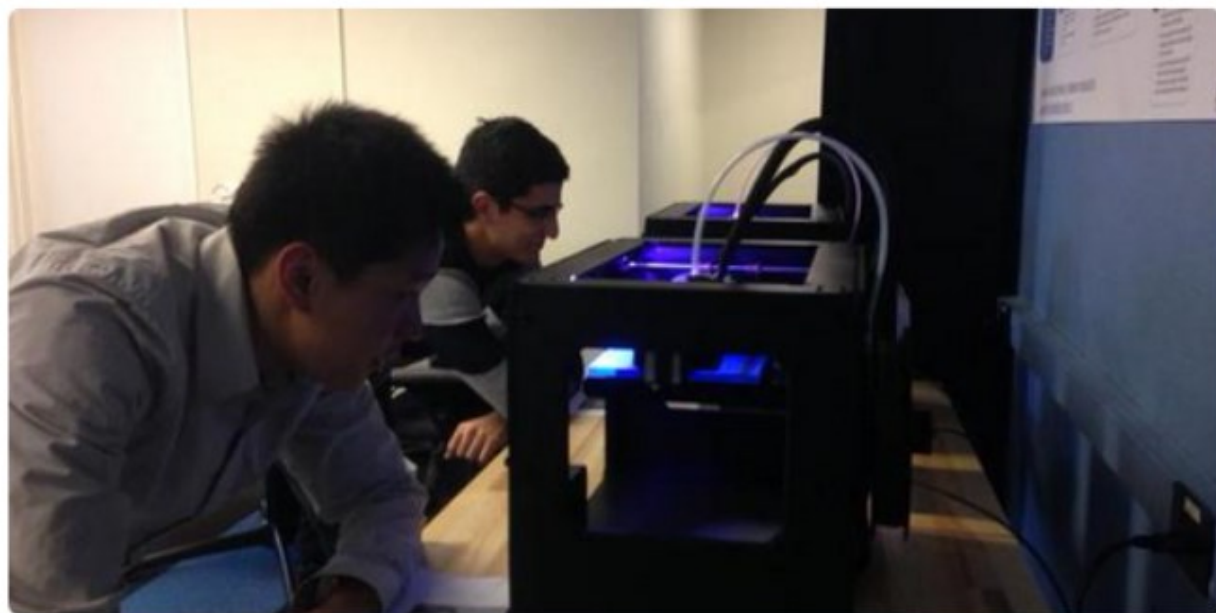


No more  
Yoda heads?

MADLab  
UofT

**UofT MADLab** @MADLabUofT · Jan 19

Duelling projects today: custom robot encoder vs. a SolidWorks workflow calibration experiment **#gerstein3dprinting**



1



2



[View photo](#)



**Clement Zhou** @clementzhou · Apr 9

First spin with #Gerstein3DPrinting.  
#NotTooShabby



1



1

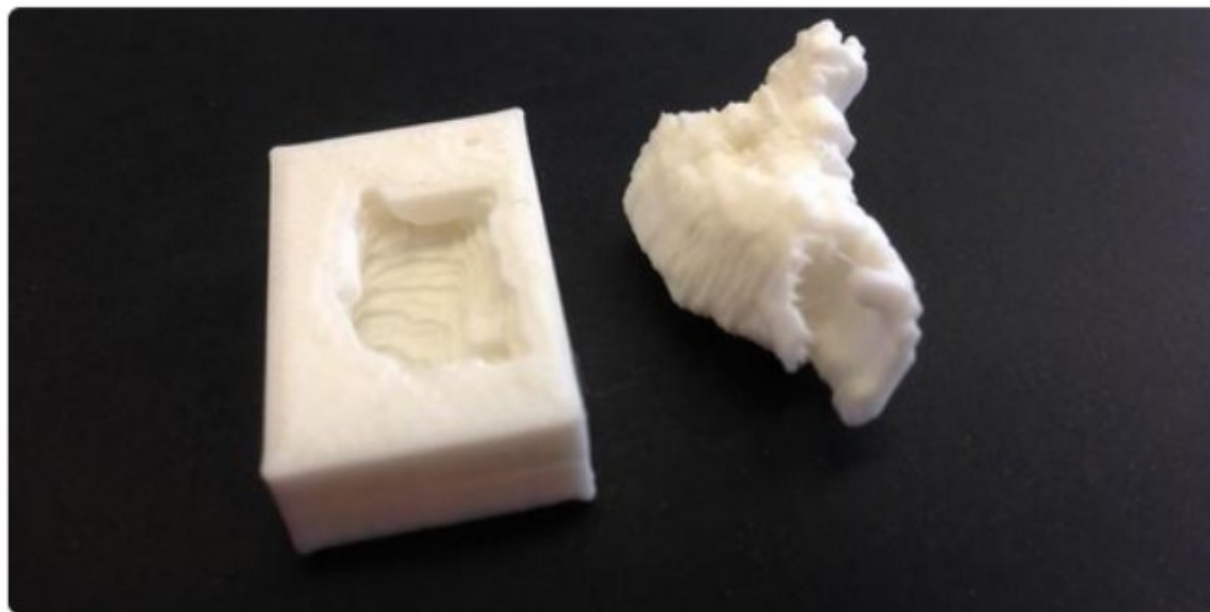


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MADLab  
UofT

UofT MADLab @MADLabUofT · Feb 19

General from medical imaging printed both +ve & -ve versions of this carotid artery scan! #gerstein3dprinting #uoft



4



12

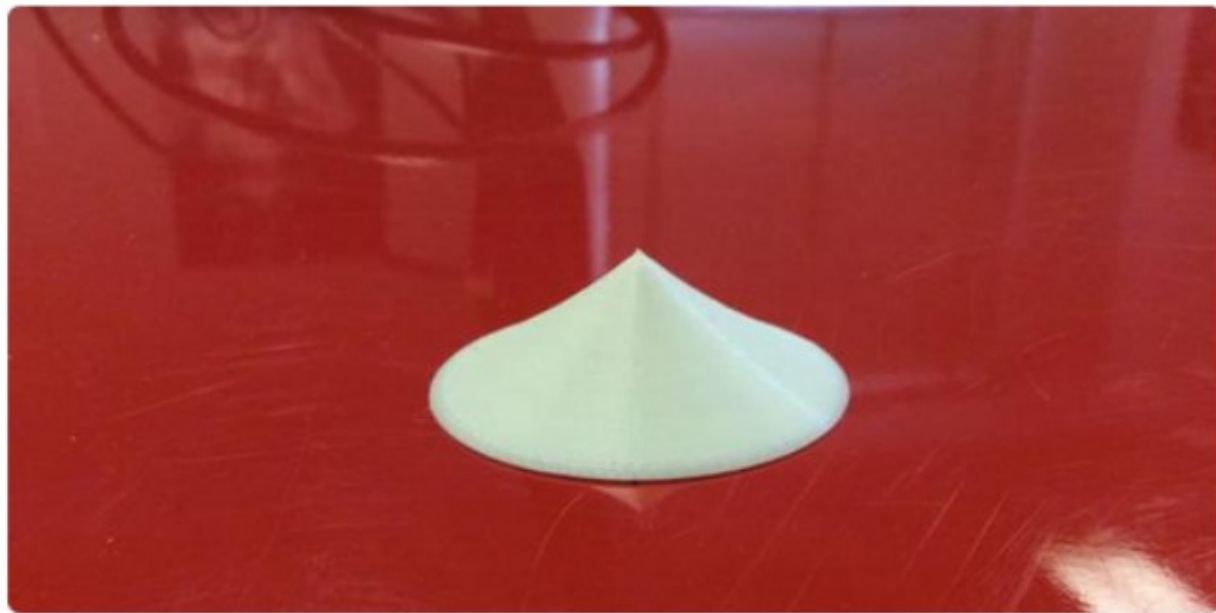


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MADLab  
UofT

**UofT MADLab** @MADLabUofT · Mar 18

Nice point! Jeremy printed an ultrasound deflector for his robot. #UofT  
#UofTEng #gerstein3dprinting



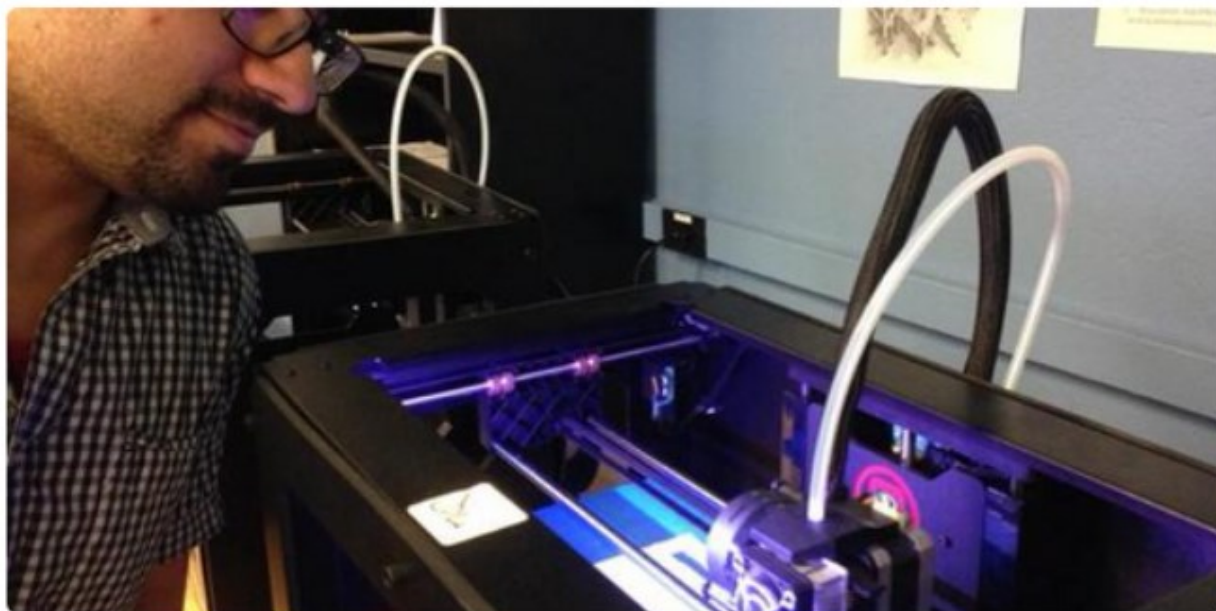
← ↻ 1 ★ ...

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MADLab  
UofT

UofT MADLab @MADLabUofT · Nov 5

Saeed is printing a mockup chip for physics research. #gerstein3dprinting



4



1

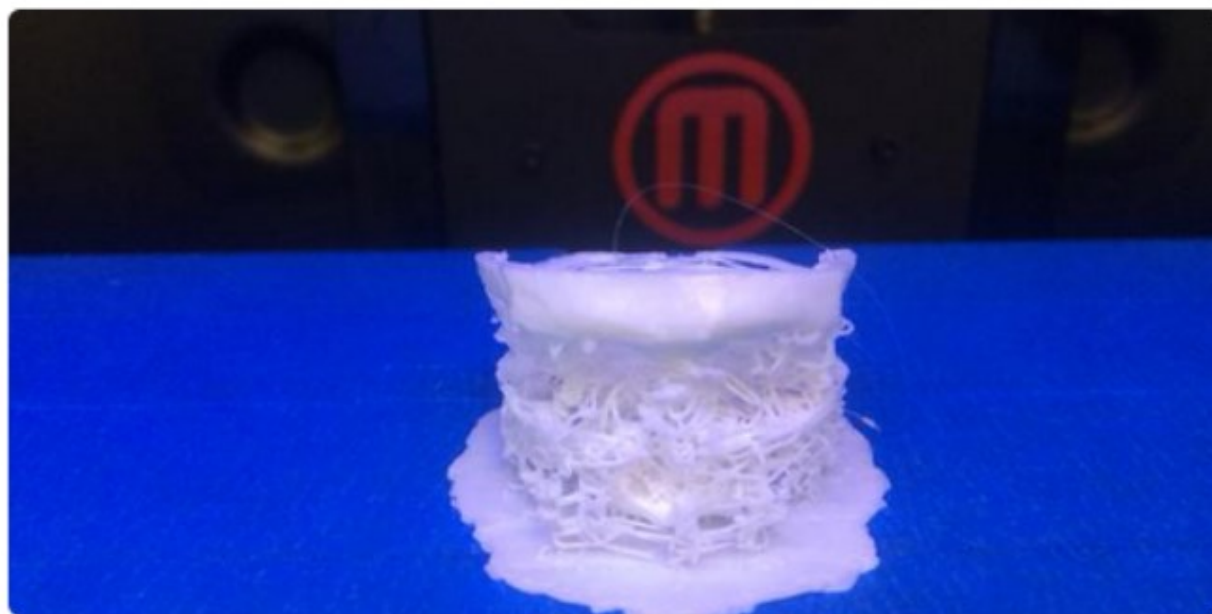


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R @Doc\_REDi · Feb 26

#Gerstein3Dprinting Skull Base a la Salvador Dali - "Have no fear of perfection - you'll never reach it." Next time..



3



1



[View photo](#)



UHN Libraries and 1 other retweeted



R @Doc\_REDi · Mar 5

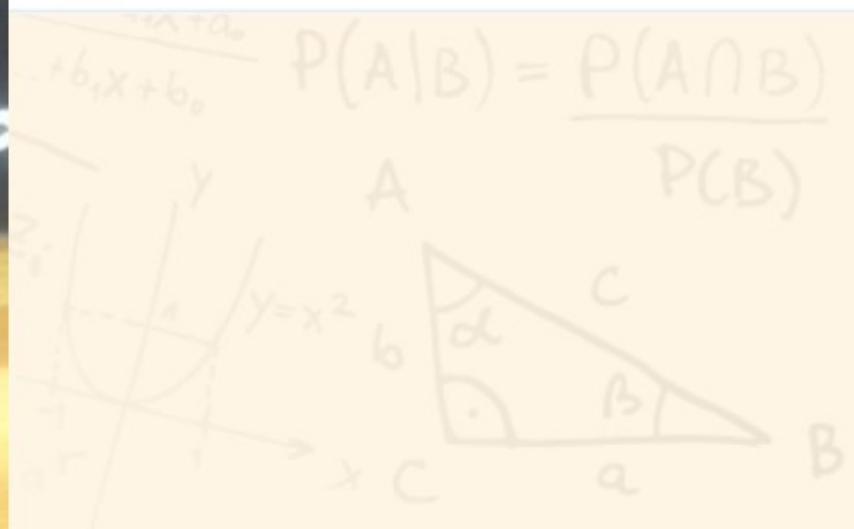
#gerstein3dprinting - Skull Print Take II - cranial fossa and foramina from CT scan



2



[View photo](#)

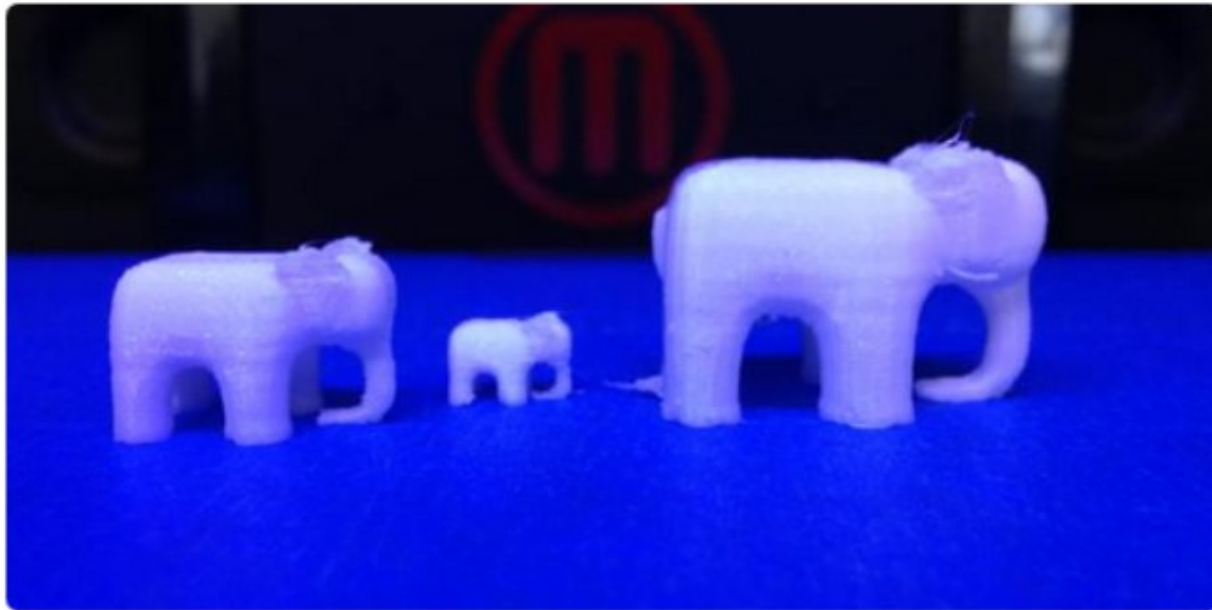


MADLab  
UofT

**UofT MADLab** @MADLabUofT · Apr 17

This model uses the trunk as a support so there is nothing wasted.

[#gerstein3dprinting](#)



1



2



[View photo](#)

So what's the point?



## MORE INFORMATION



**#gerstein3dprinting**



**[guides.library.utoronto.ca/3Dprinting](https://guides.library.utoronto.ca/3Dprinting)**



**[gerstein-invention-dimension.tumblr.com](https://gerstein-invention-dimension.tumblr.com)**



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