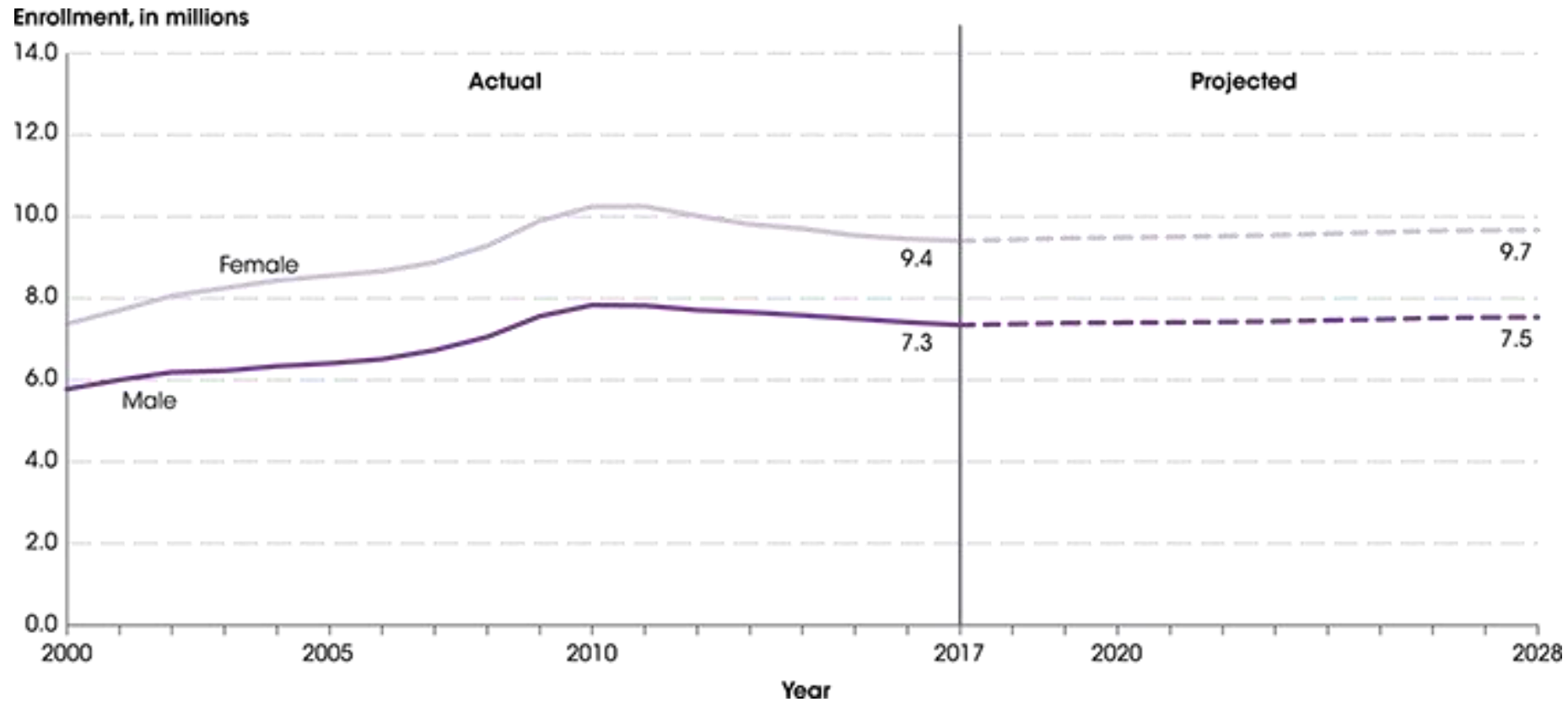


Making the Makers

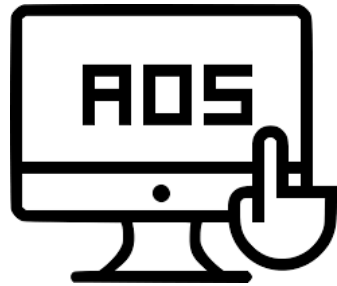
Designing a Diverse and Dynamic
Living Learning Community

Jane Machin, PhD
Associate Professor Marketing
Radford University

With a decreasing pool of applicants, and increased degree earning opportunities, **student retention** is increasingly important.



The **financial burden** to universities of non-returning students is extremely high, making retention efforts even more important.



Direct
recruitment

\$500

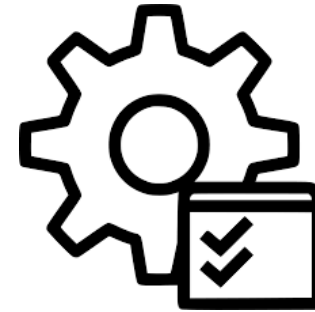
per student



Administrative
costs

\$6,000

per student

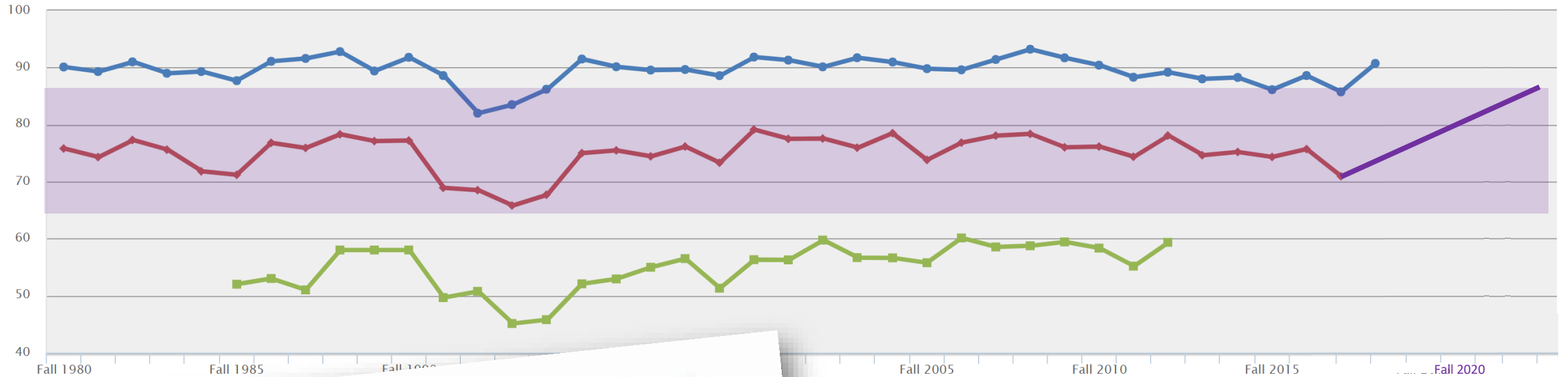


Lost tuition,
fees, funds

\$30m

annually

Radford University has set ambitious goals, seeking to **improve first year retention from 71% to 85% by 2023.**



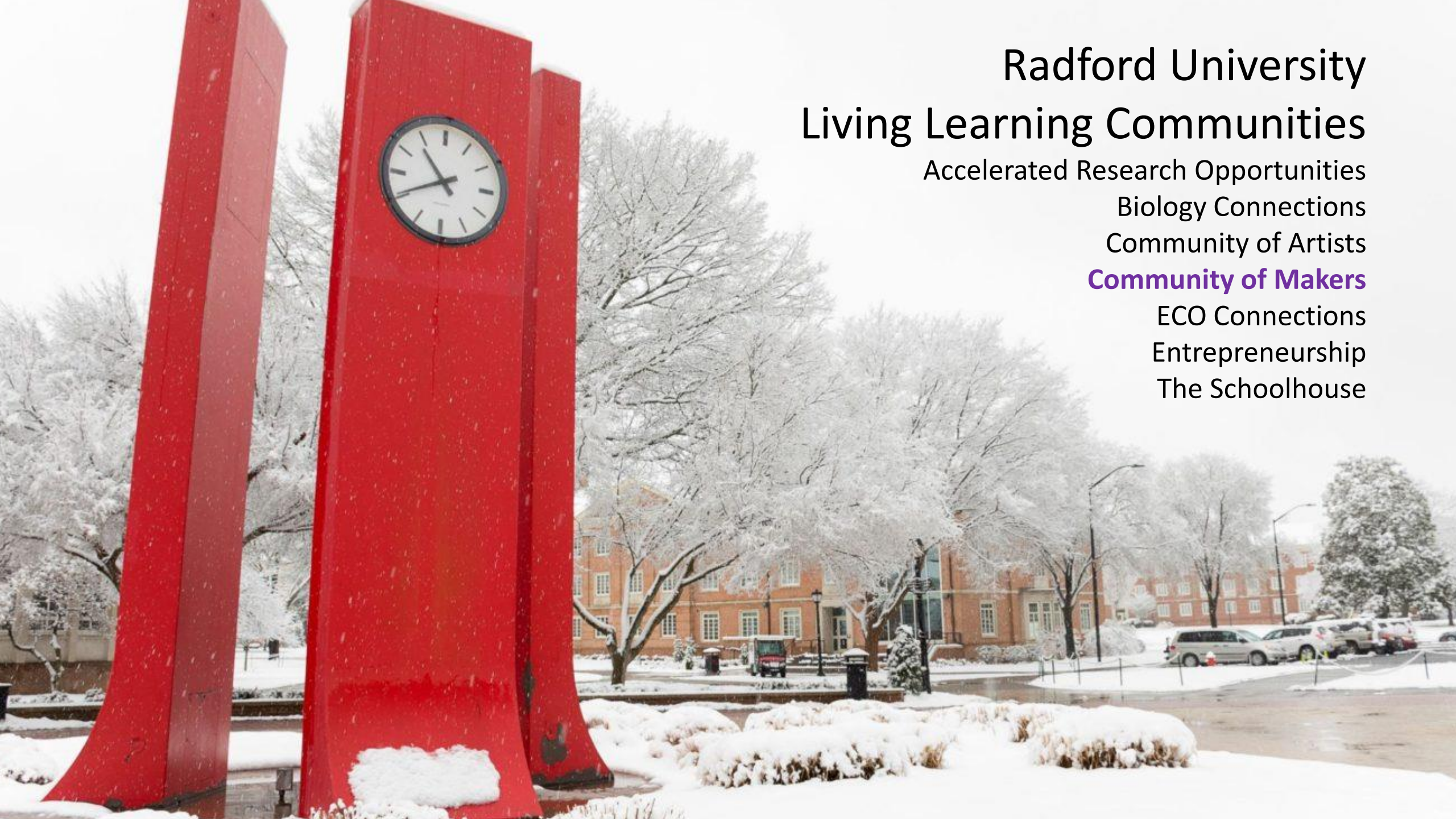
- Fall-to-Spring Retention
- Fall-to-Fall Retention
- Six-Year Graduation Rate
- Goal Fall-to-Fall Retention

"I say that we can do better, and we must do better. And, with your help and with the people that we have in this room, I am confident that we will do better. Retention is one of the most critical issues facing our University today."
— President Brian O. Hemphill, Ph.D.

Extensive body of academic research and professional consulting on student retention but there still **remains much to understand**.

- Models focus on why students *leave*, not how to help students *stay and succeed*;
- Difference between theoretical *models* and effective *operational practice*;
- Operational practices are *location specific* and *not transferable*.

(References: Bean 2005; Kuh & O'Donnel, 2013; Permzadian 2016; Seidman 2019; Tinto 2006)



Radford University

Living Learning Communities

Accelerated Research Opportunities

Biology Connections

Community of Artists

Community of Makers

ECO Connections

Entrepreneurship

The Schoolhouse

Increase and diversify enrollment in the Community of Makers and improve student participation and engagement.

- *Grow* enrollment in the Community of Makers by 50%;
- *Increase* the diversity (gender, race and major) of incoming students;
- *Improve* participation and engagement with the Community experiences;
- *Improve* retention rates of students in the Community;
- Develop a *blueprint* to help other LLCs design best local experience.

introducing...
design thinking

HBR.ORG

Harvard Business Review

SEPTEMBER 2015

44 The Big Idea
The Organizational
"I'm Sorry"
Maurice E. Schweitzer et al.

96 Risk Management
Cybersecurity: Lessons
from the Pentagon
James A. "Sandy" Winefeld Jr. et al.

109 Managing Yourself
How to Embrace
Complex Change
Linda Brimm

THE EVOLUTION OF DESIGN THINKING

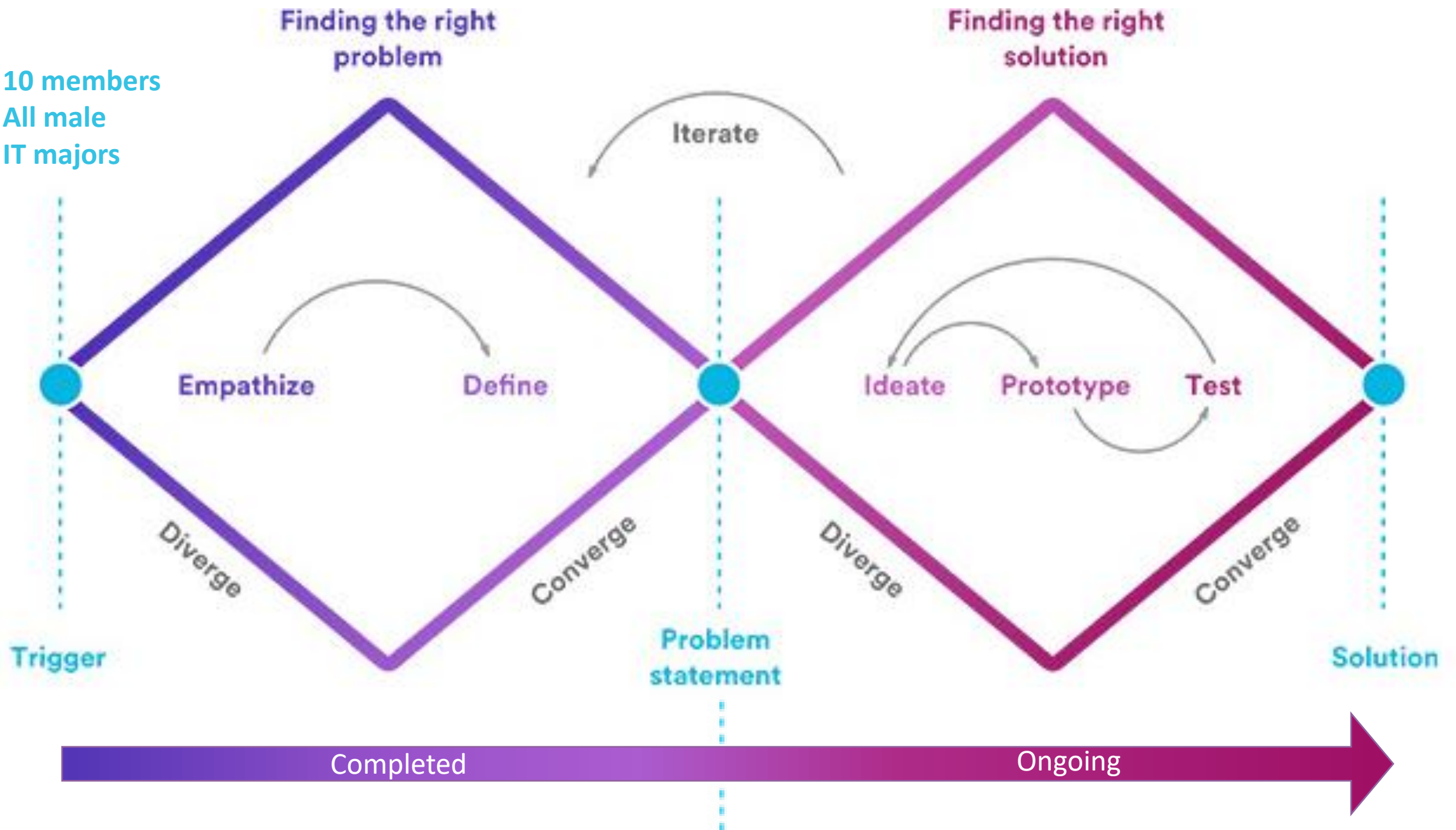
IT'S NO LONGER JUST FOR
PRODUCTS. EXECUTIVES ARE
USING THIS APPROACH
TO DEVISE STRATEGY
AND MANAGE
CHANGE.

PAGE 55



Not just for designers

10 members
All male
IT majors

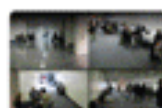


Looking Methods for Observing Human Experience

ETHNOGRAPHIC RESEARCH: Studying human behavior in its natural setting



Interviewing
A technique for gathering information through direct dialogue



Fly-on-the-Wall Observation
An approach to conducting field research in an unobtrusive manner



Contextual Inquiry
An approach to interviewing and observing people in their own environments



Walk-a-Mile Immersion
A way of building empathy for people through firsthand experience

PARTICIPATORY RESEARCH: Learning from people through cooperative design activities



What's on Your Radar?
An exercise in which people plot items according to personal significance



Buy a Feature
A game in which people use artificial money to evaluate trade-off decisions



Build your Own
An activity in which people express ideal solutions using symbolic elements



Journaling
An activity that invites people to record personal experiences in words and pictures

EVALUATIVE RESEARCH: Examining the usefulness and usability of solutions



Think-Aloud Testing
A testing format where people narrate their experience while performing a given task



Heuristic Review
An auditing procedure based on the rules of thumb for good design



Critique
A format for people to give and receive constructive feedback



System Usability Survey
A short survey for quantifying feedback from subjective assessments of usability

Understanding Methods for Analyzing Challenges & Opportunities

PEOPLE & SYSTEMS: Synthesizing and summarizing knowledge



Stakeholder Mapping
A way of diagramming the network of people who have a stake in a given system



Persona Profile
An informed summary of the interests, needs, and goals typically held by key stakeholders



Experience Diagramming
A way of mapping a person's journey through a set of circumstances or tasks



Concept Mapping
A way of depicting the relationships between various concepts in a given topic area

PATTERNS & PRIORITIES: Identifying relationships and determining significance



Affinity Clustering
A graphic technique for sorting items according to similarity



Bull's-eye Diagramming
A way of ranking items in order of importance using a target diagram



Importance/Difficulty Matrix
A grid chart for plotting items by relative importance and difficulty



Visualize-the-Note
A quick poll of collaborators to reveal preferences and opinions

PROBLEM FRAMING: Characterizing the situation to address



Problem Tree Analysis
A way of exploring the causes and effects of a particular issue



Statement Starters
An approach to phrasing problem statements that invites broad exploration



Abstraction Laddering
A way of reexamining a problem statement by broadening or narrowing its focus



Rose, Thorn, Bud
A technique for identifying design as positive, negative, or having potential

Making Methods for Envisioning Future Possibilities

CONCEPT IDEATION: Exploring extensive possibilities



Thumbnail Sketching
A series of small drawings used to quickly explore a variety of ideas



Creative Matrix
A format for sparking new ideas on the intersections of distinct categories



Round Robin
An activity in which ideas evolve as they are passed from person to person



Alternative Worlds
A way of using different perspectives to help generate fresh ideas

MODELING & PROTOTYPING: Envisioning solutions in the service of people



Storyboarding
A series of images showing the key elements and transitions of a new scenario



Schematic Diagramming
An outline of the structure and essential components of a system



Rough & Ready Prototyping
A rapidly built model of a new idea that approximates its appearance and behavior



Appearance Models
A refined model of a new idea that emphasizes the visual styling

DESIGN RATIONALE: Presenting new and improved solutions



Concept Poster
A persuasive format illustrating the main points of a new idea



Video Scenario
A short movie showing the attributes of a new concept in use



Cover Story Mock-up
A mock news article describing the successful feature of a new idea



Quick Reference Guide
A short document summarizing the key principles and elements of a proposed solution

Spring 2018

Fall 2018

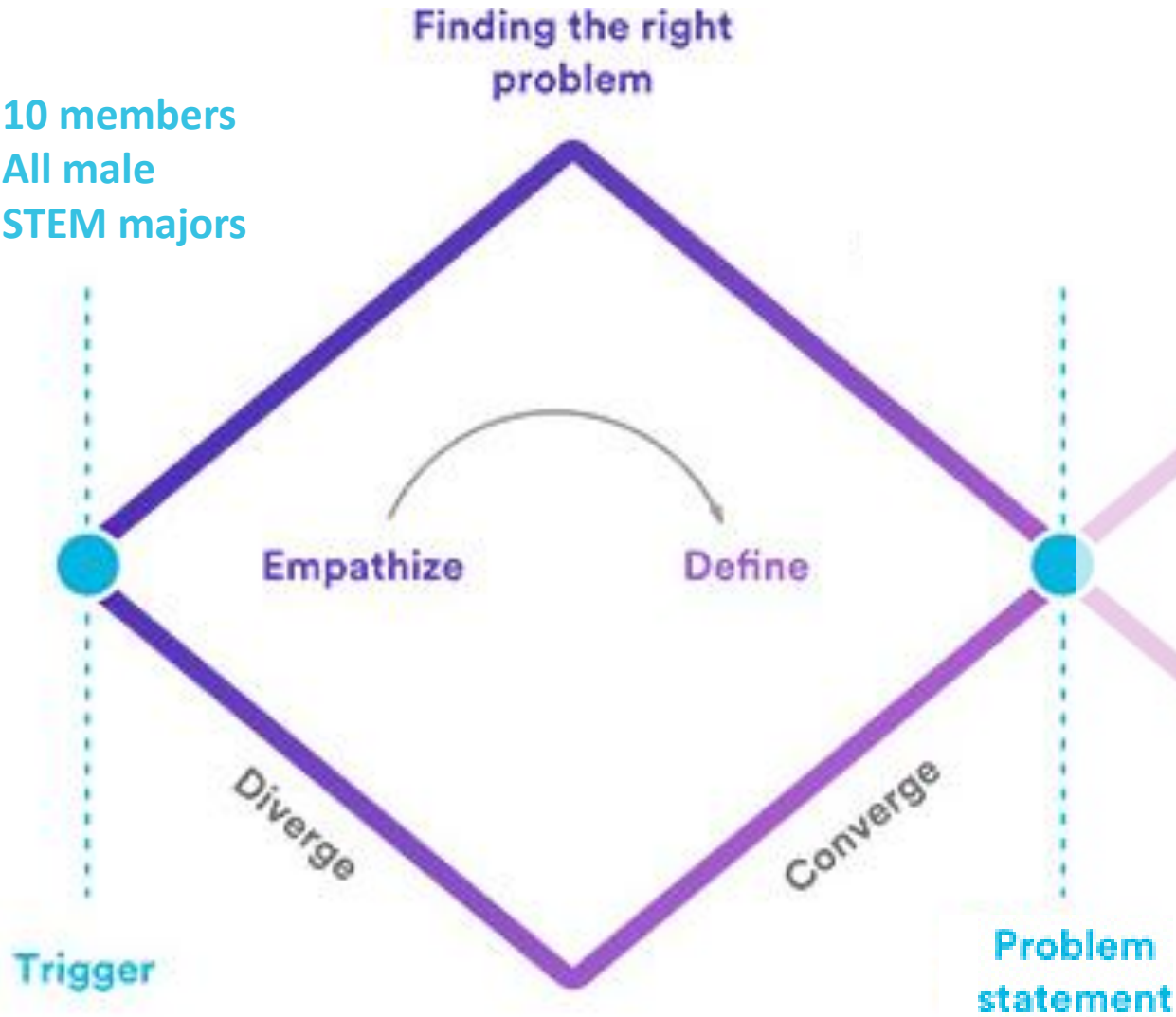
Spring 2019

Fall 2019

Spring 2020



10 members
All male
STEM majors



Looking

Methods for observing human experience:

	ETHNOGRAPHIC RESEARCH	PARTICIPATORY RESEARCH	EVALUATIVE RESEARCH
Interviewing			
Fly-on-the-Wall Observation	•		
Contextual Inquiry	•	•	
Walk-a-Mile Immersion		•	
What's on your Radar?			•
Build Your Own			
Buy a Feature			
Journaling		•	
Think-Aloud Testing			•
Heuristic Review			
Critique			
System Usability Scale			•

Completed Ongoing

Develop credible foundational knowledge of recruiting women to STEM fields

Publications Research

Understand current theories, models and recommendations on recruiting women to male dominated fields from academic and practitioner journals & organizations.

- Keywords identified include: women, female, girls; STEM, science, engineering, construction, police, computing, making; success, best practice, grow, increase, hinder, prevent; recruit, attract, keep, retain.
- Academic searches completed on Google Scholar, ProQuest and Web of Science. Forward and backward citation searches of relevant articles.
- Google searches identified private and public, national and regional organizations whose primary goal is to recruit more women into STEM fields. Most are specific to one domain, for example, in information technology there is The Anita Borg Institute, TechWomen, National Center for Women & Information Technology, Women in Technology international and Girls in Tech to name but a few.



Non-academic books and publications



Industry Groups & Organizations



Academic Research

Develop credible foundational knowledge of recruiting women to STEM fields

Analogous Industries

Identify local and regional best practices within industry, education and recreation fields that traditionally also have low female participation rates.

- Interviewed Dr. Rhett Herman, Professor of Physics at Radford University; Nancy Artis, VP and Co-Founder of Performance Associates (a software engineering and technology firm); Veronica Spradlin, Teaches Drafting and Engineering at Blacksburg High School; Jordan Eagle, Graduate student in physics at Clemson University; Susan Dana, Chemistry teacher at Blacksburg High School; Jesse Hilmandolar, Owner and Head Coach at Trebel Fitness Solutions.
- Social listening on social media sites and discussion boards dedicated to women in traditionally male fields. For example, the Institute of Women in Trades, Technology and Science maintains a list of female role models in various industries who have [shared their biography](#).

Selected Quotes from interviews and social listening

I've never had a woman think that I couldn't do the job. Most of the time, it's men who think a woman isn't capable of taking care of a situation. But, I've actually had men thank me and shake my hand when I leave. It's all in how you present yourself.
Female Pest Control Technician.

If a man took five tries to back into a dock, they'd say, 'That guy is having an awful time.' If I took two pull-ups, they'd say, 'Look at that dumb broad. She can't even back up.'
Female truck driver.

I was usually the only woman on the job. Because of their cultural training, sometimes I found that men wanted to help me more than they should.
Female welder.

When I'd go to the drivers' sections at the truck stops, 99 times out of 100 someone would say, 'You'll have to move. This is for drivers only.'
Female truck driver.

The most sexism I ever experienced were from my own male peers who were quick to write me off, cut me off, mansplain basic physics concepts.
Female graduate student in STEM field.

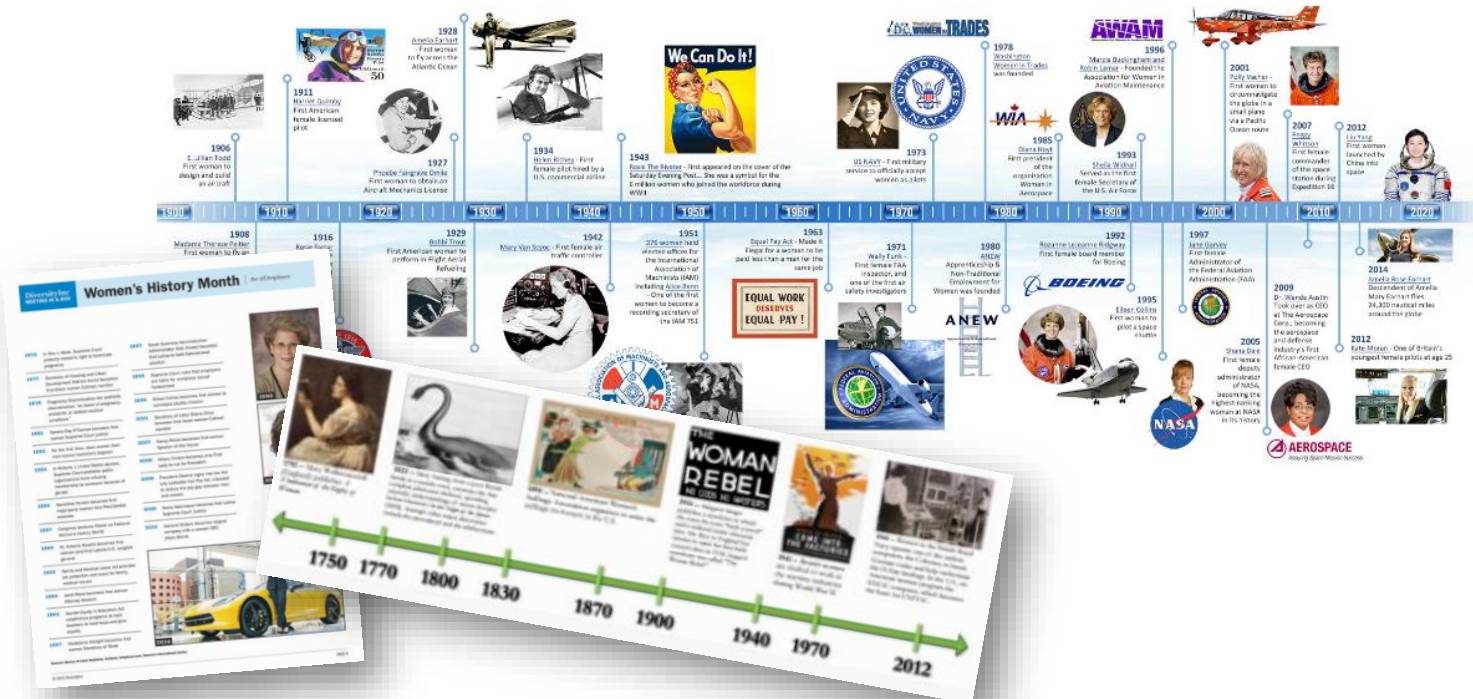
I had a professor who asked my teammates if they thought their team would be okay because they got stuck with the only girl.
Female Student in VT Building Program

Understand the people involved in the RU Maker LC experience

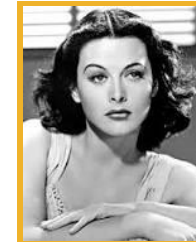
History of Women in Science

Understand the key events, organizations and stakeholders who have influenced the role women play in STEM related fields

- Reviewed a variety of timelines already constructed including the examples below.
- There are some amazing stories that are largely unknown today. Three are featured.



Augusta Lovelace was an English mathematician and writer known for her work on Charles Babbage's mechanical general-purpose computer. She is recognized as the first computer programmer.



Hedy Lamarr was a Hollywood actress who invented Spread Spectrum, which is the basis for today's Bluetooth and wifi technologies.



Grace Hopper was an American computer scientist and United States Navy rear admiral. She was a pioneer of computer programming who invented one of the first compilers which revolutionized the way we interact with computers.

Visualize the RU Maker LC application process

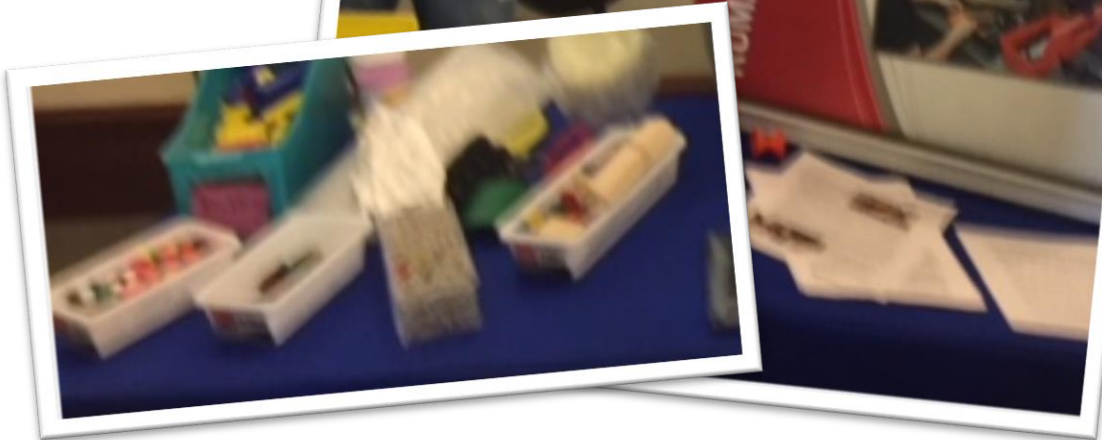
Contextual Interviews

Attend a high school recruitment fair (and/or QWEST) to understand the cognitive, emotional, physical, social and cultural aspects of the application experience

- Attended the Radford University Open House on October 11.
- Hosted the Maker Learning Community Table with Robert Blankenship.
- Brought a supply of less technological making equipment (e.g. lego, lollipop sticks).
- Greeted parents and high schoolers and asked them about their “making” activities and gathered feedback on the Learning Community.
- Visited the other departmental booths at the event.
- Surveyed current Maker LC students
- Interviewer current Maker LC students



Power Tools		Hand tools		Tech		Crafts	
Sander	Scale	Pair of pliers	Scale	Sensors	Scale	Sewing machine	Scale
1	1	2	1	8	1	4	
2	2	1	2	2	2	2	
3	3	3	3	3	3	3	
4	4	4	4	4	4	4	
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99	99	99	99	99	99	99	
100	100	100	100	100	100	100	



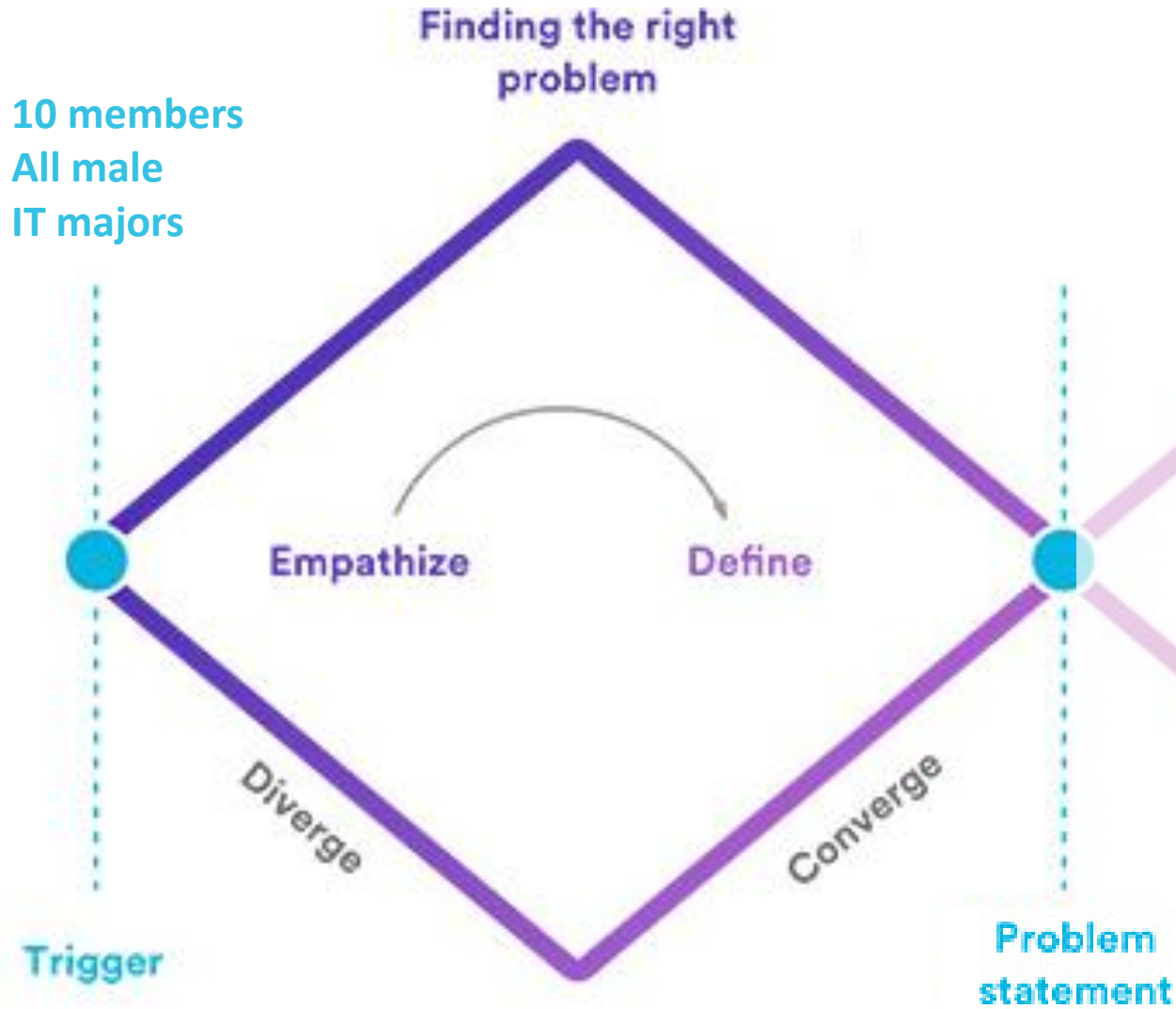
Visualize the RU Maker LC application process

Radford University Expert Interviews Interviews

Understand the current RU freshman application process from multiple perspectives; understand what RU Learning Communities offer and the needs they fulfill.

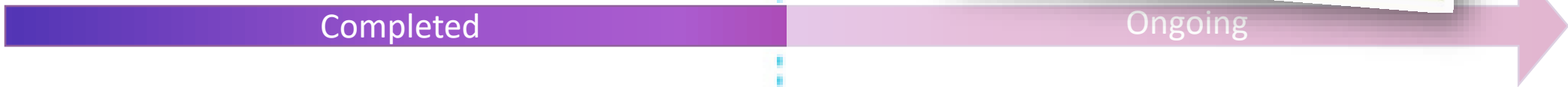
- Interviewed Dr. Rhett Herman, Professor of Physics at Radford University; Nancy Artis, VP and Co-Founder of Performance Associates (a software engineering and technology firm); Rebecca Moreau, Resident Director Housing & Residential Life, Robert Blankenship, Maker LC graduate, James Penven, Dir Housing & Res Life, Housing & Residential Life; Jeanne Mekolichick Asst Provost for Academic Prog Academic Programs; Emily Ewoldt, Assistant Director Admissions; Mallory Griffith, CRM Administrator Admissions; Dana Trask, Asst Director of Advising Visual & Performing Arts; Charley Cosmato, Dir. Innovative Teach & Learn Center of Innovative Teach/Learn; Steve Childers, Prof Management, Iain Clelland, Chair of Management Department; Jeremy Wojdak, Professor of Biology.





Understanding
Methods for analyzing challenges and opportunities:

PEOPLE & SYSTEMS	PATTERNS & PRIORITIES	PROBLEM FRAMING
Stakeholder Mapping	Affinity Clustering	Problem Tree Analysis
Persona Profile	Bull's-eye Diagramming	Statement Starters
Experience Diagramming	Importance/Difficulty Matrix	Abstraction Laddering
Concept Mapping	Visualize-the-Vote	Rose, Thorn, Bud





Provost & VP for Academic Affairs
Kenna Colley (interim)

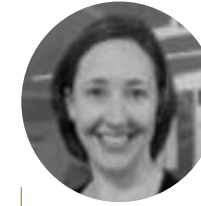
VP Student Affairs
Susan Trageser (interim)

VP for Enrollment Management
Kitty McCarthy



Assistant Provost of
Academic Programs
Jeanne Mekolichick

Andrea Zuschin
Interim Dean of Students



Allison Pratt,
Interim Dean,
Admissions



Niels Christensen
Director
Honors Academy



James Penven
Director Housing
& Residential Life;



Travis Carter,
Assoc. Director
Freshmen
Admissions



Charley Cosmato
Director CITL



Rebecca Moreau,
Resident Director
Peery Hall



Emily Ewoldt,
Asst. Director
Admissions



Joe Wirgau
Director
Undergraduate
Research



Erin Long
Assistant Director
for Retention
Programming

*Other Assistant Directors
responsible for different regions
Erin Sheehan, Heather Stuart, Kevin
Amaya, Katherine Coker, Skye
Heasley, Michael James, Shayna Lyle,
James Riley, Charles Salyers, Opal
Merchant, Jazzmine Williams*



Joel Haga
Professor
Biology LC



Dana Trask,
Community of
Artists



Brock Cutler
Professor
Eco LC



Rhett Herman
Professor
Maker LC

Maker
Students
Faculty

Robert Blankenship
Brandon Hunter
Troy Chaconas
Patrick Drennan

Jerred Lakey
Ben McClure
Zach French
Jason Griffin

Jawarne Thomas
Evan Walker
Ryan Wolff
Dalton Young

Kat Keller
Design

Jeremy Wojdak
Biology

Andrew Ray
ITECH

Key Stakeholder Map

These are the faculty and staff stakeholders at Radford University. Other key stakeholders not plotted include high school students, teachers and guidance counselors. While important, understanding their perspectives in detail was beyond the scope of this project.

Visually organize the information into key themes

Affinity Clusters

To organize and condense the masses of information collected into some master themes and identify strategies from those key research findings.

Learning Community Timeline

- Recruitment Activities
- Daily Operations
 - Culture & Support
 - Programming
 - Methods
- Learning Outcomes
- Societal Outcomes



Barriers to Women

- Definition
- Stereotypes
- Relevance
- Emotions



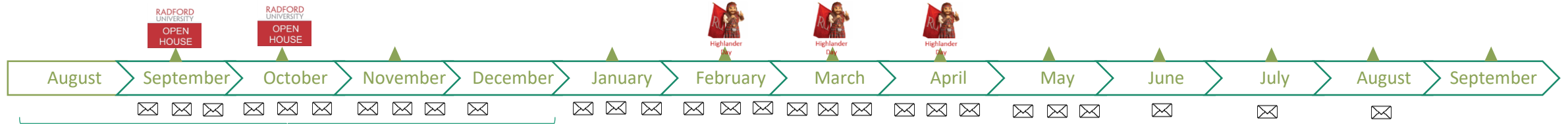
Idea Board



Current Recruitment to Radford University Experience

Pre Acceptance

Post Acceptance



Target Audience



Outreach Method

College fairs, high school visits, mass emails & texts & mailings to vendor, campus open houses

Personal emails, mailings, texts, phone calls from Admissions

Emails, mailings, texts, personal phone calls from Admissions and HIP/LC; Highlander Days; Social Media; Local area receptions

Texts, Quest, send-off events, Social Media

Welcome letter; Meet & greet reception

Outreach Objectives

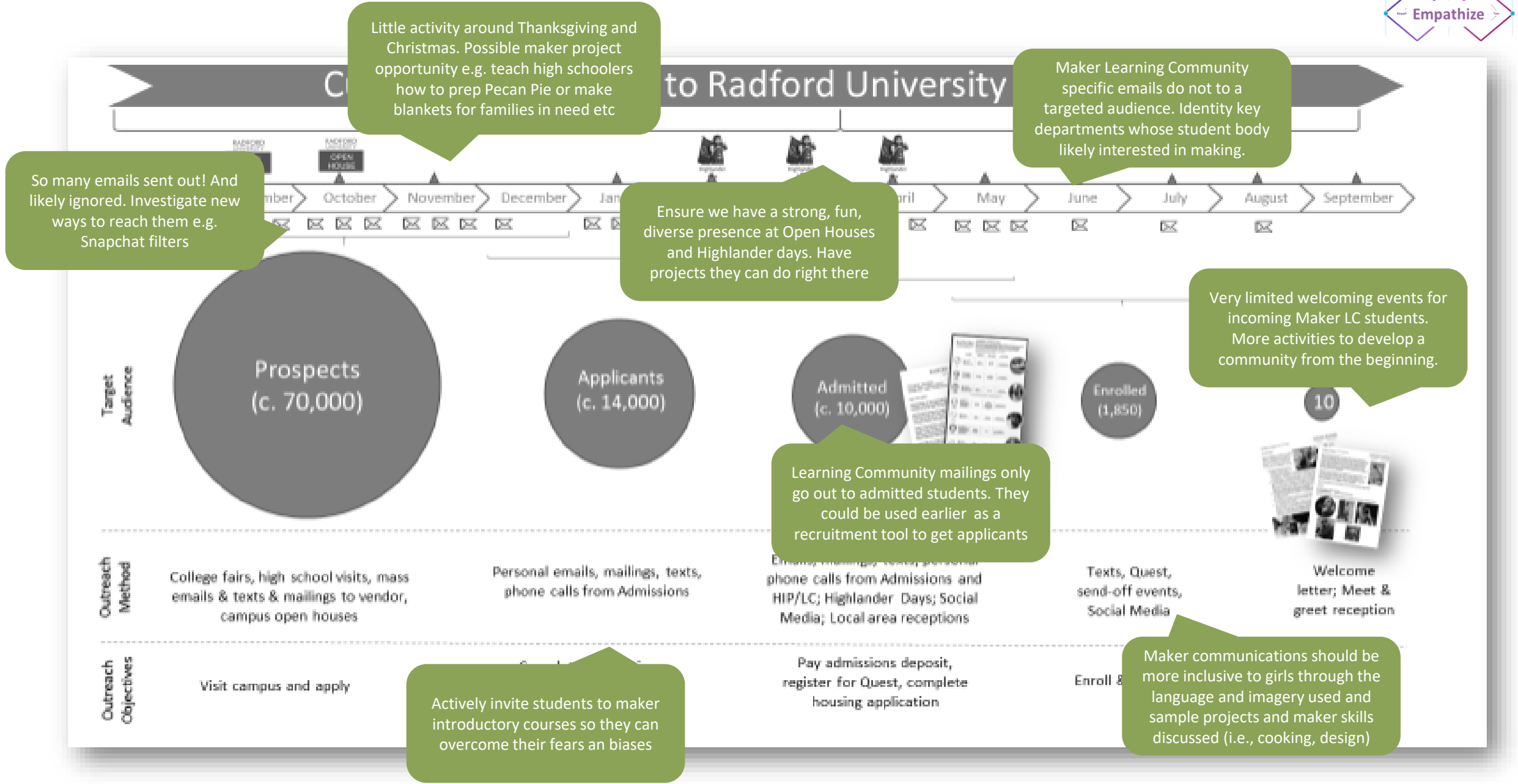
Visit campus and apply

Complete applications, submit transcripts & scores

Pay admissions deposit, register for Quest, complete housing application

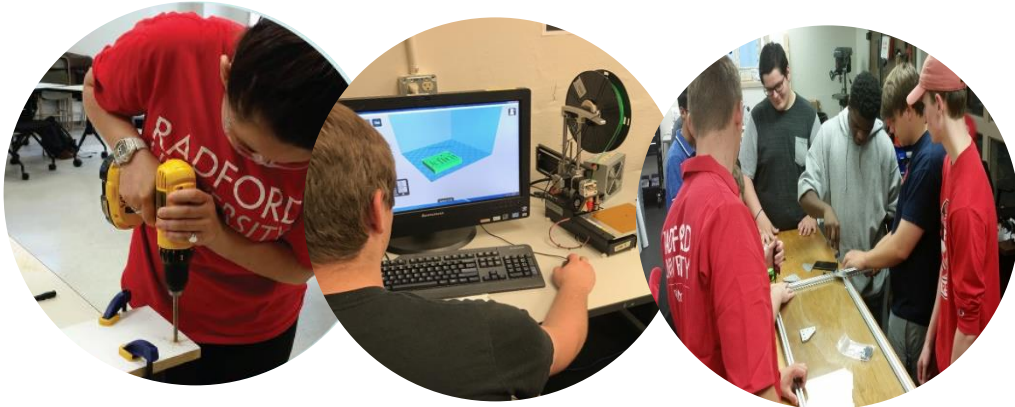
Enroll & attend

to Radford University



Current Radford Maker Learning Community Experience

Culture & Support



Support

- Designated RA for Peery
- Meet and greet on first day
- Two pizza and movie nights
- Informal gatherings
- Low faculty interaction

Culture

- Male dominated – “guys”
- About electronics and tools
- Need prior experience
- Unmotivated

Relevant Research Findings

- Don't just welcome, create *welcoming* spaces
- More social activities that involve faculty
- Involve the local community
- Create a safe space through team building exercises
- Offer strong counseling, advising & academic support early on
- Presence of female (or supportive male) role models
- Encourage and reward failure
- Partner with diverse student groups
- Celebrate successes (especially the small ones)
- Meet students where they are at
- Formal and informal mentoring
- Early warning systems
- Stereotype bias training
- Intentional creation of a diverse making community
- Change the peer culture of the community

Current Radford Maker Learning Community Experience

Programming & Methods

Relevant Research Findings

- Offer credit for the workshops
- Peer-led team learning
- Build on existing competencies
- Increased opportunities for collaborative learning
- Link material to student experiences
- Find out student capabilities and knowledge first
- Pair programming
- Meaningful making
- Little D Projects (repaint doors, replace windows)
- Move outside the lab
- Solve problems that make a difference in society
- Make technology a part of solving the problem (rather than learning technology being the end goal)

Maker Workshops

- 1 hour, Monday evenings
- No credit
- Various instructors

UNIV 100

- 1 hour, Tues/Thurs
- For credit
- Charley Cosmato

Projects

- 3D printing
- Arduinos and LEDs
- Programming
- Design Thinking
- Laser Cutting
- Build a lightboard
- Build a cannon

Methods

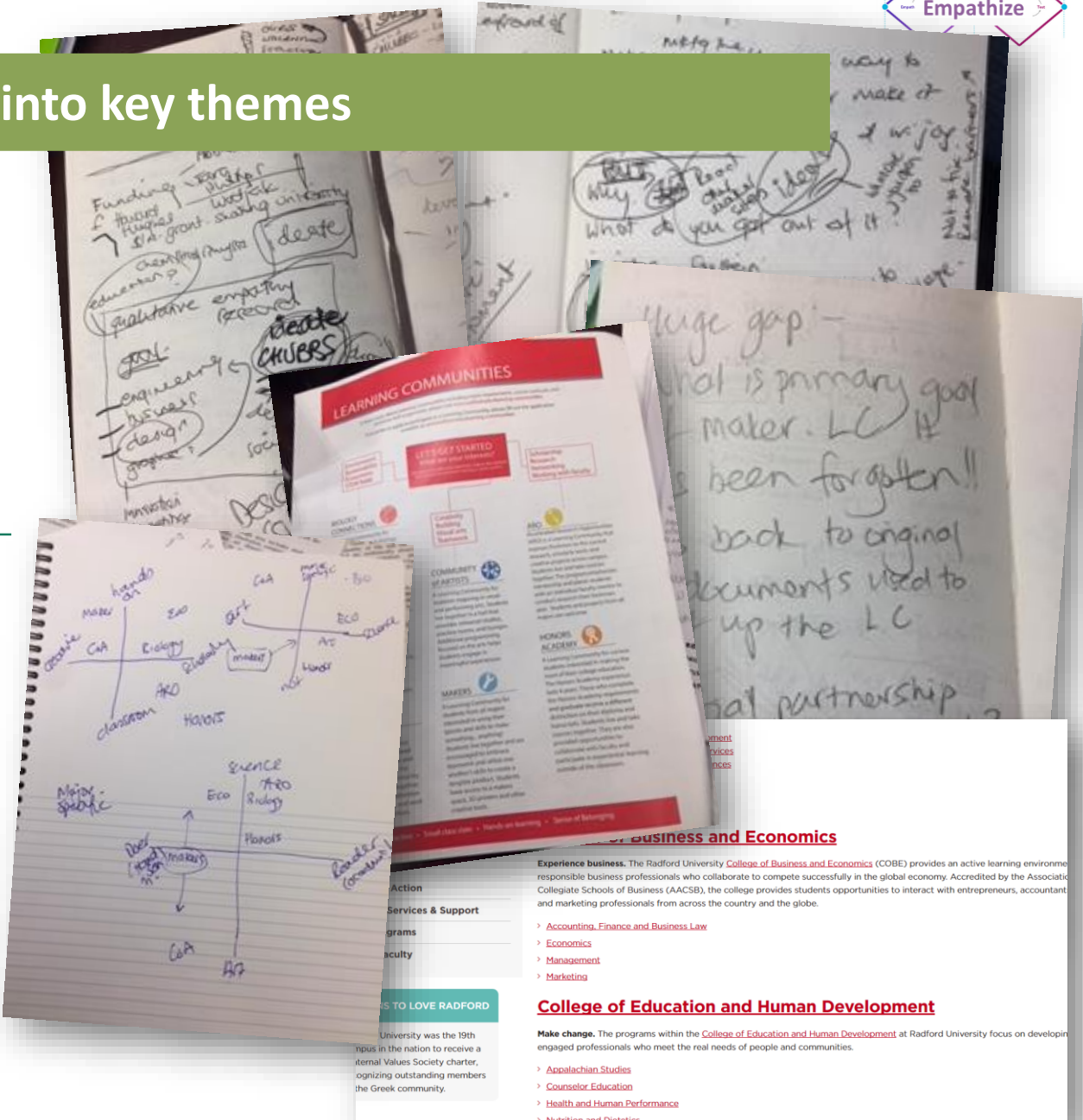
- Faculty directed
- Pre-planned
- Self-selection by experience into specific activities
- Instructional
- Inside the makerspace
- Semester long projects

Visually organize the information into key themes

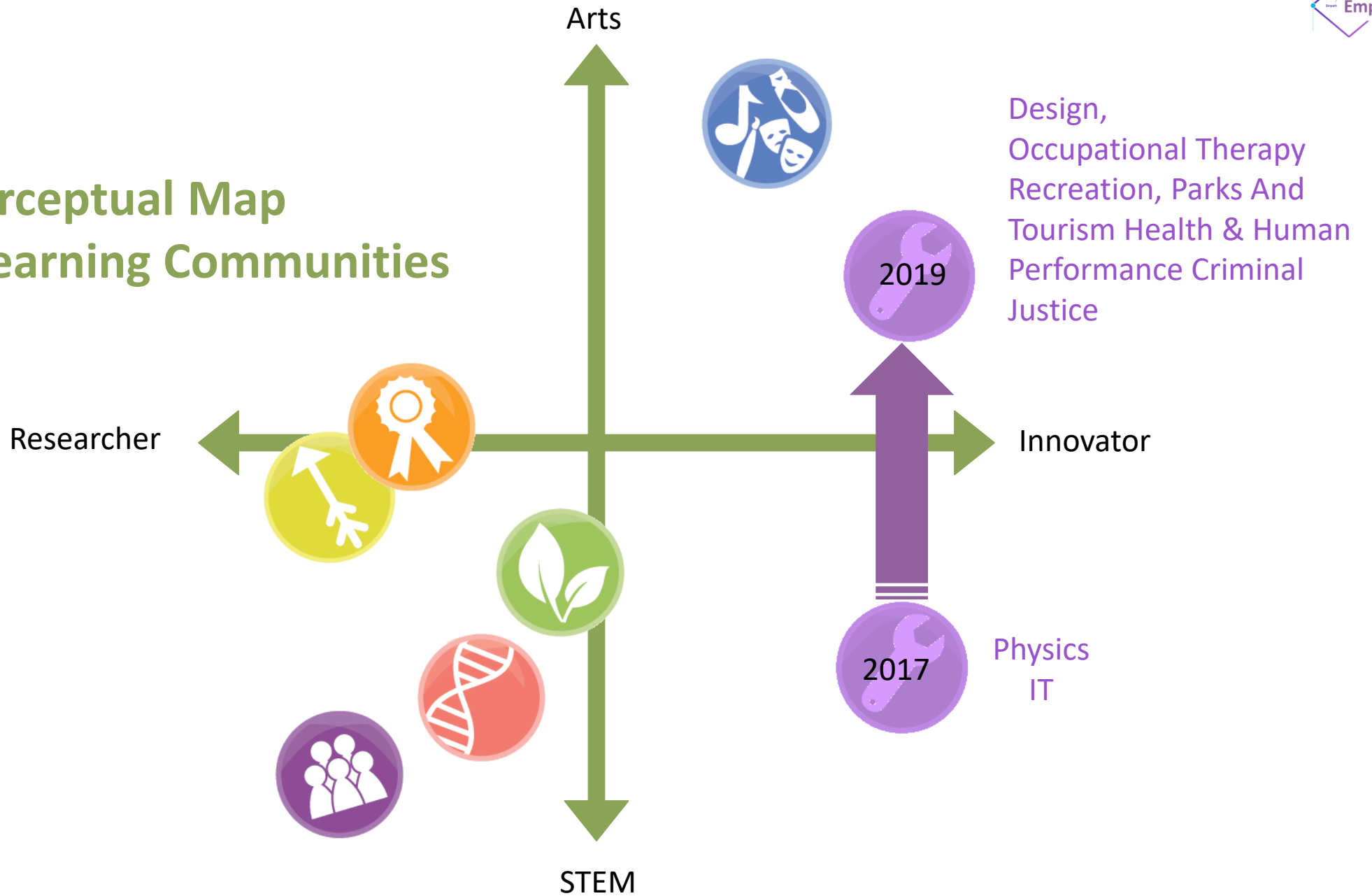
Perceptual Map

To identify potential areas of opportunity among “competing” learning communities to better position the Maker Learning Community to attract applicants.

- Attended Learning Community Committee Meetings where the faculty lead for each community updates their activities. In both meetings the recruitment of accepted students to Learning Communities was discussed. Some communities are very focused (e.g. Biology Connections and The Community of Artists).
- Opportunity to reach students who are (1) not being targeted and (2) likely to have an above average interest in a Maker LC.
- Reviewed all colleges and departments on Radford’s campus to identify possible students to target without stepping on the toes of any other Learning Community. These might include design (they are not specifically targeted within the CofA and that LC is always full), occupational therapy, recreation, parks and tourism, health & human performance, criminal justice, military science, geospatial science, physics, information technology.



Perceptual Map Radford Learning Communities



Change Maker Definition

Making currently seen as 3D printing, video game coding and playing with tools
People involved in culinary arts or textiles etc feel excluded from Maker Movement

Make Making Relevant

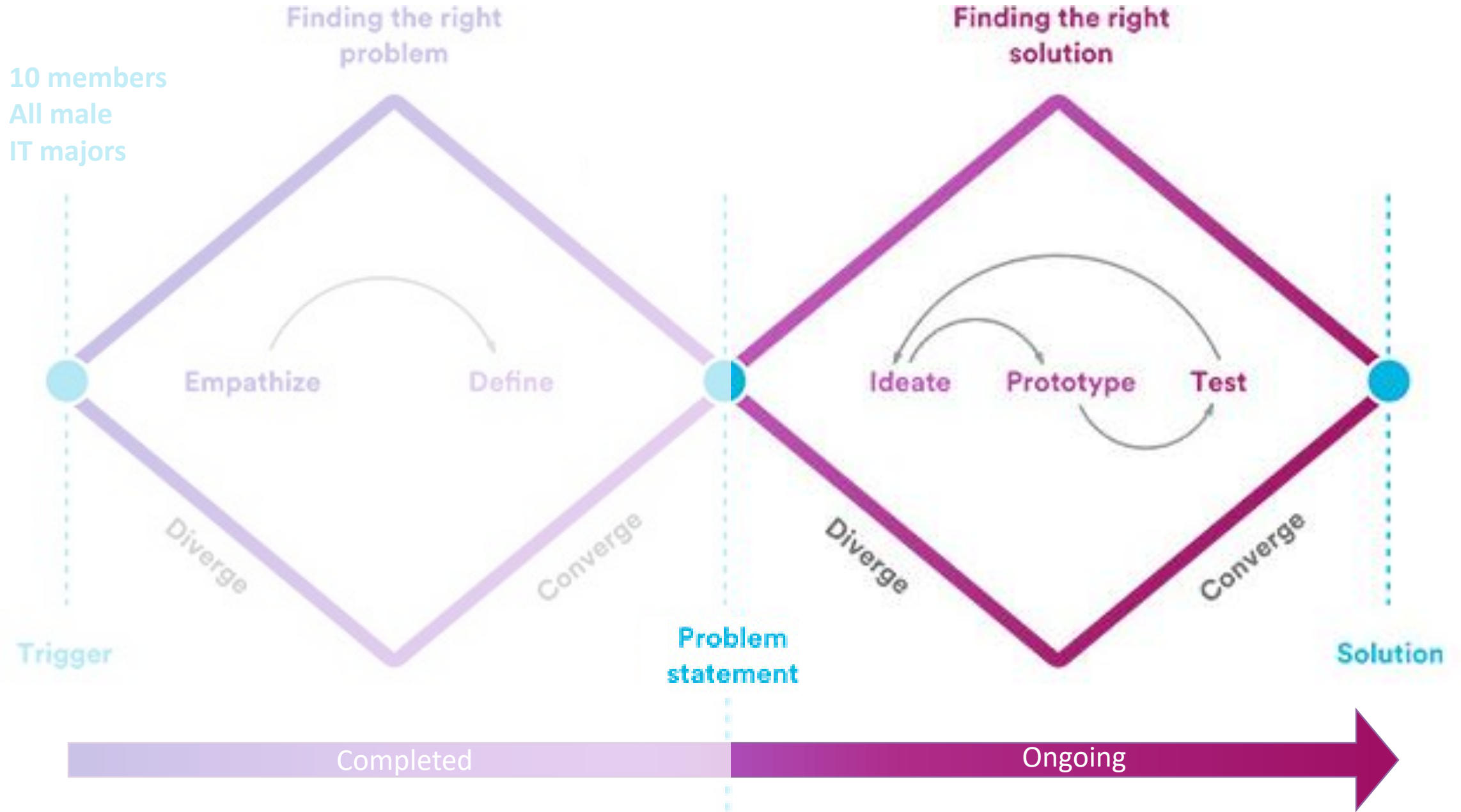
Girls don't want to master technology *itself*; they want to learn technology *in order to* solve a problem
Make projects *meaningful*; motivate with problems that *make a difference* to society

Tackle Gender Bias

Identify and promote minority role models and mentors
Training to minimize stereotype threat
Cultural and gender sensitivity training

Tangible Results

Identify quick and rewarding “Little D” projects
Break projects into multiple steps, each with a tangible result at the end



Spring 2018

Fall 2018

Spring 2019

Fall 2019

Spring 2020



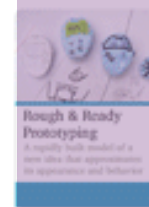
Looking



Understanding



Making



	Newly Admitted Students	On-campus student	off-campus student	Faculty	Local Schools / Business	Student Groups
Social	<p>Not having any friends</p> <p>Lack of Social Events</p> <p>Missed important dates</p> <p>Stress in Finals</p> <p>Stress @ Exam time</p> <p>Disconnected from campus</p>	<p>Lack of time to connect or hang out at social events</p> <p>Many social events or things held at social times</p> <p>No time to connect</p> <p>Stress in Finals</p> <p>Stress @ Exam time</p>	<p>Stress in Finals</p> <p>Stress @ Exam time</p> <p>Disconnected from campus</p>	<p>Students not checking email</p> <p>Faculty not connecting with students</p> <p>Students Not Connecting w/ You</p> <p>meeting faculty from other depts</p> <p>D2L Sucks</p>	<p>Little to No Connection</p>	<p>Meeting Space (Quadrant)</p> <p>Getting disinterested members</p>
Services	<p>Disruption of schedule changes</p> <p>Explanation of food cards</p> <p>What services are available</p> <p>Office hours</p>	<p>Nothing to campus</p> <p>No food trailers</p> <p>Office hours</p> <p>Library</p> <p>Warm labors</p> <p>Timeless in district to use</p> <p>WiFi on campus</p> <p>Business on campus</p> <p>Parking shortage</p> <p>Business on campus</p>	<p>Office hours</p> <p>Warm labors</p> <p>Timeless in district to use</p> <p>WiFi on campus</p> <p>Business on campus</p> <p>Parking shortage</p> <p>Business on campus</p>	<p>making attendance</p> <p>Students late to class</p> <p>getting pictures hung in office</p> <p>Faculty not connecting with students</p> <p>Faculty not connecting with students</p>	<p>More Campus Food plans!</p> <p>More Dining options</p> <p>Lack of CSAT classes</p>	<p>Advertising Publication</p>
Products	<p>Water bottle</p> <p>Reusable Plates</p>	<p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p>	<p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p>	<p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p>	<p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p>	<p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p> <p>Water bottle</p> <p>Reusable Plates</p>
Places / Environment	<p>More time to eat on campus</p>	<p>Wandered bikes</p> <p>People come, knock over, then walk away</p> <p>Blights left on lawn not cut</p> <p>The Music of Poles Hall</p> <p>More concrete bike racks</p> <p>Parking</p> <p>Time to hang out on campus</p> <p>Better Sidewalks</p>	<p>Wandered bikes</p> <p>People come, knock over, then walk away</p> <p>Blights left on lawn not cut</p> <p>The Music of Poles Hall</p> <p>More concrete bike racks</p> <p>Parking</p> <p>Time to hang out on campus</p> <p>Better Sidewalks</p>	<p>Wandered bikes</p> <p>People come, knock over, then walk away</p> <p>Blights left on lawn not cut</p> <p>The Music of Poles Hall</p> <p>More concrete bike racks</p> <p>Parking</p> <p>Time to hang out on campus</p> <p>Better Sidewalks</p>	<p>Wandered bikes</p> <p>People come, knock over, then walk away</p> <p>Blights left on lawn not cut</p> <p>The Music of Poles Hall</p> <p>More concrete bike racks</p> <p>Parking</p> <p>Time to hang out on campus</p> <p>Better Sidewalks</p>	<p>Wandered bikes</p> <p>People come, knock over, then walk away</p> <p>Blights left on lawn not cut</p> <p>The Music of Poles Hall</p> <p>More concrete bike racks</p> <p>Parking</p> <p>Time to hang out on campus</p> <p>Better Sidewalks</p>
Wildcard	<p>Find my classes</p>	<p>Move-in Madness</p> <p>Rec on toilet seats</p> <p>Pro's Door Locking</p>	<p>Move-in Madness</p> <p>Rec on toilet seats</p> <p>Pro's Door Locking</p>	<p>Move-in Madness</p> <p>Rec on toilet seats</p> <p>Pro's Door Locking</p>	<p>Move-in Madness</p> <p>Rec on toilet seats</p> <p>Pro's Door Locking</p>	<p>Move-in Madness</p> <p>Rec on toilet seats</p> <p>Pro's Door Locking</p>



**Change
Maker
Definition**

Making currently seen as 3D printing, video game coding and playing with tools
People involved in culinary arts or textiles etc feel excluded from Maker Movement



Community
of Makers

Learning Community

RADFORD UNIVERSITY

RADFORD
UNIVERSITY

RUMAKERS LIVING-LEARNING COMMUNITY

Imagine
Invent
Create





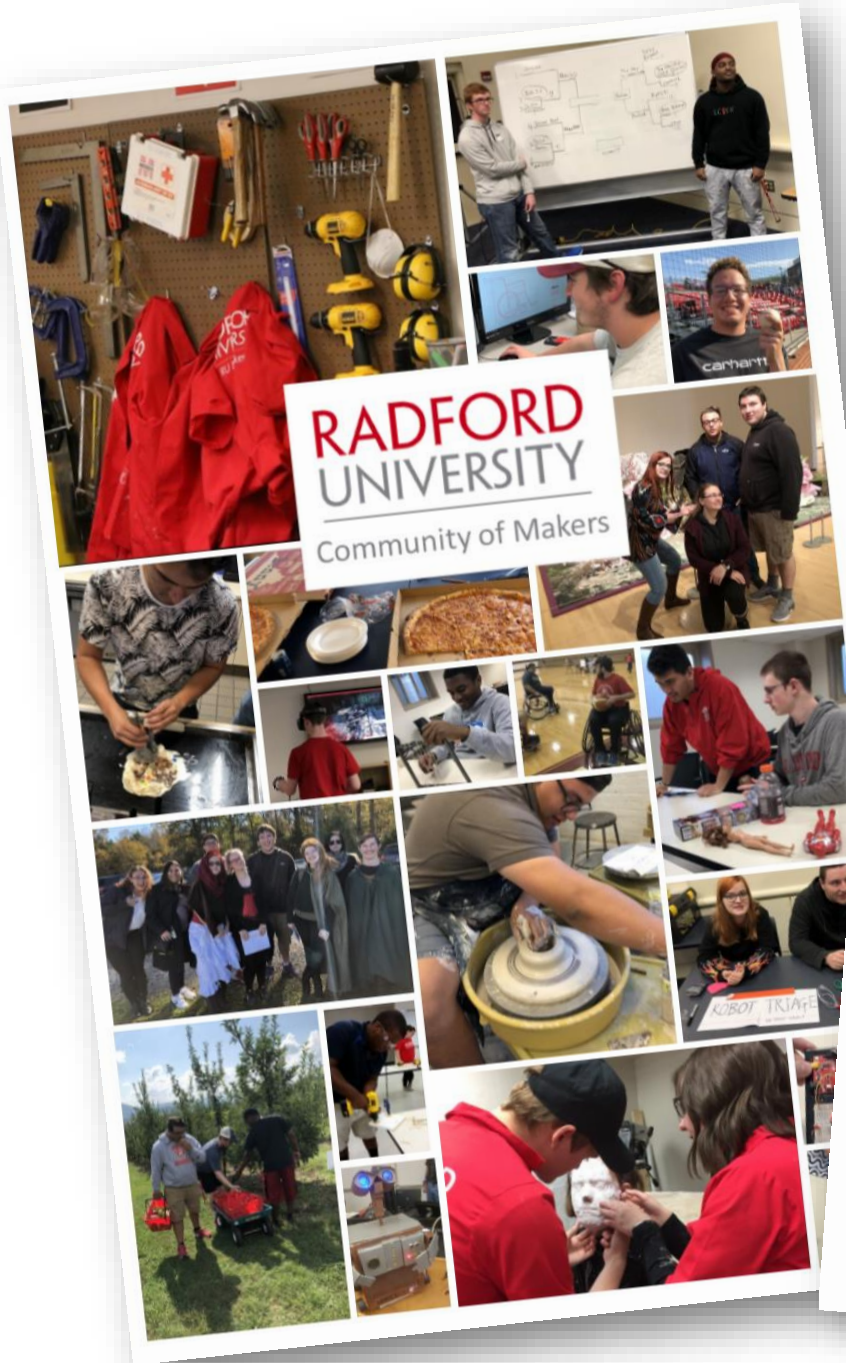


Doe Creek Farm Apple Picking





Caramel Apple Making



RADFORD UNIVERSITY

Community of Makers



The Community of Makers is a Living Learning Community for students who learn best by doing! Living together in Peery Hall, an air-conditioned residence hall in the center of Radford's beautiful campus, you have access to a high-tech Makerspace to design and build almost anything you can imagine! Close faculty relationships, sophomore mentors who also live in Peery Hall, and experiential programming help you develop new skills in a safe and supportive environment.

The Makerspace, on the garden level of Peery Hall, is open over thirty hours each week and staffed by students trained to help you use all the equipment. Want to laser cut leather jewelry? Etch a design on your phone? 3D print a broken chair part? Sew a Halloween costume? Make your residence hall motion sensitive? We can help you do it! **No prior knowledge needed.**

Maker students get priority registration in Maker-themed versions of UNIV 100, CORE 101 and CORE 102 and MAKE 100. In addition, you get to take part in lots of Maker-themed activities, classes and trips. Below are some of the events we have done in the past:

- Pottery • Bookbinding • Weaving • Ice-cream making • Arduino programming
- Game nights • Carolina Renaissance Faire • VR experiences • Escape Room •
- Wheelchair basketball • Community service projects • Apple picking • Hiking •
- Baseball cookout • Movies in the RU Planetarium • Tom Tom Festival •

The Community of Makers, open to all majors, is a great way to find friends who share your passion for building, tinkering, crafting, creating, and experimenting. Do you belong with us? Join the Community of Makers today! Use the QR code or go to: www.radford.edu/content/high-impact/home/learning-communities.html.

For more information, please contact Dr. Jane Machin: jmachin@radford.edu



Design! Build! Program! Print! Craft! Create!

On the garden level of Peery Hall, where students in the Community of Makers live, is a high-tech Makerspace. It is open over 30 hours each week and staffed by students trained to help you use all the equipment, including state of the art 3D printers, Glowforge laser cutter, sewing machine, building materials, crafting tools, power tools and circuitry components, to bring your creative ideas to life!



Radford University is part of the MakeSchool Alliance, a national shared knowledge base & higher education community helping to improve the value and impact of maker culture in universities.

A white circular callout bubble with a purple outline and a purple shadow. It has two short lines extending from the top and bottom, giving it a 3D effect.

**Make
Making
Relevant**

Girls don't want to master technology *itself*; they want to learn technology *in order to* solve a problem
Make projects *meaningful*; motivate with problems that *make a difference* to society



Toys Like Me

A white circle with a purple outline, containing the text "Tackle Gender Bias" in purple. The circle is connected to a purple horizontal bar by two short vertical lines at the top and bottom.

**Tackle
Gender
Bias**

Identify and promote minority role models and mentors
Training to minimize stereotype threat
Cultural and gender sensitivity training



Curriculum

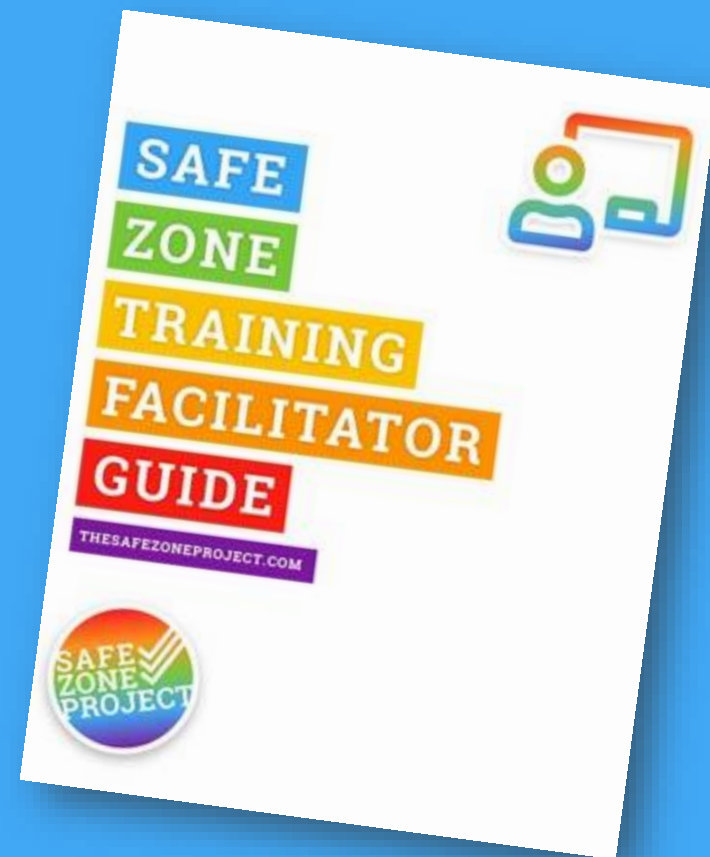


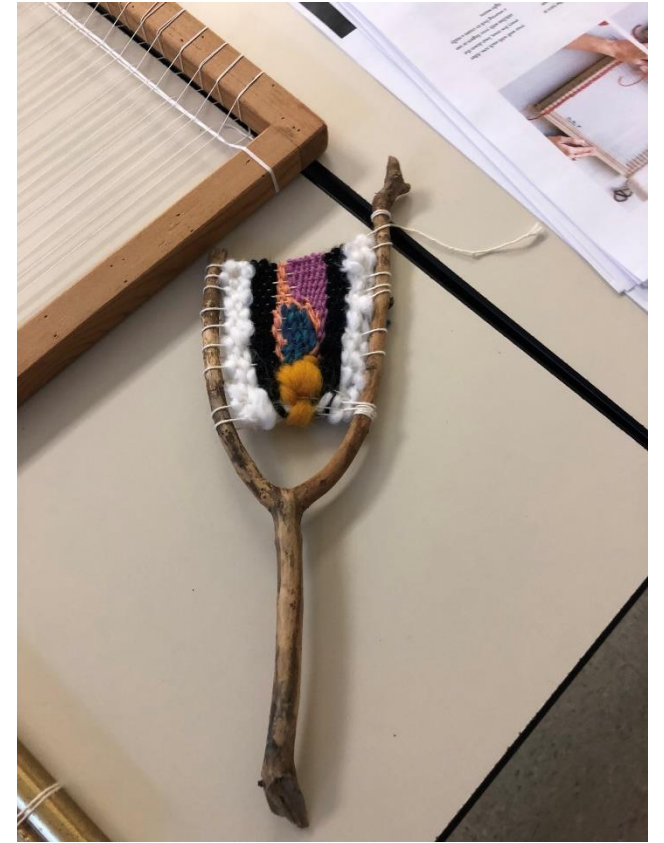
About



Resources

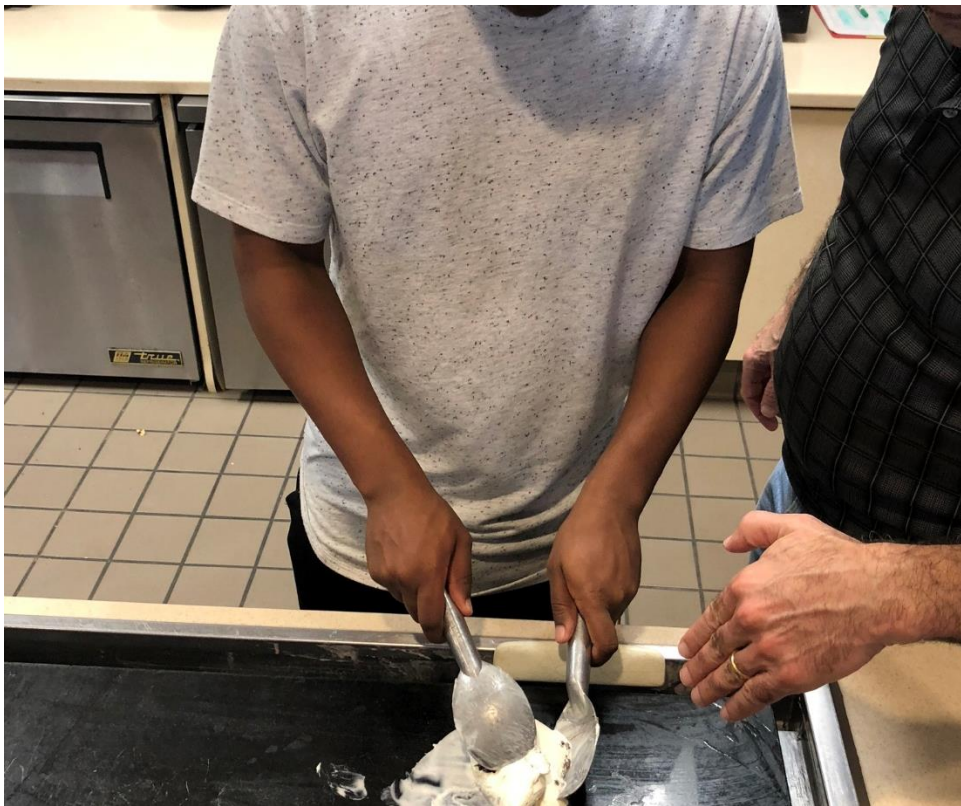
**THE SAFE ZONE PROJECT IS A
FREE ONLINE RESOURCE FOR
POWERFUL, EFFECTIVE LGBTQ
AWARENESS AND ALLY TRAINING
WORKSHOPS**





Weaving Class

Stephanie Fallon, Taubman Museum of Art







Wheelchair Basketball



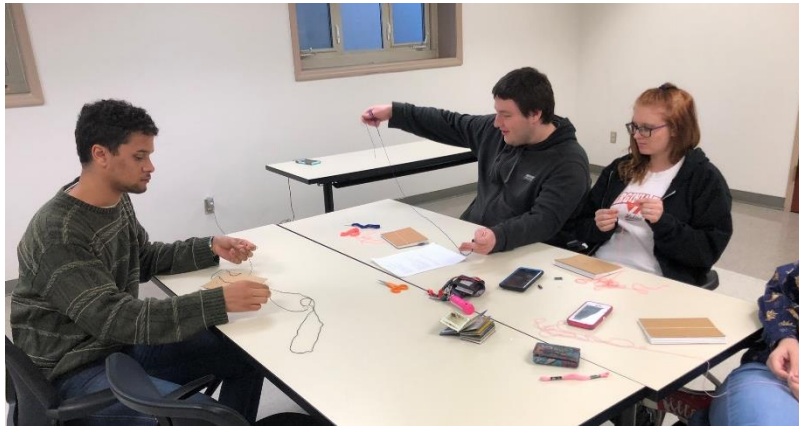
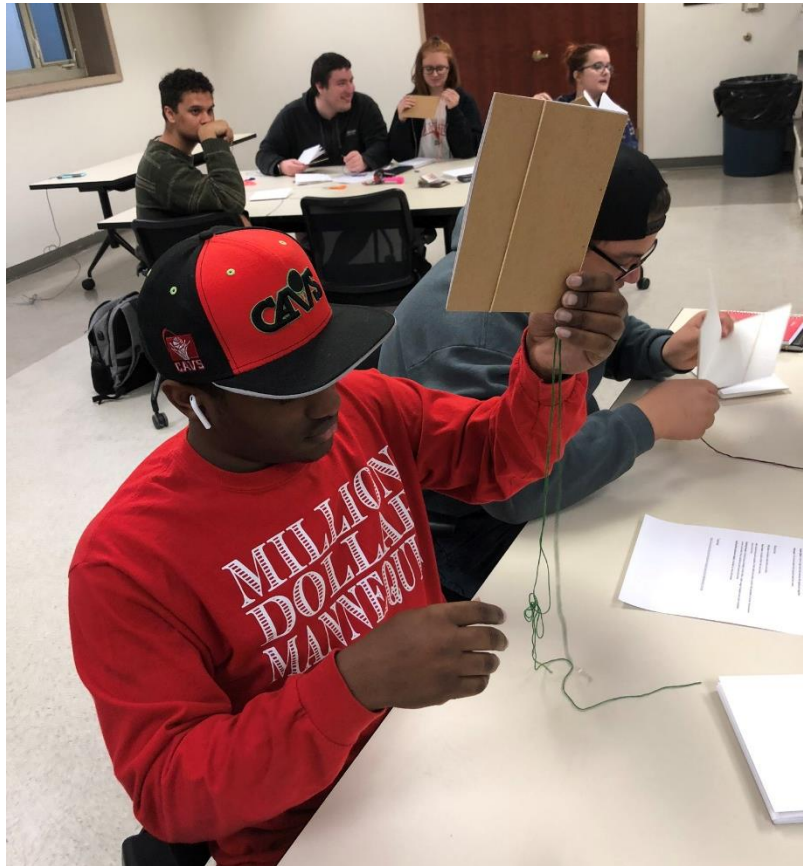
**Tangible
Results**

Identify quick and rewarding “Little D” projects

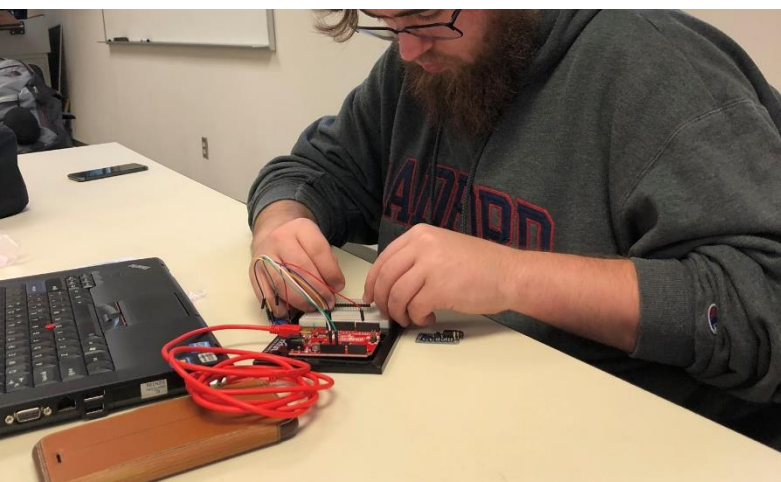
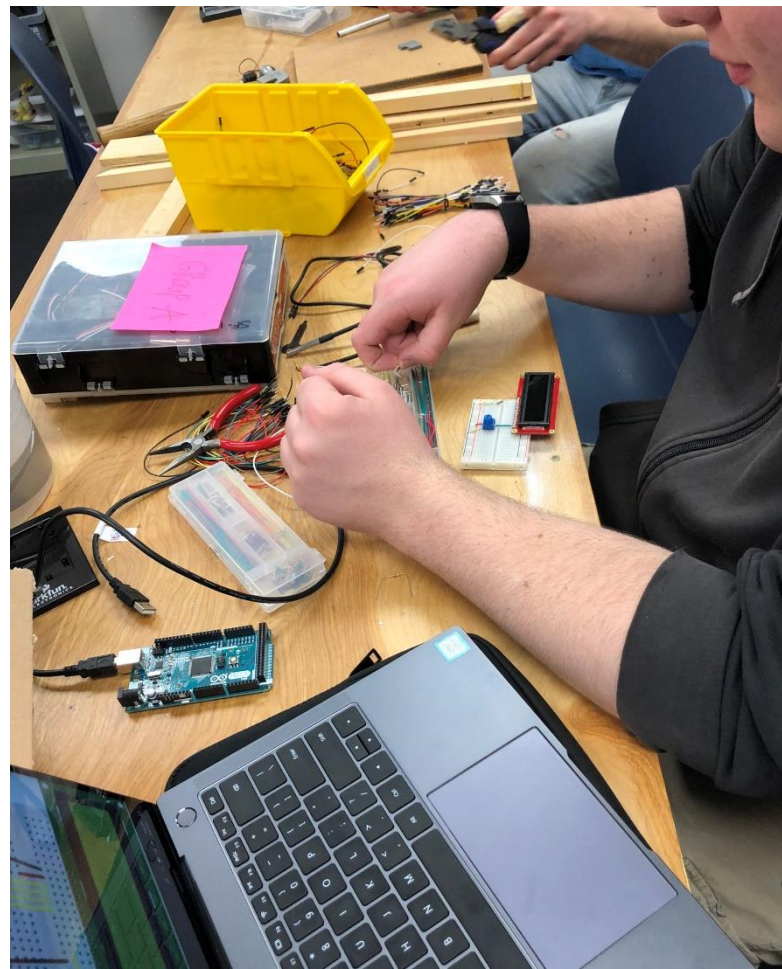
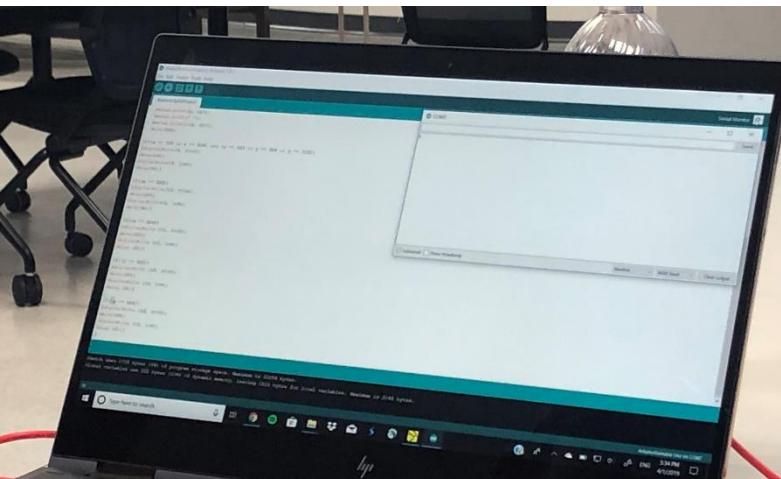
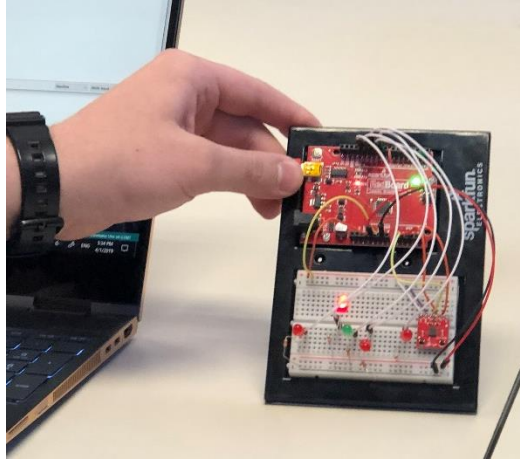
Break projects into multiple steps, each with a tangible result at the end

Pop-Up card
workshop
with
renowned
artist Colette
Fu, Roanoke





Book Making Class



Programming Arduino to solve real problems

- Can crusher
- Level measure
- Light sensor heater control
- A/C Controller
- Game parts
- Interactive costume parts
- FM Transmitter

Increase and diversify enrollment in the Community of Makers and improve student participation and engagement.

- *Grow* enrollment in the Community of Makers by 50%;
- *Increase* the diversity (gender, race and major) of incoming students;
- *Improve* participation and engagement with the Community experiences;
- *Improve* retention rates of students in the Community;
- Develop a *blueprint* to help other LLCs design best local experience.

Jalon N.

CORE 102

COBE 150

Christian B.

CORE 102

COBE 150

Nick F.

Satis

COBE 150

Kei Y.

CORE 102

COBE 150

Tennyson T.

CORE 102

COBE 150

Kimberly T.

CORE 101

UNIV 100

Wyatt G.

CORE 102

COBE 150

Cisco Y.O.

CORE 102

COBE 150

Nolan R.

CORE 102

COBE 150

Noah B.

CORE 102

COBE 150

Jarod S.

CORE 102

COBE 150

17 enrolled
33% Female
1 Transgender
70% Non STEM

Lilly D.

CORE 102

COBE 150

Lauren S.

CORE 102

COBE 150

Wellington D.

Satis

COBE 150

Lucas Frank

Diff sect'n

Audit 150

W. Joshua Peaden

Satis

COBE 150