

DTI User Research Report

Team PlatyPI

Group I

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01

**SITE & RESEARCH
QUESTION**

Design Thinking Initiative (DTI), a makerspace on Smith's campus dedicated to design justice principles, human-centered design, and interdisciplinary making.



The DTI is located at 25A Henshaw Avenue, Smith College, Northampton, MA 01063. It provides resources for generating ideas and creating a wide variety of projects, which include laser cutters, a vinyl cutter, 3D printers, sewing machines, power tools, and crafting materials (paint, paper, fabric, etc). Students are free to use the resources of the DTI for academic or personal purposes, which results in an array of possibilities when it comes to prototyping ideas.

All Smith students, faculty, and staff have access to the DTI during open hours, where student staff members will be present to provide assistance. Key card access outside of open hours can be gained through completing a relatively quick safety training.



Wall-E Team: Tani Somolu,
Asmita Gautam, Mia
Delpriora & Noor Khan



Our initial research question:

**What separates people who use the
DTI from people who want to use it
but don't?**

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02

METHODOLOGY

Methodology

Participants in our study: 18

Estimated total site population: ~1000

Methodology	Details
30–45 min Semi-Structured Interviews 5 total: 2 group interviews, 3 one-on-ones	<ul style="list-style-type: none">• Who we interviewed: Emily Norton (DTI Director), Kathy Guo (Prototyping Studio Manager), 2 student SDPs, 3 student non-SDPs• Recruitment strategy: survey exclusively for sign-up times, makerspace survey that included a question for sign-up times (methodology 2)• All participants were engaged, but SDPs were the most excited and passionate. Emily and Kathy were honored we chose the DTI and happy to help in any way. Non-SDP student focused more on the flaws of Smith makerspaces in general; SDPs focused on the DTI specifically; Emily and Kathy were only asked about the DTI.
Google Form Survey about makerspaces with DTI-specific questions 15 responses Open from 3/12 – 3/20	<ul style="list-style-type: none">• Recruitment strategy: strategically placed flyers, Discord & Slack messages• Number of questions: 28 for previous DTI users, 18 for non-DTI users• 4 respondents offered to interview• Out of 11 free response questions for previous DTI users, respondents answered ~5 questions on average, 9 at a maximum, 1 at a minimum. Only 1 was required.• Biggest skew in demographic: 4 respondents likely found the survey through the CS Department Discord (were CS majors, responded quickly after posting in Discord)
OneCard sign-in times for this academic year	<ul style="list-style-type: none">• Covers sign-ins from 9/5/2023 to 3/12/2024• Provided by Emily and Kathy of the DTI
2022–23 Academic Year By-the-Numbers Report	<ul style="list-style-type: none">• Provided by Emily and Kathy of the DTI• Was compiled by Emily and Kathy to demonstrate to the College how the DTI is used

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03

RESULTS

The DTI is...

Highly utilized



1009 Smithies signed into the DTI in 2022-23 (out of 2873 students)

Top daily sign ins ('23-'24)

1. **66** sign ins – Feb 13
2. **47** sign ins – Dec 8
3. **40** sign ins – Oct 30, Feb 21

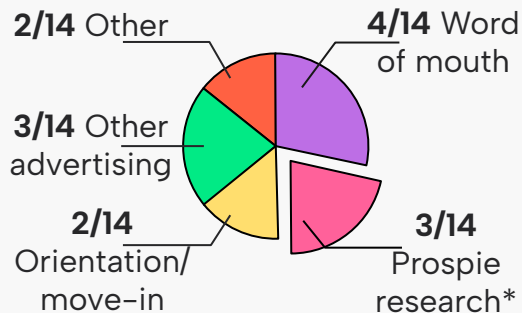
Most of these top dates are the day before holidays (Valentine's Day, Halloween, Rally Day).

Well known



15/15 respondents had heard of the DTI

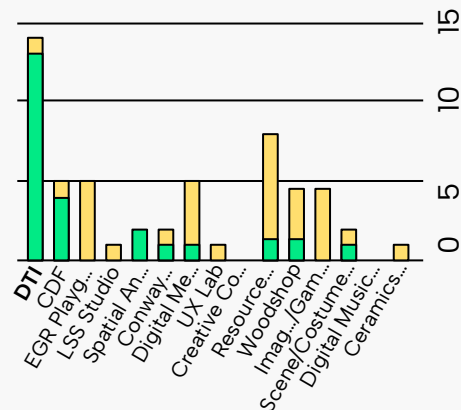
Respondents discovered it via...



Only "prospe research" responses indicated that they may have used Smith's website to discover the DTI, and did so before attending Smith. Extrapolating, very few, if any, current Smithies use the Smith website to find information about Smith makerspaces.

The most popular makerspace

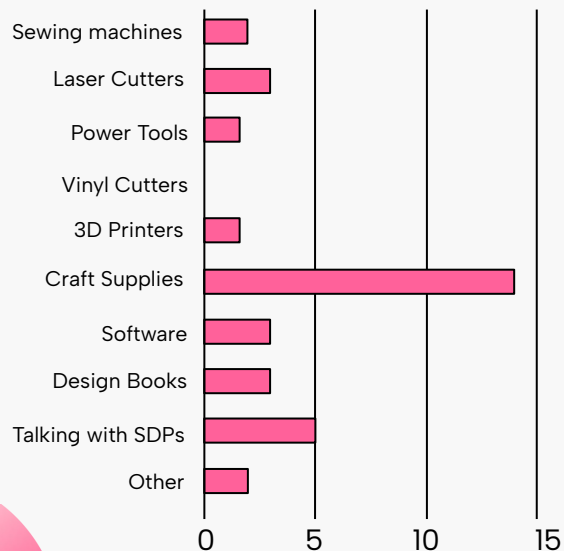
■ has used ■ likely to visit for a project



Out of all Smith makerspaces, far more respondents had visited the DTI at least once *and* were more likely to visit if they had a project.

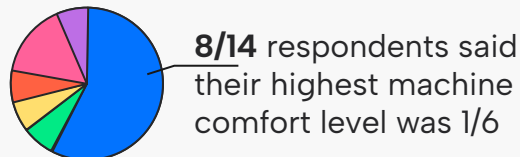
Students at the DTI

Mainly use craft supplies

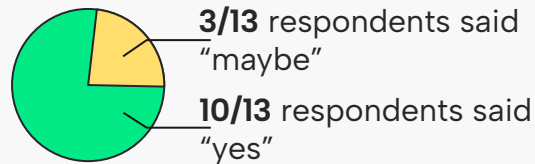


Mostly machine novices

Highest machine comfort level, 1-6



Interested in learning about the machines?



How students describe the DTI

"lots of resources"
"community and support"
"I had a good time...but felt really out of place there"
"I just wish there was more space, but that's really hard to do!"

Suggested Improvements

- 2/5 respondents want more information about available materials
- 3/5 respondents want more space

The inner workings of the DTI

Emily Norton, Kathy Guo, and student staff members called Studio Design Partners (SDPs) primarily run the DTI. As self-described “stewards of the vibe,” the SDPs have the most influence on the space day-to-day. This group aims for:

Sustainability

Stocking donated materials, only buying the essentials

Search Inventory

Tool checkout so students can create in their own space, and don't have to buy new tools themselves

SDPs + others implement improvements in all of these categories!

Not being snobby about what people make. Anyone can use the space

Community

SDPs introduce themselves and ask what people are making. This encourages conversation and makes it easier to ask for help.

Lowest possible barrier of entry

No penalties for not returning items



Advertise the space in multiple ways so students know about it!

No fee for supplies



Always improving studio accessibility, for example using these see-through bins

Conflicts

Not policing the space -vs- managing it

“Trying to manage...without having too many policies. What's nice about the DTI is that the rest of the campus is so strictly enforced...it feels distrustful of students. At the DTI...we don't want to penalize students...With this much giving, we're hoping that students will respect the space. But we don't often see that respect in return. Studio being really messy, things not put back in the right spot, things being missing.”

Supplies -vs- sustainability, budget, space

- The DTI wants to provide what students need so they don't have to buy it themselves, but not to waste material or take space away from people.
- **12/15** survey responses mentioned supply availability in a free response question. **Five** of these expressed irritation at lack of supplies in makerspaces.
- “[We] used the speedball linocut tool once but it didn't have all of the tips (someone had taken them we think)... We ended up buying our own”

Accessibility -vs- limited space

Capen Annex is small and has no elevator. It can get loud and crowded.

- SDPs figure out students' needs, and rebalance the space if necessary (ex: requesting lower noise levels)
- Nearly everything upstairs is available downstairs, and you can ask an SDP if you need something that you can't get.
- Still need more space, or to reallocate to other makerspaces

Zooming Out

More makerspaces, less info

The DTI is one of many makerspaces at Smith. The others are friendly, but more difficult to use.

1. Students don't know they exist, and it's hard to find information



4/7 respondents mentioned lack of information as a challenge at makerspaces

"I just keep going back to the woodshop, they don't even have a website. You have to really dig to find information. When I looked them up, I couldn't find anything. You have to be in the building and look at the door to see it exists."

2. Lack of introduction and scaffolding (like intro workshops)
3. Not necessarily free to use

Roots of the Problems

1. Stigma around making time for creativity

"If you're taking a J-term class you're wasting time that could be an internship. I feel like as a result there becomes a stigma or shame in being like, I'm on campus taking a class about design thinking"

2. Smith is generally bad at advertising its resources
3. Liberal arts perspective doesn't emphasize that these spaces can lead to careers
4. Assumption that students already know the basics, and are here to improve

Answering our research question

People who want to use the DTI seem to be using it. It is well known and popular, and no one mentioned wanting to go to the DTI more often than they already did. However, both students and DTI staff expressed a wish that students could utilize other makerspaces more often.

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04

PERSONAS

Betty

Age: 22
Class Year: Senior
Major: Biology
Pronouns: she/they

“As an SDP, I’m a steward of the vibe! I’m here to help so please ask me questions! I love the DTI but I kinda wish that more students knew about all of the makerspaces to prevent a frequent flier situation.”

Bio

Betty is a bubbly extrovert who has enjoyed crafting and making for as long as she can remember. They now use it as a fun outlet and stress reliever from their demanding course load. She specializes in crocheting and jewelry making.

They discovered the DTI during orientation when they first came to Smith. Even before working at the DTI, she ended up frequenting the DTI so much that Emily and Kathy specifically recruited her for the SDP job.

As an SDP, they noticed that the stools were uncomfortable, so they reupholstered all of them as a fun project to learn a new skill.

Goals & Motivations

- Loves making, problem solving, and creating community
- Motivated by sharing their passion and expertise in making

DTI Usage

- Goes to DTI for work shifts and to work on projects
- Scheduled to work 8 hours, but regularly works overtime to 9.5 hours because she has trouble wrapping things up and saying no to students at the end of her shift

Pain Points

- DTI is treated like a catch-all space, but can’t actually help everyone with what they’re looking for
- Balancing how the space is being used (should it be quieter or more social? etc)
- Saying no to people they’re helping
- Every time they see a glue gun, they still get frustrated about that time they told someone they could not borrow the glue gun but the glue gun mysteriously disappeared anyway



Madeleine

Age: 18

Class Year: First Year

Major: undeclared, but
intended English

Pronouns: she/her

“Going for the first time was a little overwhelming! But I went back because it had lots of resources for different crafting. There's a very strong sense of community and support. The staff are clearly knowledgeable and happy to help, and it's overall a cozy environment!”

Bio

Madeleine is cautiously excited about her time at Smith. She's excited by all the opportunities, but a little overwhelmed at the same time. She is relatively shy but cares deeply about her friends.

She currently feels most comfortable working with paper, whether she is writing short fiction stories or making paper crafts. Her friends appreciate her thoughtful handmade cards.

She heard about the DTI from a friend, and would not otherwise have known that she was allowed to use the space. She hopes to learn about different types of crafting through the DTI. Recently, she is dabbling in crochet. She checked out a crochet hook in the fall but forgot to return it; she felt guilty about it so she snuck it back in this semester.

Goals & Motivations

- Enjoys the welcoming community and variety of projects at the DTI
- Gift giving is her main love language

DTI Usage

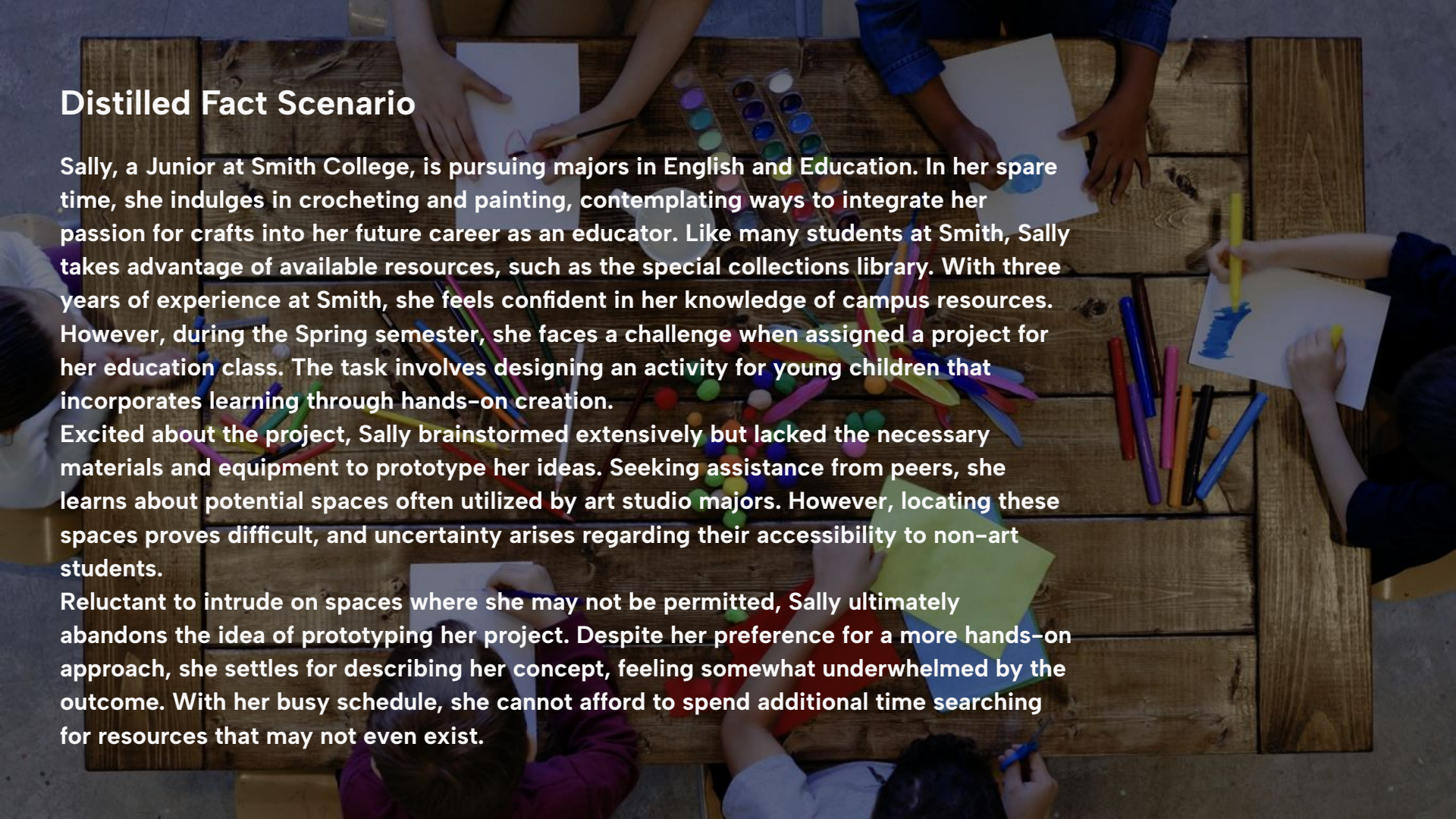
- Has attended 1 crochet workshop that was advertised as beginner-friendly
- Accompanied friends when they made a costume for Halloween
- Went to DTI on her own to make a few gifts for friends' birthdays

Pain Points

- First visit was very overwhelming since everything was so unfamiliar and new.
- Interested in learning how to use the 3D printers on the 2nd floor, but can't access them since the 2nd floor is not wheelchair accessible and she uses a wheelchair. Currently not aware of other makerspaces on campus, some of which could suit her needs (e.g. CDF, Imaging Center), due to lack of advertising.
- Doesn't want to spend money to make projects
- Often is not able to find the colors and materials that she is looking for

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05 SCENARIOS



Distilled Fact Scenario

Sally, a Junior at Smith College, is pursuing majors in English and Education. In her spare time, she indulges in crocheting and painting, contemplating ways to integrate her passion for crafts into her future career as an educator. Like many students at Smith, Sally takes advantage of available resources, such as the special collections library. With three years of experience at Smith, she feels confident in her knowledge of campus resources. However, during the Spring semester, she faces a challenge when assigned a project for her education class. The task involves designing an activity for young children that incorporates learning through hands-on creation.

Excited about the project, Sally brainstormed extensively but lacked the necessary materials and equipment to prototype her ideas. Seeking assistance from peers, she learns about potential spaces often utilized by art studio majors. However, locating these spaces proves difficult, and uncertainty arises regarding their accessibility to non-art students.

Reluctant to intrude on spaces where she may not be permitted, Sally ultimately abandons the idea of prototyping her project. Despite her preference for a more hands-on approach, she settles for describing her concept, feeling somewhat underwhelmed by the outcome. With her busy schedule, she cannot afford to spend additional time searching for resources that may not even exist.

Design Fiction Scenario

Alex, a sophomore at Smith College, delves into the depths of existentialism and social justice through their Philosophy major, immersing themselves in literature and passionate discussions with peers. Despite their academic focus, Alex nurtures a secret desire for tactile creation, blending philosophy with craftsmanship.

In the Spring semester, Alex confronts a personal challenge: the urge to translate abstract musings into tangible creations using software and a 3D printer. Inspired by existentialist thinkers, they embark on digital sculpting projects exploring identity and existential angst.

Eager to begin, Alex remembers hearing about the Smith Maker's app, a tool that connects students with campus creative resources. Excited, Alex quickly downloads the app and begins exploring. To their delight, they discover the Design Thinking Initiative (DTI) listed on the map, where a Studio Design Partner (SDP) teaches students how to operate the machines, including the 3D printers.

Under the guidance of the SDP, Alex gain hands-on experience with the 3D printer. With newfound knowledge and skills, they feel invigorated. They immerse themselves in digital sculpting, seamlessly blending philosophical insights with virtual forms. Through each design iteration and printing session, Alex finds fulfillment, realizing the potential of technology to augment their creative expression.

Thanks to the Smith Maker's app and the DTI, Alex not only overcomes the initial hurdles but also deepens the connection between philosophy and digital creation, forging a path uniquely their own.

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06

KEY PROBLEM

Key problem: lack of information

Students don't have accessible, accurate, and complete information about **ALL** Smith makerspaces.

Why is this a problem?

1. Lack of advertising → students don't know these spaces exist
2. Lack of information → intimidating to go, uncertain whether you're able to use the space, uncertain whether it will meet your needs

What does solving it do?

If students knew about other makerspaces,

1. They would actually use them!
2. Smaller load on the DTI
3. Students' needs are better met in more specialized locations

What already exists?

Makerspace information is consolidated and very well formatted in the **Smith Makers' Map**. But no one seems to know about it or use it. Remember earlier, where no current students found out about the DTI from the website. Most likely, very few current students search for makerspace information, and they aren't able to find it when they do.

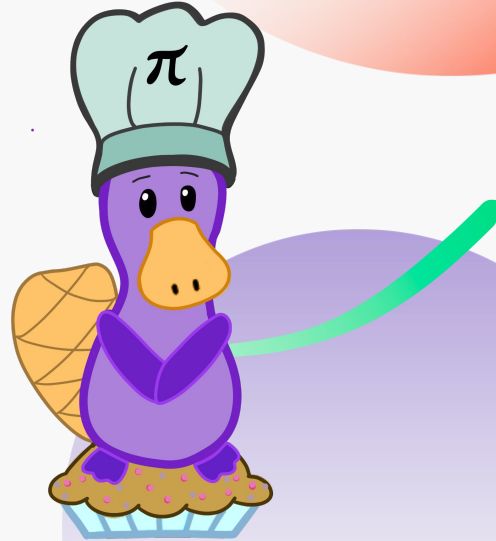


"Definitely, if there's a page that consolidates all the makerspaces, that page needs to be accessible because I don't know it exists."

Thanks!

Do you have any questions?

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Appendix

In “Respondents discovered the DTI via...” chart, one respondent listed multiple sources in response to the question “how did you first learn about the DTI?”. We counted the first source only. Their complete response was *“emails, advertising/social media by the college (might have even been talked about in onboarding material once I committed to Smith), plus people talk about it pretty often”*.