



Developing and Assessing a Culture of Change at the TRU Library Makerspace

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Hello everyone

Welcome to Developing and Assessing a culture of change at the TRU Library Makerspace

I'm Franklin Sayre, The Makerspace Librarian at Thompson Rivers University..

And with me today is Amy McLay Paterson, Assessment Librarian and Valentine Bilton, one of the library technicians who works in the Makerspace

Our other library technician colleagues who work in Makerspace and are co-authors of the talk, but couldn't be here today are: Sarah Porter, Olivia McDougall, and Dayun Han



Thompson Rivers University campuses are on the traditional lands of the Tk'emplúps te Secwépemc (Kamloops campus) and the T'exelc (Williams Lake campus) within Secwepemcúl'ecw, the traditional and unceded territory of the Secwépemc.

I want to start by acknowledging and thanking the Musqueam nation, on whose unceded territory we are gathered today.

I also want to acknowledge that Thompson Rivers University and the Makerspace are located on the traditional lands of the Tk'emplúps te Secwépemc and the T'exelc within Secwepemcúl'ecw, the traditional and unceded territory of the Secwépemc.

Why build cultures of change in our learning spaces?



- So! Let's start with the obvious question: Why should we build cultures of change in our learning spaces?
- It's an important question because building for change is hard. it takes intentionality and a willingness to cede control, to sit with ambiguity, to not know what will happen
- And if you do it right, it never stops. You need to remain open to change term after term, year after year
- But I think there are good reasons that outweigh these costs
- 2 of the reasons relate to learning that it's okay to not know everything.
- 2 of reasons relate to the ways adopting a culture of change helps create belonging.

We can't
always
know what
is going to
work



The first reason is that we can't always know what will work.

When we first opened, I had a lot of assumptions about who and how the space would be used

One example was that we built a "podcasting studio" with the assumption that that was what people would want to use the space for. We had a nice new mac, good microphones, a table for doing interviews...

Within a few weeks a group of students approached me to ask if they could use the space to record music, a use I had never considered.

And after talking to them, we bought a keyboard, an interface, and some software called Ableton

Now we have people recording music almost every day

We've even had students meet in the space and collaborate on music that is now available on Spotify

This photo shows these little whiteboards that we have in the rooms, which have ended up being a great way of capturing impromptu feedback,

This one is from someone saying "music is everything" with a heart, which is lovely. And we have many other examples of how our assumptions were upset by actual need and use, and how we've had to adapt to that.

We can't see
from every
perspective



The second reason is that you can't see from every perspective.

When we opened I was very sure I didn't want to teach workshops

This photo is me teaching a workshop last term

I believed, and mostly still do, that I need to keep our focus on self-directed learning and enabling other groups to run programming.

However, people kept asking for workshops, especially related to 3D printing. And so I decided to try running one.

But because we are focused on self-directed learning (and I am lazy) I basically took the self-guided tutorial we have everyone do and I wrapped it in a workshop

Basically, the workshop was what anyone could do, anytime, but with a reserved printer

Within hours of being posted these workshops filled up, primarily with learners from equity-seeking groups.

They needed the permission a workshop provided to come into the Makerspace, even if it was to do an activity they could have done anytime, with the same supports I couldn't see that perspective when we opened

Inviting others to contribute builds belonging



- The next reason is I think the most important.
- Being open to change means empowering others to create change. To make meaningful contributions.
- These contributions foster a sense of belonging, which is one of things I've come to believe drives learning in spaces like ours
- Our space is now filled with markers of student, staff, and faculty contributions.
- Some of these are operational, like software or tools we've added or that users have built for us
- Many of them are aesthetic, but drive our culture
- For example: When we were just opening one of our staff members, Olivia, asked if we could have plants in the space
- And it turns out, that if you tell a plant person they can have plants, 2 years later you will end up with 15 plants
- So this is a picture of one of our many 3d printed custom plant pots, which many staff members and ambassados have made.
- Some of which have plants potted by horticulture students
- These things become marker of belonging
- They tell the people who contributed them that they helped make the space what

it is

- And they let other people know we are serious when we invite them to contribute to the space too

Inviting
others to
contribute
allows us to
belong too



- Finally, the last reason. when we empower users and staff to change our spaces, we give up a little control, and this lets us become full members of our communities.
- You can't really be a member of a community you only relate to through control.
- So This picture of our 3d print room
 - 3d printer, as you can see it is out of order. The sticky is from staff, they have created the ways they do maintenance
 - The Whiteboards were something we initially just used to write down the names of the user who was using the printer
 - One day I saw that one of our staff members (Valentine) had added a bunch of details about their print to it and I thought it was a brilliant idea to help us nudge students towards learning more about their prints, and for us to better understand what was on our printers, so we implemented filling out these details as part of our printing process.
 - Finally, the painting in the background is from a previous TRU visual arts student.
- My point here is that I am not totally in control of this space, I am a member of the community that runs and uses and works in the makerspace. And that is a really

wonderful thing.

What is Makerspace: 2020-2021



So, what is the TRU Library Makerspace?

this is where we started out

Left: pilot makerspace, soft launched in January, 2020. Closed in March due to the Pandemic

Right, 7 offices around a central room I was given in September 2021 to build the space

What is the TRU Library Makerspace?



- What are we today?
- We are an active learning space that facilitates experiential learning with generative tools, technologies, and design methodologies.
- We opened in March 2022
- We are staffed by library technicians and supported during fall and winter terms by 5 student ambassadors
- We offer button making, material cutting, textiles and embroidery, Virtual Reality, Media Recording, 3D scanning and printing, Computer prototyping, educational robotics
- We recently opened a Tool Library, Community Fabric Stash as part of a sustainability grant
- We have a mix of equipment that can be used in the space and equipment that can be borrowed
- We also offer events and programming, with a focus on hosting events led by campus partners
- The Space is essentially designed for an 18 year old from a small town with no STEM background to walk in and use everything within 2 minutes

What is the Makerspace?

Pedagogies

- Experiential and hands-on learning
- Self-directed learning
- Interest-based learning and autonomy
- Experimentation and play



As a learning community, and as such we are very focused on 4 pedagogies . These really drive everything that we do in the space.

- Hands on learning through doing. We are not a class or a lab. We put tech in peoples hands
 - Self directed learning: students take responsibility for their learning journey in our space
 - Interest-based learning and autonomy: users do not have to be doing something related to coursework. In fact, our heart is with those learning because they are curious or passionate. Personal projects are totally okay
 - Experimentation and Play: primarily set up as a learning, exploration space, not a production space
-
- This gentleman is an adventure studies student and is using the 3d scanners and printers to make custom climbing grips.

What is the Makerspace?

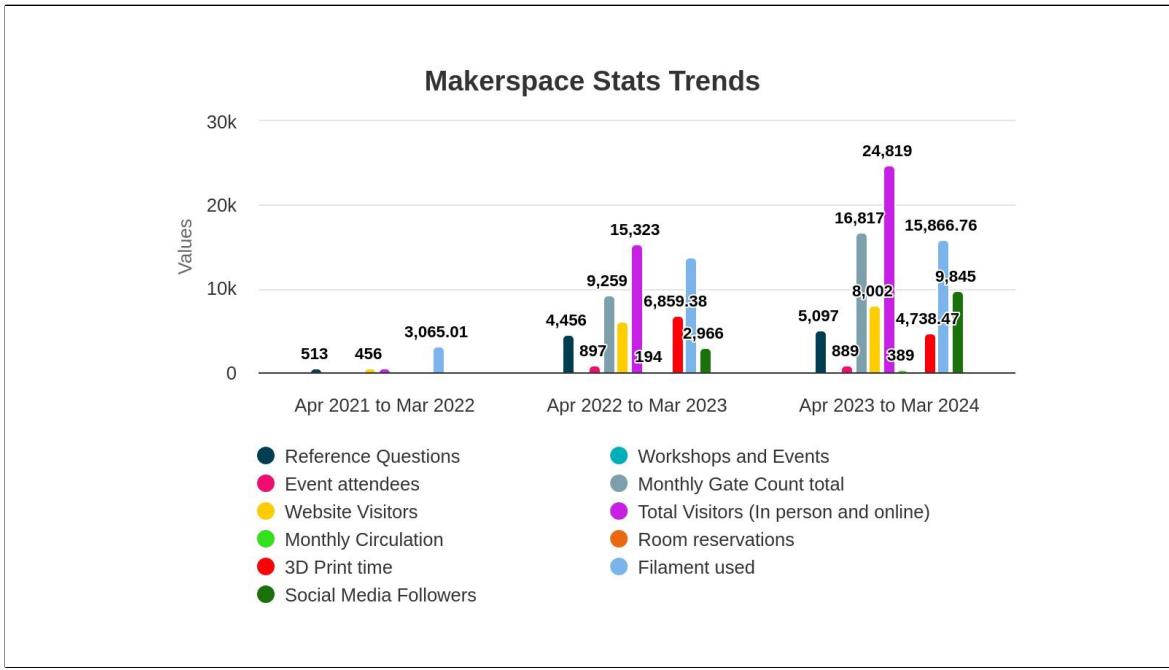
Values

- Equitable access
- Belonging and community
- Indigenization
- Sustainability and critical making



We are also guided by a set of values:

- Equitable access: No barriers (no costs, no training, no sign-up) we are equally open to Students, staff, and faculty. All supplied for basic projects and learning are provided.
- Belonging and community: going to talk a lot about that today
- Indigenization: we have a specific focus on supporting Indigenous knowledge and teaching in the space, where that is always in control of Indigenous teachers
- Sustainability and critical making: big focus the last year was on sustainability, (this photo is of a student working with a volunteer electrician during one of the repair café events we've run with community groups in the space)
- and increasingly we want to really push users to think critically about what they are making, why, what history it ties to, and what its impact is going to be



So., how are we doing quantitatively?

This is a libanalytics graph showing the change in some of our use stats year to year

The short version is we grew quickly and continue to experiencing some growth, but we're also probably at about where we want to be in terms of use.

One thing I've learned is that spaces like this don't scale, which is a topic for another presentation

In the last year we've had:

Almost 16,000 people come through our doors

Over 5000 reference interactions

Almost 1000 event participants



How do we
build cultures
of change in
our spaces

So how do we build cultures of change in our spaces?

These are just some of the lessons we've learned on our journey, there are definitely other lessons and perspectives

But I do think these apply to other learning spaces, and particularly active learning spaces like ours

Lesson one: Start with flexible “minimally viable” policies



The first lesson: start with flexible, minimally viable policies

So, often I think we start by trying to develop a full set of policies that predicts all the things

And I'm really opposed to developing policy before we know what policies we need
There are cases where we know from experience or evidence parts of what is needed
But in many spaces, especially if we are trying to create spaces that change with our users, we can't know

And policies direct behavior, so they can obscure real needs and solutions
And once you have policies, it's hard to change them.

We started Makerspace with just a code of conduct, which was really about making sure we were creating a safe environment for users and staff

Over the last two years we've added a few guidelines when we discovered a need
For example, a few months after opening we put some basic guidelines in place to make 3D printing easier, once we had experience with that area
recently we re-wrote those guidelines because we wanted to nudge some users towards deepening their learning

And in April, after just over 2 years, we passed a program description that outlines our pedagogies and values, and updated code of conduct through our faculty council.

None of these guidelines would have been the same if we had written them ahead of time, and they would have changed what happened in the space, which would have changed what we learned about what policies and guidelines we needed

Lesson two: Leave everything a draft



The second lesson: Leave everything a draft

When we opened, we turned 2 of the rooms we had into Virtual Reality Lab, which was a pretty big investment in terms of space

Thankfully, we didn't have a real capital budget. The tiles you see on the floor and wall are mats you can buy for a home gym. Everything in these rooms was on movable carts.

This was good because after 2 years we've found that VR it's still really hard to make content for VR.

There's some experiments happening with faculty to make things in VR, but mostly we have it so people can get some experience with VR and we have the flexibility to play with new developments.

But we don't need new rooms. And so this room is becoming our community fabric stash.

This lesson is about not overinvesting in things too early.

That overinvestment might be monetary, and it might be emotional

You're trying not to fall prey to the sunk cost fallacy

Another example would be computer prototyping. We bought a bunch of arduinos and raspberry pi kits and add ons. And I don't regret that, people do use them, but a lot less than I thought. And so we will probably keep an eye on use and keep some around, I am glad we didn't build a whole space around them.

Lesson 3: welcome mutations



The next lesson is to actively welcome mutations

What we want is lots of ideas and feedback. Because as we discussed earlier, we can't always know what will work, we can't be an expert in everything, and we can't see from every perspective.

And users and staff are often the best sources of ideas that can make your space better, because they are closer to the work.

But you need to be consistent and actively signal that you are open to others' contributions

Every tour I give I talk about 2-3 things in space that were recommended by students, because you need to show that you're serious

For example I talk about making the podcasting studio into a place for music almost every tour

The markers of belonging in the space serve the same purpose, they signal this is a space where contributions are welcome

A couple quick examples:

these paints on the bottom right were donated by a group of students who wanted to

paint the things they were 3d printing

(as an aside: these were primarily anime figured. It's a topic for another presentation, but banning cultural objects is a sure way to reduce the diversity of your makerspace)

Painting 3D prints was another thing I'd never considered, but it turns out a lot of people want to do to all sorts of prints

Anyway, at the end of the term the students labelled their paints and brought them to us so other students could use them.

Which is a lovely thing to have happen.

The photo on the left of technicians at a book repair workshop they organized and taught in the makerspace. One of the techs in the library had expertise in book repair, and some of the other techs wanted to learn, so they organized a workshop and hosted it in the space.

Lesson 4: culture trumps everything else



The final lesson is that culture trumps everything else. It trumps policy and guidelines. It trumps communications.

You can't fake your way into a culture that can welcome, consider, test, and sustain change

And this is harder than flexible policy, or leaving everything a draft, or welcoming ideas

People need to feel safe making suggestions, bringing up ideas, giving feedback, and having their ideas rejected

Those also happens to be the things people need to feel safe learning independently and feeling a sense of belonging

Building this culture is part intentional and part luck,

And I am not going to pretend I know enough about it yet.

For example, in our space, a lot was luck.

- staff really set a lot of the tone. For example, they immediately knew this was the kind of space where we learned peoples names
- They wanted to have Music playing, plants growing
- They oversee the whiteboards where we ask weekly questions
- We also put a lot of bright colors in the space.
- We name our technology after local flora and fauna. Recently we've been getting

users to help us name new technology.

- And we have lots of signifiers of different types of making, not just STEM things, but sewing machines out in the open, 3d printed anime figures, stickers on the windows by staff and students, buttons on the button exchange board

All of this acts as reinforcers to a culture that can encourage and sustain change

Assessing Cultures of Change



Hi I'm Amy, I'm the Assessment Librarian at TRU Libraries. I do not normally work in the space, but I am interested in asking questions about interesting things and making them better, so that is how I got involved here.

Framing our Assessment Approaches



- Seeking to understand how users experience the space and to develop in tandem with the community
- Ethnographic approach looks at culture and community, rather than outcomes
- Accounting for "holistic considerations of student and faculty experiences, actions, and priorities" (Lanclos and Asher, 2016)
- Avoiding "broccoli librarianship"

It was easy for the Makerspace staff to see that there was a unique learning culture germinating in the Makerspace, and so our assessment started with a goal of understanding—we wanted to understand this culture on its own terms from the point of view of the participating individuals. What the Makerspace wants to build is a culture of change where users belong in the space and the space ultimately belongs to the users. So it's key to connect user experiences of the space to any future developments and to evaluations of its success.

While we are not aware of any other studies that situate library Makerspaces as a site for ethnographic research, we decided it was the approach most likely to facilitate "holistic considerations of student and faculty experiences, actions, and priorities" (Lanclos and Asher, 2016). Most of the other Makerspace assessment projects we have focused on learning outcomes and success with creating projects and using the technologies; by framing our assessment of the space in a different way, we're saying not only that the community built here is central to the outcomes—in a very real way, the community IS the outcome.

We are also acknowledging here that there's so much about user interactions and learning behavior that fall outside of both our control and our design. So we are also

trying to avoid the "broccoli librarianship" tendencies of dictating what students are supposed to be learning and doing in the space, leaving us much more open to serendipitous discovery.

Our Questions, Our Methods

Questions

- Who is using the space?
- What are they doing?
- Why do they come, and why do they stay?
- How do they approach learning?
- How does the space facilitate those approaches?

Methods

- Space Observations
- User Survey
- User interviews emerging out of space observations
- All materials (observations grid, survey questions, interview schedule, transcription instructions, etc.) available upon request!

Overview of our questions.

We used three main data collection methods: a user survey, naturalistic observation, and semi-structured interviews with participants.

First, I conducted naturalistic observations in the Makerspace over 15 30-60 minute sessions between January and March 2023. I developed an observations grid, subdividing the Makerspace into several key areas and identifying themes and features to be recorded under each. Attempts were made to conduct observations at a wide variety of days and times throughout the semester to accommodate a mix of both busier and quieter periods. However, due to the cultural focus of the observations, it was important to forefront times when the space was in active use.

Next: the survey. The user survey was our broadest method of data collection, as we wanted to see a larger picture of space users and their activities. The survey was the only feedback mechanism that included any demographic information about users, such as gender identity, Indigenous identity, or international student status; and these demographics are necessary to consider when evaluating the space's success as an inclusive environment.

Finally, semi-structured interviews were conducted with Makerspace users. Interviews were intended to emerge out of the space observations; I would identify a participant who seemed to be engaged in an interesting project during the observations and approach them. I tried to speak to participants using a wide variety of Makerspace technologies. so in total, there were 12 interviews, generally lasting between 5 and 15 minutes each.

We want to encourage you to use these techniques to assess your Makerspaces, so I'm happy to make any to all of our study materials available upon request.

Collaboration Culture: Notes from the Space Observations

- "I can see that being unobtrusive will be difficult; people will want to talk to me" (early space observation note)
- Parallel play common in the center room
- More collaborative areas=more collaborative help-seeking practices
- Makerspace staff have noticed their own influence on the space microcultures



We ended up with a lot of data as you may expect, so because of the limited time, I want to highlight one particular theme emerging from each of our data collection mechanisms that speak to the type of culture in the space.

One of the things we observed early on in the space observations is that there are different micro-areas within the space, and the main room has two large tables (one that I called the center table and one referred to as the button-making table) that are probably the most open and collaborative spaces. These are the spaces where I sat, so I have a note from an early observation above [read slide].

When putting in our ethics proposal we talked about being unobtrusive and needing the observations in particular to be done by someone not otherwise connected to the space, so I think it's an important note that you can't truly be separate from the space and its culture.

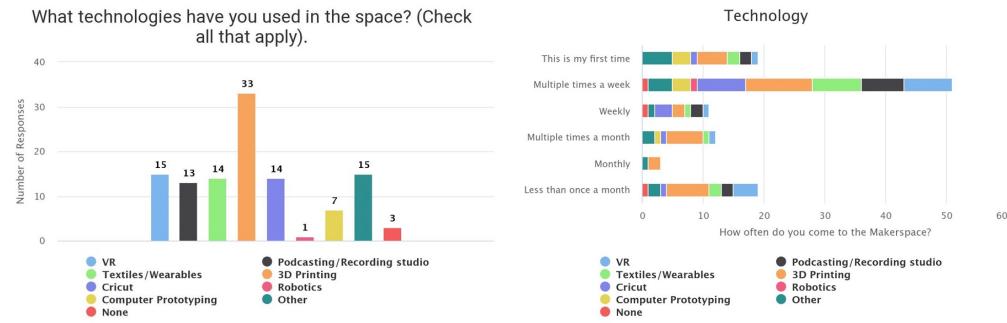
During the observation period, one of the tables had a lot of group work, and the other had a lot of parallel play, which are two distinct types of collaboration. And there's choices to be made here: people working on sewing and embroidery, for example, if they wanted space or solitude or to be with their group, would go into the sewing room and close the door. However, I often observed people bringing the

sewing machines out of the room to work at the center table beside other people, not necessarily their friends or people who they knew but just other people.

And generally, more collaborative spaces lead to more collaborative help-seeking behaviours—encouragement and advice from others rather than top-down help from staff.

One of the other things that came out when I was discussing my notes from the observations with the staff was confusion over what was the center table and what was the button table. Apparently there had been some changes with the two tables after the observation period, which had resulted in accompanying changes in user behavior. Valentine observed that when they sat down at one table or the other users wanted to sit with them as a member of the space.

Use of the space changes over time: Results from the survey



There are a lot of things I could tell you about the survey, but the one that I've picked is what I thought was most interesting in the survey results—it highlighted how use of the space changes over time. And this may sound fairly obvious, but it's not, and we need to be paying attention to see it.

So I'm going to explain these two graphs to you, and the first thing you need to know is that these two graphs show answers to the same survey question framed 2 different ways. The question was "What technologies have you used in the space" and users could check all that applied from a supplied list. So the graph on the left gives a straight response to that question, and if we looked at that graph in isolation, what it looks like is that 3-d printing is used over twice as much as any other technology in the space. But really, all that says is that the 3-d printers have been used by more numerical users than any other technology, and that's not the same thing.

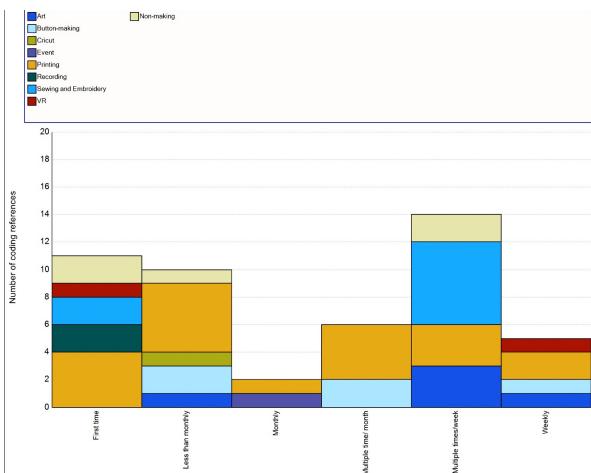
Which brings us to the second graph on the right, which takes that same question and breaks it down by frequency of user visit. And by far the longest line is from the most frequent users, who use the space multiple times a week. Which makes perfect sense, but what that also means is that a) they aren't coming to the space for any

particular technology and b) their use of the technologies changes and expands over time.

Use of the space changes over time

The graph shows coded qualitative responses to the question "What did you come to the space to do today?" categorized by frequency of user visit.

While printing was the most common reported activity for first time users and casual users reporting a visit frequency of less than once a month, among the most frequent Makerspace users, the most common reported activities are sewing/embroidery and art projects.



I'm going to complicate it even further. In addition to asking people what technologies they have used in the space, I also like to ask people "what did you come in to do today?" To see how it clashes or corresponds to their other reported use. This one was an open response that I coded, and while most of the responses talked about one or other of the technologies, not all of them did. Overall, if I gave you a straight graph of numerical responses, 3-d printing still wins. However, I once again want to draw your attention to the most frequent users. There's a couple of 3-d printing answers there, but the more common responses were "sewing/embroidery," and art projects.

Learning is Iterative: Results from the User Interviews

"I like the idea of this place, that it is a place where you can make mistakes. And I think really getting the understanding of that creates so much [thinking pause] comfort in coming here and trying things."

"It's like, healthier to do things here in a way. Like um, it helps you know, subside the mania. I'm not doing this stuff by myself at two in the morning."

It was the- the whole thing of like, "you're gonna get it." I remember there's one time, [Makerspace staff] told me, while I was trying another iteration of the embroidery on a hoodie....I just started, you know, unloading. I was like, "oh my god, I can't do it. This is just not gonna work. I guess some people just have the embroidery DNA, and I just don't have it." And she was like, "No, remember when you were trying to thread the machine and you had no idea what you were doing? Look, the machine's threaded." And I was like, "Oh! You're right."

Whenever I do user interviews I always think it's more fun to tell you what they said instead of what I thought about what they said, so I have 3 user quotes here for you that I'll talk about in context. When I talked with users about their learning process, the ideas of failure and experimentation loomed really large. Academia doesn't normally build a lot of space for failure into the learning process, which makes that culture of trying in the Makerspace even more important. [read quote 1]

And that culture is built by the community that is encouraging and supportive and acknowledges progress in learning. [read quote 2]

Part of that community is that it allows for, accommodates and encourages individual belonging. One of the themes that emerged in the user interviews is the prominence of neurodivergence in the space, where users brought up the importance of being able to find their own paths and pursue learning in their own ways, around a supportive community that accepts them. [read quote 3]

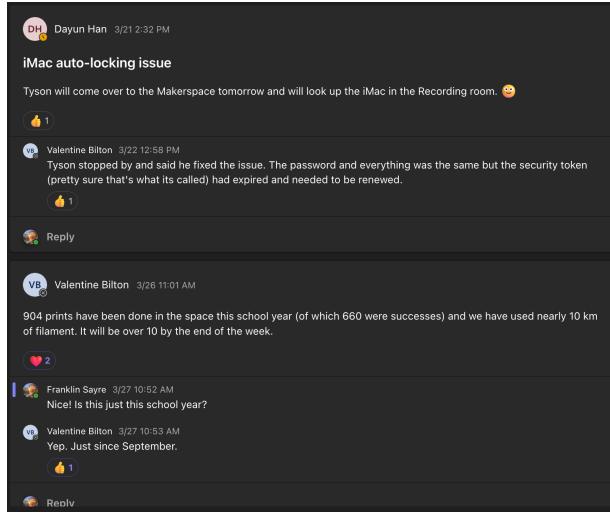
Lesson 5: Sustain Change by Empowering Staff



- Sustaining cultures of change is hard but rewarding work. It only works with a good team behind it.
- In this section we are going to discuss ways that we work together as a team to empower and sustain change.

Clear communication channels

- Weekly Operations Meetings chaired by all team members
- MS Teams with private channels
- Group Chats
- Emails
- Texts
- Standing meetings



- As a space that is regularly changing we need to have consistent communication. We use multiple channels to achieve this and we need to maintain a high level of contact because things happen so fast that they get lost otherwise.
 - One of the most important ways we do this is team meetings. They are held weekly during the school year
 - They are chaired by a different staff member each time, are about an hour long, and consist of a round robin, the agenda, creating a to do list and a parking lot.
 - Because of scheduling technicians don't get equal time in the space, so our meetings are crucial for making sure everyone is on the same page, to provide project updates and to check in and see how we are all doing.
 - The round robin is often the place where the things that are the most important come up, rather than in the agenda. It allows us to bring forward any concerns or question that have cropped up and get group feedback on how to move forward.
 - Our agendas are built collaboratively, with anyone on the team being able to add to them. Common topics include purchasing,

technology issues or user concerns.

- Once we know how we want to move forward on an item it is added to the to do list and a staff member is assigned to complete it.
- These meetings also give us a chance to provide feedback on what is and isn't working in the space.
- Other than meetings we use several other modes of communication to keep in contact
 - We have multiple channels in MS Teams, including one just for technicians that focuses on things that aren't a concern for Frank, like equipment maintenance.
 - We have a casual group chat
 - Email
 - We text if we need to
 - We also have a check in at shift change to make sure that whoever is coming on shift is aware of what has been happening in the space that morning, including what tech is in use, if anyone has been struggling with the technology or anything else of note.

Team Building and PD

- Less team building and more trust building
- Can be formal
 - PD days
 - Workshops
 - Virtual conferences
- Or informal
 - One shot D&D
 - Personal projects
 - End of term parties



Another part of how we are able to sustain change in the Makerspace comes from how well we work together as a team. Team building and PD events have helped us to develop clear communication and trust which are essential to working together successfully.

- In the summer we run PD days to get familiar with new technology and software we have added.
- We also attend virtual conferences like the Makerspaces for Innovation and Research in Academics conference to keep up to date on what is happening in the world of Makerspaces.
- MORE IMPORTANTLY AND MORE EFFECTIVE are our informal activities:
- We have run a Dungeons & Dragons game, it's collaborative story telling required creative problem solving and clear communication.
- We do personal projects, that allow us to work alone while being together. This lets us to become a part of our learner community.
- It can also be casual, like our end of semester parties which are a great way to bring together faculty, staff and student ambassadors to relax and build better social bonds.
- We've also done activities outside of work: Last summer we did an

escape room, which went really well because we're all used to talking to each other and finding creative solutions to problems as a group.

Autonomy and ownership over work

- The people closest to the work know how to do it best



The trust we've built as a team has allowed us to develop more autonomy in the way we do our work, especially as technicians. There are a lot of moving parts in the Makerspace and we figure a lot of them out as we go. As we have grown we have developed and changed different aspects of our process to work better and match the skills of our team members.

- Some examples of this are:
- Our Operational FAQ: Too much to remember, so the technicians worked collaboratively to create a LibGuide that contains the information we need for the day to day operation of the space.
- We've had to add processes for some technologies. Because of the popularity of the recording studio we had to develop a way to allow equitable access for drop in users as we were having issues with groups camping out in there for the whole day and preventing others from having access to the space. This concern was brought to a team meeting by one of the techs and several suggestions were discussed, a sign up sheet was suggested by one tech as the fairest and easiest option to manage and everyone worked on how that could be implemented. We now use a whiteboard to track user demand and limit users to 2 hour time blocks when there

are multiple users who want to use the space.

- We've also embraced our different skill sets and this has allowed us to take on projects that would have been more difficult otherwise. I ran tool cribs in construction for years so when we decided to create a tool library as part of our sustainability grant I was able to recommend tools for purchase, help develop and run a survey of user interest and develop training for the other technicians who aren't as familiar with the equipment as I am.

Our Team Charter: Codifying a culture of change



So last year we did an activity to try to codify our culture in the form of a team charter

This was a collaborative process, we spent a couple meetings looked at other team charters online and picked the parts that we liked

we wanted shared values and that we wanted those values to be tied to norms in certain categories

At this point we had been working together as a team for a year, so we were well positioned to create something meaningful.

I think the values and norms we developed also really reflect our commitment to change, and the things that are required to embrace and sustain change

(ALSO: I made these cheesy posters to go with them)

We also created a definition for each value.

Our values are

- Kindness: We treat each other with respect, fairness, and compassion.
- Growth: We prioritize learning and doing new things. We value creativity, change, and weirdness.
- Community: We have mutual responsibilities to each other and our community. We can be our authentic selves within this community.
- Autonomy: We value having autonomy over how we accomplish the goals of

our work.

- Fun: We value fun as a core aspect of our work and the philosophy/pedagogy of the Makerspace. You cannot have kindness, community, and growth without fun.

Team Norms

Atmosphere/Climate

- We understand that activities such as creative and personal projects are a core part of the culture and pedagogy of the Makerspace and required for growth, learning, and operations.

Creativity/Innovation

- We explore each other's ideas and look for ways to make them work rather than reasons they won't work.

Decision Making

- Whenever possible (e.g. due to contract or HR rules) decisions are discussed openly with the whole team with real opportunities for feedback and discussion.

Team Maintenance

- Staff and student contributions are recognized through blog posts, biographies on the website, introductions during workshops or teaching, etc.



Some examples of norms

I am happy to share the full document. I keep meaning to post it online actually but I don't think it has been yet.

Emotional Impact: Challenges and Rewards



A space like ours has unique challenges that are going to effect staff on a personal level.

Challenges with users:

- A low policy space allows for change which can result in disagreement and confrontation.
- Keeping the space student friendly is great. Sometimes our users see staff as friends, which helps creates our welcoming atmosphere, but also means that we have to work harder to reinforce boundaries that may be unspoken norms elsewhere in the library.
- We also deal with pushback, no one likes to be told no, when we do have policy changes (3D printing) users sometimes get upset that they can no longer do something they were allowed to before.
- There is also push and pull around negotiating what is acceptable in the space, especially around things like how much help we provide users versus how much we push them to try to problem solve for themselves. Some users don't want to learn, they just want to have the nice thing. Sometimes handling this just involves having a conversation about expectations, other times it's handing a user Frank's card and telling them to email him.

- **Child of divorce routine:** because we are low policy and have leeway in decision making, if a student has been told no to something they want to do, they will often ask a different staff member the same thing to see if they can get a different answer. Occasionally it even works, but not usually. That's in large part because of the way we communicate with each other.

Intra-library challenges:

- We are a close knit team but we experience disconnect from other library staff and faculty.
- Our work and pedagogies were not well understood early on.
 - It was discouraging and frustrating to know that we had some coworkers who didn't respect the work we were doing and saw our time in the Makerspace as play rather than work.
 - I'm happy to say that that is no longer the case. We actively sought to bring other staff and librarians into the space to see what was happening, hosted workshops and encouraged them to come in when they had a spare moment so that they could experience the culture of the space for themselves. The principle of show don't tell dramatically changed the perception others had of the space. Once they saw what we did, and once our pedagogies were thoroughly explained it improved staff relationships overall.

Our space has its challenges but the rewards are so worth it.

- The work we do in the Makerspace is by far the most rewarding of all the work I do as a technician and that is a sentiment shared by the other techs in our team.
- Designing for change allows for flexibility and for staff to feel a sense of ownership in the space that we don't get at any other service point
- Being low policy keeps the space student friendly, and allows them to build bonds with staff.
- We get to know our students, to see them learn new skills, to grow and to mature as people.

FRANK

What can be hard about working in the space?

Trying new things takes a lot of time and energy. You need to be careful about boundaries and burn out.

Working with people who have ideas or want to get involved requires a lot of mentorship. It's rewarding but also time consuming.

Finally, not every idea works out, a lot need to be abandoned, and not every idea is a good idea. You need to say no a lot, explain why ideas won't work, or how they will break something fundamental to your mission or values.

But the hard parts are far outweighed by the good

The Makerspace is definitely the most rewarding thing I've done professionally. Some of the reasons for this aren't totally about being a culture of change, but I do think they are linked. Adding to the things Valentine said: I get to work with a terrific team; we get to know our users really well and see them develop over time; for some students, we become a place of belonging; we help people explore things they're passionate about; we have almost 100% engagement among our users.

I also get to learn new things constantly. We're a growth focused learning space and so our users' growth helps us grow. So for example: as they learn something new about sewing or 3d modelling we do too.

And I am often surprised as some expectation or assumption I had is unsettled. This can be a wonderful thing as well, if seen in the right way.

Which I guess is connected to the last thing, which it is that working in a space like this is humbling in the best way. Seeing ideas or solutions I would have never thought of being implemented and succeed. Seeing that a staff member is really good at something they didn't know they were good at. These things are very rewarding when you work together in a team.



Questions?

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This is our wonderful staff