



For Maker's Sake: A Somatic Exploration of Making

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ABSTRACT

This half-day workshop brings together practitioners, researchers, educators, and students that design, research, and engage in making activities to have fun and create artifacts using a laser cutter. Participants will engage in an interactive discussion around their own making practices and experiences. Together we aim to identify existing considerations and practices that remain to be articulated around feelings and making. That is, what does it feel or look like when making serves as a form of personal expression, or as an extension of being? How might making create and support somatic openings that frame making less as an activity toward production, but rather, an end in itself—for fun?

CCS CONCEPTS

• **Human-centered computing** → **HCI design and evaluation methods**.

KEYWORDS

making, makerspaces, facilitation, somatic

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1 INTRODUCTION

1.1 Rationale and Issues

In a time when STEAM activities are lauded as meaningful access points into STEM learning, makerspaces have proliferated in formal and informal learning spaces. Educators that seek to implement maker activities benefit from supports that model the possibilities

around making with certain fabrication tools such as 3D printers, laser cutters, or vinyl cutters [3]. It is not uncommon, however, for researchers, educators, or practitioners seeking to support making efforts, to miss out on participating in making for themselves. While some facilitators have been invited to train in intergenerational making settings [2], it is less common for makers to engage in reflection that explores somatic associations with making. This workshop invites participants that are often positioned in facilitator roles, to make together with a laser cutter and engage in discussion while creating a collaborative mural. We will consider the affordances and constraints of the laser cutter while using it to create artifacts that hold personal meaning or significance. We use this activity to open up discussion around what meaningful making means for our field and how it intersects with, and is informed by, our somatic experience(s) with making [1].

Questions around for whom, what, and toward what end [5] making is counted has troubled epistemic assumptions in normative maker culture [6]. Existing work has also looked at makerspaces as fruitful sites of learning for professional development [4]. There remains a need, however, to expand our thinking and practice to consider the holistic interaction between people and memories that are evoked or made during making. That is, how are feelings and sensations that connect to making, deemed 'meaningful'? We aim to attend to moments during making when feelings arise – whether consciously or subconsciously – and discuss how these somatic experiences weigh into our own experiences with making. We build on these somatic openings to consider: 1) how our field articulates 'meaningful' making; 2) how children, families, educators, and researchers engaged in making attend to somatic experiences; and 3) how we might build on somatic experiences to consider different types of making-based interactions, specifically facilitating making. In addition to taking home objects that they make, we expect the embodied experience to be generative for participants and their considerations for the design and implementation of maker activities.

1.2 Attending to feeling in how things are made

In this workshop, we will explore the how in how things are made. What feelings and motivations go into the execution of each step of a maker's process? In supporting maker activities with students,

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where and how might we locate feelings in our experiences with making? What obstacles, if any, lie in the way of students and adult facilitators forming deep, meaningful connections to making? Understanding the intersection of these questions will allow participants to re-evaluate what is considered a meaningful making experience and, hopefully, result in a fun making experience.

Participants will make laser cut artifacts, recollect memories of making, and reflect on the feelings that they associate with making as a whole through a collaborative mural that maps the making activity with the discussion. Participation in discussion will require a level of vulnerability by sharing past, present and imagined experiences and feelings that encompass making. Participants will be encouraged to get in touch with their body-mind. It is our goal that participants leave this workshop with a deeper understanding of their own relationship to making and ideas for design and facilitation.

1.3 Organizers

- Zoe Lewis is a sophomore studying Learning Sciences with a concentration in Design of Learning Spaces and a minor in Entrepreneurship. She is a queer, first-generation, and lower-income student of color from Kansas City, Missouri.
- Sarah P. Lee (she/her) is a PhD student in the Learning Sciences. She has worked with educators in schools and out of school spaces to support maker activities over the past five years. She has lately been enjoying collaging.
- Stephanie T. Jones (they/she) is a PhD student in Computer Science and Learning Science. Their current research interests, as a part of the tiilt lab (technological innovations for inclusive learning and teaching) with Professor Marcelo Worsley include intergenerational learning opportunities, building technologies that are personally relevant, and the relationship between anti-Blackness and computing. Blending research and ancestral knowledge she asks what does it mean to come from a legacy of people who fought to learn and teach?
- Tyler Nanoff (he/him) is an undergraduate senior working on a Mechanical Engineering degree in McCormick. He is a first generation student of color from Minneapolis, Minnesota. His current research interests as it pertains to the tiilt Lab (technological innovations for inclusive learning and teaching) with Professor Marcelo Worsley includes building technologies that foster a deeper learning experience for students and their teachers, intergenerational learning opportunities, creating spaces for kids to be connect with their peers, and working on bridging the gap to success for marginalized communities.
- Marcelo Worsley is an Assistant Professor in Computer Science and Learning Sciences at Northwestern University. His research integrates artificial intelligence and data mining with multimodal interfaces to study and support human learning. He directs the technological innovations for inclusive learning and teaching (tiilt) lab which works with community and industry partners around the world to empower people and organizations through the design and use of equity focused learning tools. These tools include both

pedagogical and technological solutions for in school and out of school learning.

1.4 Participant Recruitment

Participants will initially be identified and invited based on their existing or ongoing work in makerspaces, making, and maker identities. Participants will be researchers, practitioners, educators, or students that have been implementing making and supporting facilitation around making in formal and informal settings. Participants will be asked to complete a survey (<https://forms.gle/vMwSkSh4psHwT9yy9>) and submit a paper on their experiences with making that include photos of any materials they have made. The materials submitted before the workshop are preparation for discussion around making tools and experiences. No prior experience using making tools is required and enrollment in the workshop is open to people who are not traditionally situated in academia. Participants bringing young people or children with them are welcome to apply. Capacity for this workshop is eight participants (not including youth). We aim to recruit four participants that identify as experienced with making and four participants that identify as newer to making.

2 WORKSHOP STRUCTURE

This workshop will take place in the Technological Innovations for Inclusive Learning and Teaching (TIILT) lab on Northwestern University's campus. All materials and tools will be provided in the lab, though participants are welcome to bring whatever else they would like to use. The workshop will run for 3 hours in two parts with a break in between.

2.1 Materials

- 8 small-medium sized pieces of wood
- Bin with a mix of materials
- Found materials that you are willing to part with
- Glowforge laser cutter
- Paint
- Paint brushes
- Plates
- Cups
- Arts & Crafts Supplies (glue, glitter, puff balls, popsicle sticks)
- Snacks and Drinks

2.2 Part I (1.5 hours): Introductions, setting the context for making, and making!

In this part, workshop facilitators will lead introductions and set the context around making with attention to somatic experiences. Participants will engage in initial reflections around prior experiences and feelings around making.

Participants will be introduced to the laser cutter tool and its features for transforming hand-drawn images into laser cut objects. Participants will then have the opportunity to reflect on objects or memories that they wish to convey into a design for a laser cut artifact. The activity with the laser cutter is structured with participants taking moments to pause and log feelings throughout the process in a collaborative collage that will be physically mounted on a wall.

In this part of the workshop we seek to surface somatic experiences from our past, present, and imagined making practices whether as researchers, educators, or students. We hope that this surfacing will help direct emerging language, design goals, and the considerations or challenges of attending to somatic experiences when making or supporting making.

2.3 Break (30 minutes)

Participants will take a break to enjoy some snacks and drinks together while organizers continue to set up and cut artifacts.

2.4 Part II (1 hours): Exploring somatic opening

While objects are laser cut, participants will join workshop organizers in a separate room to engage in a dialogue circle. The group will work to answer the following questions: How does attending to the mind-body during making shape their making experience and their senses for a maker identity? What feelings emerge as key to the experience? What do these reflections on somatic experiences open up for thinking about research in makerspaces, specifically facilitating or designing maker activities?

This part will invite participants to engage in an interactive painting that illustrates their feelings and emotions as they discuss. The painting will document the workshop timeline and the different feelings and ideas that come up for participants. Laser cut artifacts that participants make will be distributed and the group will discuss emerging feelings and thoughts after having experienced a making activity. Any remaining artifacts will be available for pick up throughout the conference.

3 POST-WORKSHOP

After the workshop is over, participants will take their own created artifacts with them. In addition, the artwork that they create during the dialogue circle will be compiled to produce a mural that displays the array of feelings that participants navigated throughout the workshop and around the process of making. Images of this mural and next steps for participants to stay engaged with making will be sent as a follow-up to participants for future reference.

4 CALL FOR PARTICIPATION

This workshop invites makerspace facilitators to get in touch with the Maker within them. Participants will explore their own histories and feelings that they associate with making. They will be asked to tune in with their body-mind to inform their reflections. Each participant will take home their very own laser cut artifact. Participants should submit an approximately 2 page position paper that shares their experience with and relationship to making as facilitators and designers. Papers may be used to answer the following questions; however, there are no limitations:

- What is your background or relationship to making?
- What sorts of maker activities are you engaged in?
- What are some questions you have around making?

Here we are asking you to have fun and get personal. Feel free to upload photos of things you have made and add to the playlist for the workshop. The deeper you are able to dive into the memories that you hold with making the more we will be able to explore

together. Participants will be asked to share a few of these stories with the group during round-table discussions. Each paper should be single-authored due to workshop capacity (8 participants). Each accepted paper requires the author to attend the workshop and register for both the workshop and the main conference.

Submission Due Date: Midnight (CST), Friday, April 28th, 2023
Acceptance Notification Date: Monday, May 8th, 2023
Workshop Day: 9am-12pm, Tuesday, June 20th, 2023

Submission Information: When submitting your materials, feel free to use any format. Please submit your completed paper to: zoelewis2025@u.northwestern.edu

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